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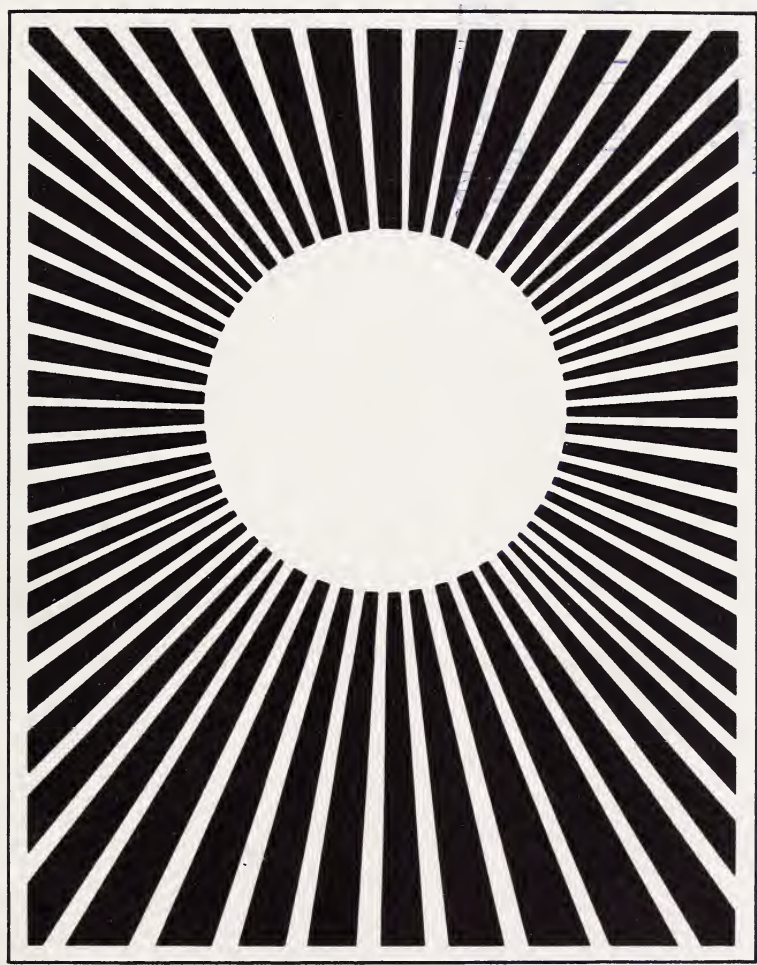
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# ENERGY FOR AGRICULTURE

A Computerized  
Information  
Retrieval System



Bibliographies and Literature of  
Agriculture No. 5



UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

SCIENCE AND  
EDUCATION  
ADMINISTRATION

TECHNICAL  
INFORMATION  
SYSTEMS



29423

# ENERGY FOR AGRICULTURE

## A Computerized Information Retrieval System

Compiled by  
B. A. Stout, Professor, and  
C. A. Myers, Specialist  
Agricultural Engineering Department  
Michigan State University

December 1979



UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

SCIENCE AND  
EDUCATION  
ADMINISTRATION

TECHNICAL  
INFORMATION  
SYSTEMS

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EXHIBITION  
OF  
ANTIQUE  
ARTS AND  
CRAFTS

## FOREWORD

Energy may come from the sun or the earth or be the product of plant materials or agricultural wastes. Whatever its source, energy is indispensable to our way of life, beginning with the production, processing, and distribution of abundant, high quality food and fiber supplies.

This specialized bibliography on the subject of energy for agriculture contains 2,613 citations to the literature for 1973 through May 1979. Originally issued by Michigan State University (MSU), it is being reprinted and distributed by the U.S. Department of Agriculture as a companion piece to the Department's recently published volume:

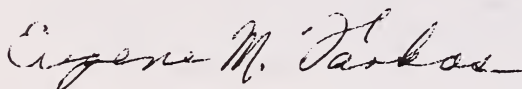
Solar Energy and Non Fossil Fuel Research: A Directory of Projects Related to Agriculture, 1976-79. Miscellaneous Publication 1378.

In addition, these literature citations will be incorporated into AGRICOLA (Agricultural On-Line Access), the comprehensive bibliographic data base maintained by Technical Information Systems (TIS), a component of USDA's Science and Education Administration (SEA). The citations and the listing of research projects will be combined with other relevant references to provide a continuously updated source of information on energy programs in the agricultural field.

The MSU bibliography is being reproduced by agreement between compilers B. A. Stout and C. A. Myers of the university's Engineering Department and SEA/TIS, the same unit responsible for USDA's Solar Energy Research Directory. The appearance of these two documents together illustrates the type of Federal-State cooperation essential to the building of a national energy data base for agriculture and related fields.

Free copies of either or both of these publications may be obtained by sending a self-addressed mailing label with requests to:

Library Operations Division, Technical Information Systems  
U. S. Department of Agriculture  
National Agricultural Library Building  
Beltsville, Maryland 20705

A handwritten signature in cursive script that reads "Eugene M. Farkas".

Eugene M. Farkas, Chief  
Educational Resources Division  
Technical Informations Systems

## ENERGY FOR AGRICULTURE

### A Computerized Information Retrieval System

Compiled

by

B. A. Stout, Professor  
and  
C. A. Myers, Specialist  
Agricultural Engineering Department  
Michigan State University  
East Lansing, Michigan 48824  
Phone (517) 355-4720

#### PREFACE

Much has been written about the explosion of technical information being produced in most scientific fields. Researchers and other users of technical information are hard-pressed to keep up with current literature in their fields. A number of information retrieval systems have evolved to facilitate locating information as it is needed. One of these is the Basic Information Retrieval System. (BIRS).

BIRS is a set of fundamental programs designed to allow researchers to use their own locally based computers to construct and maintain a variety of information retrieval systems.

For the purposes of this particular project, each information element or bibliographic entry to be retrieved is placed into the computer's memory by means of a terminal outlet or punched cards. Each entry contains basic information about its source, the author, etc., plus a set of keywords or terms that are used to describe the content of the article or element. BIRS is then used to generate a book of all information contained in the entries plus author and keyword indices.

The project will continue, both in terms of adding new bibliographic entries and also by improving the keywords and including brief summaries of some of the most relevant references. Errors in the present edition should be pointed out.



BIRS also permits the user to ask "questions" about its contents. Each abstract contains six fields: title, author, source, keywords, notes, and date. The user can feed words or phrases into a program in the computer system and specify in which field the computer should search for it. The computer will then look through all the information in the system and print out the abstracts which contain the specified words or phrases.

The questioning procedure is best illustrated by a simple example. Suppose a user is interested in finding out what articles have been published by Michigan State University personnel on solar energy. The user would feed the phrases "Michigan State University" and "solar" into the computer specifying the fields "source" and "keywords" respectively. The abstracts which fit that description would then be printed out.

For all practical purposes, a "question" can contain queries about any field and any number of phrases in any field or fields. When there is more than one part to a question, as in the previous example where both "Michigan State University" and "solar" were searched for, the user has to separate the phrases by any of the following fundamental searching operators: and, or, not, greater than, less than, equal to. These operators work exactly as one would expect them to. If the operator "or" had been used in the previous example, then the computer would have listed all of the abstracts that contained Michigan State University in their source plus all of the abstracts which contained solar in the keywords. It would not just have listed the abstracts which contained both phrases.

The operators -- greater than, less than, equal to -- can be used in searches involving dates. This makes it possible to find publications printed before, after, or on certain dates.

The keyword index and author index are located at the end of the list of references. In the notes section, the word "filed" means that I actually have that reference in my personal file. Also, in the notes section, "NAS" means the the National Academy of Sciences has the reference, "AID" refers to the Agency for International Development, etc. As others contribute to the BIRS system, I plan to list a name where each article can be obtained, in the event that it cannot be located in a library.

Another aspect of the BIRS searching program is that it gives a relevance index for each abstract that is listed as an "answer" to a "question". As an example, suppose a user asks the computer to search the keywords fields for the four terms methane, anaerobic fermentation, animal waste, and developing countries. The bibliographic entries which contain all four phrases as keywords would be printed out with a relevance index of 1.00. If other abstracts contain only three of the four terms, they will be printed out with a relevance of about 0.75. Those that contain only two of the four terms will be given a relevance index of 0.50.

The system is open-ended. Additional material can be added at any time and periodically a new edition of the contents of the system, author index, and keyword index printed out.



In the event that a user does not have access to the computer or chooses not to use it because of the expense, the computer-generated book and indices can be used manually to locate information of immediate interest.

#### ACKNOWLEDGEMENTS

Mary Schuelke assisted in preparing the original handwritten bibliographic cards and Candy Treleven did much of the editing and key-punching for the 4th edition. Monica Diehl prepared cards and key-punched new material for the 5th, 6th and 7th editions. Terry Benedict did much of the editing and helped prepare cards for the 6th and 7th editions.

John Forslin provided invaluable advice concerning the basic principles of building an information retrieval system and helped clarify the mysteries of the computer and the BIRS programs.

The financial assistance of the Midwest Universities Consortium for International Assistance, the Brookhaven National Laboratory, the Agency for International Development, the Rockefeller Foundation, and the U. S. Department of Energy made it possible to develop the system to the 7th edition .

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ABSTRACT 1

- \*TITLE, UNDERSTANDING THE NATIONAL ENERGY DILEMMA.
- \*AUTHOR, ANON.
- \*SOURCE, STOCK NUMBER 5270-01947, JOINT COMMITTEE ON ATOMIC ENERGY, US GOVT PRINTING OFFICE, WASHINGTON DC 20405, 1973, 34PP.
- \*KEYWORDS, ACCOUNTING, ENERGY FLOW, STATISTICS, SUPPLY DEMAND.
- \*NOTES, FILED.
- \*DATE, 730000

ABSTRACT 2

- \*TITLE, WORKSHOP REPORT ON ENERGY ANALYSIS AND ECONOMICS.
- \*AUTHOR, ANON.
- \*SOURCE, REPORT 9, INTERNATIONAL FED OF INST FOR ADVANCE STUDY, STOCKHOLM, SWEDEN, 22-27 JUNE 1975, 103PP.
- \*KEYWORDS, ACCOUNTING, ECONOMICS.
- \*NOTES,
- \*DATE, 750622

ABSTRACT 3

- \*TITLE, THE PRICE OF A TRACTOR.
- \*AUTHOR, BORGSTROM G.
- \*SOURCE, CERES, 7(6)/16-19, NOV-DEC 1974.
- \*KEYWORDS, ACCOUNTING, FUEL CONSUMPTION, TRACTOR, INDIA, MEXICO, ITALY, USA.
- \*NOTES, FILED.
- \*DATE, 741100

ABSTRACT 4

- \*TITLE, THE NATIONAL ENERGY DILEMMA, DISPLAYED FOR TOTAL VIEWING.
- \*AUTHOR, BRIDGES J.
- \*SOURCE, CONF BOARD RECORD, 10(8)/14-30, AUG 1973.
- \*KEYWORDS, ACCOUNTING, FOSSIL FUELS, ENERGY FLOW, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 730800

ABSTRACT 5

- \*TITLE, ENERGY UTILIZATION IN VERMONT AGRICULTURE, PART 1.
- \*AUTHOR, BURRILL G C, NOLFI J R, MILTNER M.
- \*SOURCE, CENTER FOR STUDIES IN FOOD SELF-SUFFICIENCY, VERMONT INST OF COMMUNITY INVOLVEMENT, 90 MAIN ST, BURLINGTON, VT, 1976, 65PP.
- \*KEYWORDS, ACCOUNTING, VERMONT, PRODUCTION, DAIRY.
- \*NOTES, FILED.
- \*DATE, 760000

ABSTRACT 6

- \*TITLE, MISINTERPRETING ENERGY USAGE IN FOOD PRODUCTION.
- \*AUTHOR, CONNOR L J.
- \*SOURCE, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, MI 48824, 1974, 17PP.
- \*KEYWORDS, ACCOUNTING, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 740000

ABSTRACT 7

- \*TITLE, NET ENERGY ANALYSIS CAN BE ILLUMINATING.
- \*AUTHOR, CONSERVATION FOUNDATION.
- \*SOURCE, CONSERVATION FOUNDATION LETTER, 1717 MASS AVE NW, WASHINGTON DC, OCT 1975, 7PP.
- \*KEYWORDS, ACCOUNTING, ECONOMICS, AGRICULTURE, NUCLEAR.
- \*NOTES, FILED.
- \*DATE, 751000

## ABSTRACT 15

- \*TITLE, ENERGY FOR FOOD - FROM FARM TO HOME.
- \*AUTHOR, HIRST E.
- \*SOURCE, TRANSACTIONS OF THE ASAE, 17(2)/323-326, 1974.
- \*KEYWORDS, ACCOUNTING, USA, FOOD SYSTEM.
- \*NOTES, FILED. REVIEWS ENERGY CONSUMPTION IN 1963 TO GROW, PROCESS, TRANSPORT, WHOLESALE, RETAIL, REFRIGERATE AND COOK FOOD IN THE USA.
- \*DATE, 740000

## ABSTRACT 16

- \*TITLE, AN ALTERNATIVE APPROACH TO RELATIVE INDICES OF DEVELOPMENT AND POTENTIAL FOR CHANGE OF THE NATION-STATE.
- \*AUTHOR, HOWELL J A, SLESSER M.
- \*SOURCE, TECH FORCASTING AND SOCIAL CHANGE, 5/253-264, 1973.
- \*KEYWORDS, ACCOUNTING, DEVELOPING COUNTRIES, POPULATION, ENERGY CONSUMPTION, ECONOMICS, DEVELOPMENT.
- \*NOTES, FILED.
- \*DATE, 730000

## ABSTRACT 17

- \*TITLE, NET ENERGY ANALYSIS - AN ECONOMIC ASSESSMENT.
- \*AUTHOR, HUETTNER D A.
- \*SOURCE, SCIENCE, 192(4235)/101-104, 9 APRIL 1976.
- \*KEYWORDS, ACCOUNTING, NET ENERGY, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760409

## ABSTRACT 18

- \*TITLE, ULTIMATE LIMITS ON THE USES OF ENERGY ANALYSIS.
- \*AUTHOR, HUETTNER D A.
- \*SOURCE, PRESENTED AT THE FIRST INTERNATIONAL CONF ON ENERGY USE MANAGEMENT, TUCSON, AZ, OCT 1977, 8 PP.
- \*KEYWORDS, ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 19

- \*TITLE, THE ROLES OF THE ECONOMIST IN STUDYING PROBLEMS INVOLVING ENERGY AND FOOD.
- \*AUTHOR, JOHNSON G L.
- \*SOURCE, STAFF PAPER 1974-23, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, MI 48824, 26PP.
- \*KEYWORDS, ACCOUNTING, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 20

- \*TITLE, ENERGY CONSUMPTION MEASUREMENT - DATA NEEDS FOR PUBLIC POLICY.
- \*AUTHOR, JUSTER F T, ET AL.
- \*SOURCE, COMMITTEE ON MEASUREMENT OF ENERGY CONSUMPTION, ASSEMBLY OF BEHAVIORAL AND SOCIAL SCI, NRC, NAS, WASHINGTON DC, 1977, 107PP.
- \*KEYWORDS, ACCOUNTING, ENERGY CONSUMPTION, HOME, INDUSTRY, POLICY.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 21

- \*TITLE, THE FLOW OF ENERGY IN A HUNTING SOCIETY.
- \*AUTHOR, KEMP W B.
- \*SOURCE, SCIENTIFIC AMER, 225(3)/105-115, SEPT 1971.
- \*KEYWORDS, ACCOUNTING, ENERGY FLOW, HISTORICAL, INTERNATIONAL.
- \*NOTES, FILED.
- \*DATE, 710900



- \*TITLE, THE FLOW OF ENERGY IN AN INDUSTRIAL SOCIETY.
- \*AUTHOR, COOK E.
- \*SOURCE, SCIENTIFIC AMER, 225(3)/135-144, 1971.
- \*KEYWORDS, ACCOUNTING, WASTE HEAT, INDUSTRY, ENERGY CONSUMPTION, WORLD WIDE, USA, ECONOMICS, ENERGY FLOW.
- \*NOTES, FILED.
- \*DATE, 710000

## ABSTRACT

9

- \*TITLE, ENERGY AND THE BUILT ENVIRONMENT - A GAP IN CURRENT STRATEGIES.
- \*AUTHOR, DALY L A.
- \*SOURCE, AMER INST OF ARCHITECTS, WASHINGTON DC, MAY 1974, 18 PP.
- \*KEYWORDS, ACCOUNTING, CONSERVATION, DESIGN, POLICY, SUPPLY DEMAND, BUILDINGS.
- \*NOTES, FILED.
- \*DATE, 740500

## ABSTRACT

10

- \*TITLE, ENERGY ANALYSIS AND PUBLIC POLICY.
- \*AUTHOR, GILLILAND M W.
- \*SOURCE, SCIENCE, 189(4208)/1051-1056, 26 SEPT 1975.
- \*KEYWORDS, ACCOUNTING, POLICY, ENVIRONMENT, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750926

## ABSTRACT

11

- \*TITLE, A SYSTEMS APPROACH TO ENERGY.
- \*AUTHOR, HAFELE W.
- \*SOURCE, AMER SCIENTIST, 62/438-447, JULY-AUG 1974.
- \*KEYWORDS, ACCOUNTING, SUPPLY DEMAND, MODELS, ENVIRONMENT, ECONOMICS, NUCLEAR, HYDROGEN.
- \*NOTES, FILED.
- \*DATE, 740700

## ABSTRACT

12

- \*TITLE, A METHODOLOGY FOR DETERMINING ENERGY REQUIREMENTS ON MICHIGAN FARMS USING FARM RECORDS.
- \*AUTHOR, HALL F W.
- \*SOURCE, AGR ENGR DEPT, MICH STATE UNIV, MI 48824, 1975, 59PP.
- \*KEYWORDS, ACCOUNTING, MICHIGAN, ENERGY CONSUMPTION, AGRICULTURE, MODELS.
- \*NOTES, FILED. MASTERS THESIS.
- \*DATE, 750000

## ABSTRACT

13

- \*TITLE, ENERGY, GROWTH AND ALTRUISM.
- \*AUTHOR, HANNON B M.
- \*SOURCE, WOODLANDS CONF, HOUSTON, TX, 21 OCT 1975, 37PP.
- \*KEYWORDS, ACCOUNTING, MODELS, CONSERVATION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 751021

## ABSTRACT

14

- \*TITLE, THE ENERGY COST OF GOODS AND SERVICES.
- \*AUTHOR, HERENDEEN R A.
- \*SOURCE, ORNL-NSF-EP-58, OAK RIDGE NATIONAL LAB, OAK RIDGE, TN, OCT 1973, 116PP.
- \*KEYWORDS, ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 731000



## ABSTRACT 22

- \*TITLE, ENERGY MODELING FOR AN UNCERTAIN FUTURE.
- \*AUTHOR, KOOPMANS T C. ET AL.
- \*SOURCE, PRINTING AND PUBL OFFICE, NAS, 2101 CONSTITUTION AVE WASHINGTON DC 20418, 1978, 225 PP.
- \*KEYWORDS, ACCOUNTING, POLICY.
- \*NOTES, FILED. STUDY OF NUCLEAR AND ALTERNATIVE ENERGY SYSTEMS. SUPPORTING PAPER 2.
- \*DATE, 780000

## ABSTRACT 23

- \*TITLE, ENERGY IN AGRICULTURE--ON MODELING ENERGY INPUTS IN AGRIMOD.
- \*AUTHOR, LEVIS A H. ET AL.
- \*SOURCE, REPORT 50, ERDA, DIV OF INDUSTRIAL ENERGY CONSERVATION, AUG 1977, 182 PP.
- \*KEYWORDS, ACCOUNTING, AGRICULTURE, ENERGY ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 770800

## ABSTRACT 24

- \*TITLE, AGRIMOD--A DYNAMIC SIMULATION MODEL OF THE US FOOD PRODUCTION SYSTEM.
- \*AUTHOR, LEVIS A H, DUCOT E R, SIDENBLAD K M, LEVIS I S.
- \*SOURCE, PREPARED BY SYSTEMS CONTROL, INC, 1801 PAGE MILL RD, PALO ALTO, CA 94304, FOR DIV OF POLICY RESEARCH AND ANALYSIS, NSF, MARCH 1977, 121 PP.
- \*KEYWORDS, ACCOUNTING, PRODUCTION, MODELS.
- \*NOTES, FILED.
- \*DATE, 770300

## ABSTRACT 25

- \*TITLE, WORKSHOP ON RESEARCH METHODOLOGIES FOR STUDIES OF ENERGY, FOOD, MAN AND ENVIRONMENT, PHASE 1.
- \*AUTHOR, PIMENTEL D, LYNN W R, MACREYNOLDS W K, HEWES M T, RUSH S.
- \*SOURCE, CENTER FOR ENVIR QUALITY MANAGEMENT, CORNELL UNIV, ITHICA, NY, 18-20 JUNE 1974, 52 PP.
- \*KEYWORDS, ACCOUNTING, ENERGY CONSUMPTION, POPULATION, WORLD WIDE, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 740618

## ABSTRACT 26

- \*TITLE, WORKSHOP ON RESEARCH METHODOLOGIES FOR STUDIES OF ENERGY, FOOD, MAN AND ENVIRONMENT, PHASE II.
- \*AUTHOR, PIMENTEL D, LYNN W R, MACREYNOLDS W K, DATTNER M.
- \*SOURCE, CENTER FOR ENVIR QUALITY MANAGEMENT, CORNELL UNIV, ITHICA, NY, 11 NOV 1974, 20 PP.
- \*KEYWORDS, ACCOUNTING, AGRICULTURE, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 741111

## ABSTRACT 27

- \*TITLE, THE ECONOMIC APPLICATIONS OF VITAL RATE MONITORING.
- \*AUTHOR, POLEMAN T T, BEEGLY W, MATLON P, MCGREGOR A.
- \*SOURCE, MIMEOGRAPH 38, INTERNATIONAL AGR DEV, DEPT OF AGR ECON, NOV 1972.
- \*KEYWORDS, ACCOUNTING.
- \*NOTES,
- \*DATE, 721100

## ABSTRACT 28

- \*TITLE, ENERGY ACCOUNTING IN FOOD PROCESS OPERATIONS.
- \*AUTHOR, SINGH R P.
- \*SOURCE, REPRINTED FROM FOOD TECH, APRIL 1978, PP 40-46.
- \*KEYWORDS, ACCOUNTING, FOOD PROCESSING, MODELS.
- \*NOTES, FILED.
- \*DATE, 780400

- \*TITLE, ENERGY ACCOUNTING - PRELIMINARY SURVEY OF THE STATE OF THE ART.
- \*AUTHOR, SLESSER M.
- \*SOURCE, INTERNATIONAL FED OF INST OF ADVANCED STUDY, UNIV OF STRATHCLYDE, GLASGOW, SCOTLAND, 15 PP. UNDATED.
- \*KEYWORDS, ACCOUNTING, GENERAL.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 30

- \*TITLE, ENERGY ANALYSIS IN TECHNOLOGY ASSESSMENT.
- \*AUTHOR, SLESSER M.
- \*SOURCE, TECH ASSESSMENT, 2(3)/201-208, 1974.
- \*KEYWORDS, ACCOUNTING, TECHNOLOGY ASSESSMENT, ECONOMICS, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 31

- \*TITLE, ENERGY ACCOUNTING IN HUMAN SOCIETIES.
- \*AUTHOR, SLESSER M.
- \*SOURCE, PREPARED FOR THE SYMPOSIUM ON LIVING SYSTEMS AS ENERGY CONVERTERS, ORGANIZED BY THE COUNCIL FOR EUROPE, PONT A MOUSSON, FRANCE, 21 OCT 1976, 5PP.
- \*KEYWORDS, ACCOUNTING, ENERGY FLOW, WORLD WIDE.
- \*NOTES, FILED.
- \*DATE, 761021

## ABSTRACT 32

- \*TITLE, ENERGY SYSTEMS ANALYSIS FOR FOOD POLICY.
- \*AUTHOR, SLESSER M, LEWIS C, EDWARDSON W.
- \*SOURCE, FOOD POLICY, 2(2)/123-129, MAY 1977.
- \*KEYWORDS, ACCOUNTING, CANADA, AGRICULTURE, REQUIREMENTS.
- \*NOTES, FILED. THIS ARTICLE SHOWS HOW ENERGY REQUIREMENTS FOR FOOD PRODUCTION ARE CLOSELY RELATED TO THE INTENSITY OF PRODUCTION, AND THAT THERE IS A QUANTIFIABLE TRADE-OFF BETWEEN LAND AND ENERGY USE.
- \*DATE, 770500

## ABSTRACT 33

- \*TITLE, ANALYSIS OF OUTPUT/INPUT ENERGY RATIOS OF FOOD PRODUCTION IN ONTARIO.
- \*AUTHOR, SOUTHWELL P M, ROTHWELL T M.
- \*SOURCE, CONTRACT SERIAL 05W76-00048, SCHOOL OF ENGR, UNIV OF GUELPH, ONTARIO, CANADA, 31 MARCH 1977, 418 PP.
- \*KEYWORDS, ACCOUNTING, CANADA, AGRICULTURE, REQUIREMENTS, TILLAGE, MACHINERY, IRRIGATION, HARVESTING, ENERGY RATIO.
- \*NOTES, FILED. CHAPTERS ARE AS FOLLOWS
  1. ENERGY ACCOUNTING CONVENTION
  2. ENERGY COST OF ENERGY SUPPLY
  3. ENERGY COSTS OF BASIC INPUTS TO AGRICULTURE BY MANUFACTURING INDUSTRY
  4. ENERGY COST OF CROP PRODUCTION OPERATIONS
  5. ENERGY OUTPUT VALUES OF AGRICULTURAL PRODUCTS
  6. ENERGY BUDGETS AND ENERGY OUTPUT/INPUT RATIOS OF PLANT PRODUCTS FOR HUMAN NUTRITION
  7. ENERGY BUDGETS OF CROP PRODUCTION FOR ANIMAL NUTRITION
  8. ENERGY BUDGETS AND ENERGY OUTPUT/INPUT RATIOS OF ANIMAL PRODUCTS FOR HUMAN NUTRITION.
- \*DATE, 770331

## ABSTRACT 34

- \*TITLE, THE ENERGY COST OF ENERGY SUPPLIES.
- \*AUTHOR, SOUTHWELL P M, ROTHWELL T M.
- \*SOURCE, TECH REPORT 126-40, SCHOOL OF ENGR, UNIV OF GUELPH, ONTARIO, CANADA, 1978, 21 PP.
- \*KEYWORDS, ACCOUNTING, CANADA.
- \*NOTES, FILED. THIS REPORT REFERS ONLY TO ONTARIO. IT IS PRIMARILY CONCERNED WITH THE ENERGY COST OF ENERGY SUPPLIES TO THE FOOD PRODUCTION INDUSTRY AND THE MANUFACTURING INDUSTRIES WHICH SUPPLY THE ESSENTIAL INPUTS TO AGRICULTURE IN ONTARIO, INCLUDING DISTRIBUTION SYSTEMS AND TRANSPORTATION DISTANCES.
- \*DATE, 780000

## ABSTRACT 35

- \*TITLE, THIRD REPORT CONCERNING ENERGY INPUTS AND ENERGY RATIOS OF FOOD PRODUCTION IN ONTARIO.
- \*AUTHOR, SOUTHWELL P H, ROTHWELL T H, ROOVERS P.
- \*SOURCE, CONTRACT SERIAL 05277-00002, SCHOOL OF ENGR, UNIV OF GUELPH, ONTARIO, CANADA, 31 MARCH 1978, 151PP.
- \*KEYWORDS, ACCOUNTING, CANADA, AGRICULTURE, REQUIREMENTS, TRANSPORTATION.
- \*NOTES, FILED.
- \*DATE, 780331

## ABSTRACT 36

- \*TITLE, ENERGY ANALYSIS.
- \*AUTHOR, THOMAS J A G. ED.
- \*SOURCE, BOULDER, CO/WESTVIEW PRESS INC, 1977, 160 PP.
- \*KEYWORDS, ACCOUNTING, ENERGY CONSUMPTION, INTERNATIONAL, SUPPLY DEMAND.
- \*NOTES, FILED.
- \*DATE, 770000

## AGRICULTURE 37 -- 373

## ABSTRACT 37

- \*TITLE, RESEARCH TO MEET U.S. AND WORLD FOOD NEEDS, VOL 1.
- \*AUTHOR, AGRICULTURAL RESEARCH POLICY ADVISORY COMMITTEE.
- \*SOURCE, REPORT OF A WORKING CONF SPONSORED BY THE AGR RESEARCH POLICY ADVISORY COMMITTEE, KANSAS CITY, MO, 9-11 JULY 1975, 325PP.
- \*KEYWORDS, AGRICULTURE, FOOD ENERGY, POPULATION, GENERAL.
- \*NOTES, FILED.
- \*DATE, 753739

## ABSTRACT 38

- \*TITLE, RESEARCH TO MEET US AND WORLD FOOD NEEDS, VOL 2.
- \*AUTHOR, AGRICULTURAL RESEARCH POLICY ADVISORY COMMITTEE.
- \*SOURCE, REPORT OF A WORKING CONF SPONSORED BY THE AGR RESEARCH POLICY ADVISORY COMMITTEE, KANSAS CITY, MO, 9-11 JULY 1975, 131 PP.
- \*KEYWORDS, AGRICULTURE, POLICY, WORLD WIDE.
- \*NOTES, FILED. VOLUME CONTAINS BACKGROUND INFORMATION ON THE WORLD FOOD SITUATION, FOOD POLICIES, AND AGRICULTURAL RESEARCH.
- \*DATE, 750709

## ABSTRACT 39

- \*TITLE, MANAGING ENERGY ON THE FARM.
- \*AUTHOR, AGWAY INC.
- \*SOURCE, AGWAY INC, PO BOX 4933, SYRACUSE, NY 13221, 40 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 40

- \*TITLE, ENERGY - NOT A NEW FIELD FOR ELECTRIC POWER AND PROCESSING.
- \*AUTHOR, ALTHAN L B.
- \*SOURCE, ASAE PAPER 76-3002, 1976, 9PP.
- \*KEYWORDS, AGRICULTURE, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 41

- \*TITLE, CONSERVING ENERGY ON THE FARM.
- \*AUTHOR, AMOCO OIL CO.
- \*SOURCE, FARMING WITH AMOCO, NO 6, DEC 1977, 22 PP.
- \*KEYWORDS, AGRICULTURE, CONSERVATION, HARVESTING, TILLAGE, TRACTOR, HOME, AUTOMOEILE, SOLAR.
- \*NOTES, FILED.
- \*DATE, 771200

- TITLE, ENERGY AND FOOD.
- AUTHOR, ANDERSON R J. ED.
- SOURCE, ENERGY PERSPECTIVES, NO 26-27, AUG-SEPT 1976, 4PP,  
-BATTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS, OH.
- KEYWORDS, AGRICULTURE, FOOD PROCESSING.
- NOTES, FILED.
- DATE, 760900

## ABSTRACT 43

- TITLE, HARWELLS U-TUBE PUMP TO IRRIGATE INDIAN ARID ZONES.
- AUTHOR, ANON.
- SOURCE, NEW SCIENTIST, 7 AUG 1975, P 325.
- KEYWORDS, AGRICULTURE, IRRIGATION, INDIA, STIRLING.
- NOTES, FILED.
- DATE, 750807

## ABSTRACT 44

- TITLE, HIGH PLAINS GRAIN CONFERENCE - 1976.
- AUTHOR, ANON.
- SOURCE, A UNIV EXTENSION PROGRAM OF KANSAS, OKLAHOMA, AND TEXAS,  
1976, 75 PP.
- KEYWORDS, AGRICULTURE, DRYING, NATURAL GAS, CONSERVATION.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 45

- TITLE, SPECIAL ISSUE, ENERGY AND AGRICULTURE.
- AUTHOR, ANON.
- SOURCE, SPAN, 18(1)/ 1975, 44 PP.
- KEYWORDS, AGRICULTURE, FOOD PROCESSING, DEVELOPING COUNTRIES,  
FERTILIZER, CHEMICALS, GREENHOUSE, ORGANIC, DRYING.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 46

- TITLE, SPECIAL ISSUE ON ENERGY.
- AUTHOR, ANON.
- SOURCE, AGR ENGINEER, 30(3)/49-88, AUTUMN 1975.
- KEYWORDS, AGRICULTURE, ENERGY SOURCES, ECONOMICS.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 47

- TITLE, KANSAS MEETING SETS PRIORITIES.
- AUTHOR, ANON.
- SOURCE, USDA, 34(15)/4 PP, 23 JULY 1975.
- KEYWORDS, AGRICULTURE.
- NOTES, FILED. THE KANSAS CONFERENCE ON US AND WORLD FOOD NEEDS IS THE  
MAIN STORY IN THIS SMALL MAGAZINE.
- DATE, 750723

## ABSTRACT 48

- TITLE, MANAGING YOUR CORN HARVESTING UNDER LIMITED DRYER FUEL SUPPLY.
- AUTHOR, ANTHONY W. ET AL.
- SOURCE, SPECIAL REPORT 45, INST OF AGR, UNIV OF MINN, ST PAUL, MN, 1973.
- KEYWORDS, AGRICULTURE, HARVESTING, DRYING.
- NOTES, FILED.
- DATE, 730000

## ABSTRACT 49

- TITLE, ENERGY REQUIREMENTS FOR WHEAT PRODUCTION AND USE IN CALIFORNIA.
- AUTHOR, AVLANI P K, CHANCELLOR W J.
- SOURCE, ASAE PAPER 75-1557, 1975, 8PP.
- KEYWORDS, AGRICULTURE, ENERGY ACCOUNTING, PRODUCTION, CALIFORNIA.
- NOTES, FILED.
- DATE, 750000



## ABSTRACT 50

- \*TITLE, ENERGY IN MICHIGAN AGRICULTURE.
- \*AUTHOR, BAKKER-ARKEMA F W. ET AL.
- \*SOURCE, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824.  
MARCH 1974, 43PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, ENERGY FLOW, MICHIGAN.
- \*NOTES, FILED.
- \*DATE, 740300

## ABSTRACT 51

- \*TITLE, ENERGY AND AGRICULTURE - TOWARD A NEW BALANCE.
- \*AUTHOR, BARNES K K.
- \*SOURCE, IMPLEMENT AND TRACTOR, 7 JAN 1974, PP 4-6.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 740107

## ABSTRACT 52

- \*TITLE, ENERGY IN AGRICULTURE.
- \*AUTHOR, BARNES K K. ET AL.
- \*SOURCE, REPORT 14, COUNCIL FOR AGR SCI AND TECH, DEPT OF AGRON,  
IOWA STATE UNIV, AMES, IA, 26 NOV 1973, 16 PP.
- \*KEYWORDS, AGRICULTURE, FERTILIZER, IRRIGATION, DRYING, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 731126

## ABSTRACT 53

- \*TITLE, ENERGY AND U.S. AGRICULTURE--A STATEWIDE ENERGY MANAGEMENT AND CONSERVATION PROGRAM FOR PRODUCTION AGRICULTURE IN NEBRASKA.
- \*AUTHOR, BASHFORD L L, SHELTON D P.
- \*SOURCE, DEPT OF AGR ENGR, UNIV OF NEBR, LINCOLN, NE 68583.  
AUG 1977, 178 PP.
- \*KEYWORDS, AGRICULTURE, CONSERVATION, FUEL CONSUMPTION, NEBRASKA.
- \*NOTES, FILED. INFORMATION ON A FUEL SURVEY AND STATEWIDE ENERGY CONSERVATION PROGRAM FOR PRODUCTION AGRICULTURE. APPENDICES INCLUDE ENERGY MANAGEMENT FACTSHEETS, DESIGNS FOR FIELD DEMONSTRATIONS AND FIELD EXPERIMENTS, MEDIA RELEASES AND ANNOUNCEMENTS.
- \*DATE, 770800

## ABSTRACT 54

- \*TITLE, TRACTOR BALLASTING.
- \*AUTHOR, BASHFORD L L, SHELTON D P.
- \*SOURCE, FARM ENERGY TIPS CC278, INST OF AGR AND NAT RESOURCES,  
UNIV OF NEBR, LINCOLN, NE, OCT 1877, 2 PP.
- \*KEYWORDS, AGRICULTURE, EFFICIENCY, TRACTOR, MACHINERY.
- \*NOTES, FILED.
- \*DATE, 771000

## ABSTRACT 55

- \*TITLE, WHEEL WEIGHTS - HOW MUCH.
- \*AUTHOR, BASHFORD L L.
- \*SOURCE, COOPERATIVE EXTENSION SERVICE, INST OF AGR AND NATURAL RESOURCES,  
UNIV OF NEBR, LINCOLN, NE, JUNE 1975, 2 PP.
- \*KEYWORDS, AGRICULTURE, MACHINERY.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 56

- \*TITLE, REDUCING THE ENERGY REQUIREMENTS OF PLANT JUICE PROTEIN PRODUCTION.
- \*AUTHOR, BASKEN K E, SHIRER D K, KOEGEL R G, BRUHN H D.
- \*SOURCE, ASAE PAPER 75-1056, 24 PP.
- \*KEYWORDS, AGRICULTURE, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 750000

ABSTRACT 57

- TITLE, EXTENSION EFFORTS IN ENERGY MANAGEMENT AND CONSERVATION ON THE FARM, IN THE HOME, AND IN LOCAL COMMUNITIES.
- AUTHOR, BEER C.
- SOURCE, EXTENSION SERVICE, US DEPT OF AGR, WASHINGTON DC 20250, 15 JULY 1977, 8 PP, UNPUBLISHED.
- KEYWORDS, AGRICULTURE, CONSERVATION.
- NOTES, FILED. PRESENTED ARE MANY BRIEF DESCRIPTIONS OF EXTENSION PROGRAMS.
- DATE, 770715

ABSTRACT 58

- TITLE, ENERGY CONSUMPTION AND THE PENNSYLVANIA FOOD SYSTEM.
- AUTHOR, BEIERLEIN J G, GESELL T E.
- SOURCE, FARM ECON, COOPERATIVE EXTENSION SERVICE, PENN STATE UNIV, MARCH 1978, 4 PP.
- KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, FOOD PROCESSING, PENNSYLVANIA.
- NOTES, FILED.
- DATE, 780300

ABSTRACT 59

- TITLE, ENERGY TO KEEP AGRICULTURE GOING.
- AUTHOR, BERGE O I.
- SOURCE, AGR ENGR NEWSLETTER, FEB 1974, 7 PP.
- KEYWORDS, AGRICULTURE, FOSSIL FUELS, PETROLEUM, FERTILIZER.
- NOTES, FILED.
- DATE, 740200

ABSTRACT 60

- TITLE, ENERGY AND FOOD PRODUCTION.
- AUTHOR, BISWAS A K, BISWAS M R.
- SOURCE, AGRO-ECOSYSTEMS, 2/195-210, 1975.
- KEYWORDS, AGRICULTURE, PRODUCTION.
- NOTES,
- DATE, 750000

ABSTRACT 61

- TITLE, ENERGY RELATIONS IN CROP PRODUCTION - A PRELIMINARY SURVEY.
- AUTHOR, BLACK J N.
- SOURCE, PROC OF ASSOC OF APPLIED BIOLOGISTS, 67/272-277, 1971.
- KEYWORDS, AGRICULTURE, FOOD ENERGY.
- NOTES, FILED.
- DATE, 710000

ABSTRACT 62

- TITLE, THE ENERGETICS OF BRITISH AGRICULTURE.
- AUTHOR, BLAXTER K L.
- SOURCE, BIOLOGIST, 22/14-18, 1975.
- KEYWORDS, AGRICULTURE, ENERGETICS, UNITED KINGDOM.
- NOTES,
- DATE, 750000

ABSTRACT 63

- TITLE, POWER AND AGRICULTURAL REVOLUTION.
- AUTHOR, BLAXTER K L.
- SOURCE, NEW SCIENTIST, 14 FEB 1974, PP 400-403.
- KEYWORDS, AGRICULTURE, UNITED KINGDOM, ENERGY CONSUMPTION, FERTILIZER.
- NOTES, FILED.
- DATE, 740214

ABSTRACT 64

- TITLE, ENERGY INSIGHTS.
- AUTHOR, BOEKE R.
- SOURCE, IMPLEMENT AND TRACTOR PRODUCT FILE ISSUE, 31 MARCH 1974, PP 2-3.
- KEYWORDS, AGRICULTURE, PETROLEUM, CULTURAL ENERGY.
- NOTES, FILED.
- DATE, 740331

## ABSTRACT 65

\*TITLE, ENERGY CONSUMPTION IN THE FOOD SYSTEM.  
 \*AUTHOR, BOOZ ALLEN AND HAMILTON INC.  
 \*SOURCE, REPORT 13392-007-001 TO FEA BY BOOZ ALLEN AND HAMILTON INC,  
 4733 BETHESDA AVE, BETHESDA, MD 20014, 125 PP.  
 \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, FOOD ENERGY.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 66

\*TITLE, ENERGY USE IN THE FOOD SYSTEM.  
 \*AUTHOR, BOOZ ALLEN AND HAMILTON INC.  
 \*SOURCE, BOOZ ALLEN AND HAMILTON INC, 4733 BETHESDA AVE, BETHESDA,  
 MD 20014, UNDER CONTRACT CO-34-50303-00, TO THE OFFICE OF  
 INDUSTRIAL PROGRAMS, FEA, WASHINGTON DC, MAY 1976.  
 \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, ENERGY ACCOUNTING, USA.  
 \*NOTES, FILED.  
 \*DATE, 760500

## ABSTRACT 67

\*TITLE, FOOD AND ENERGY IN CONFRONTATION.  
 \*AUTHOR, BORGSTROM G.  
 \*SOURCE, PRESENTED AT APS-SON WORLD FOOD SYMPOSIUM, HOUSTON, TX,  
 10-12 AUG 1975, 21 PP.  
 \*KEYWORDS, AGRICULTURE, FOOD ENERGY, ANIMAL, HISTORICAL, ENERGY SUBSIDY,  
 ENERGY RATIO, IRRIGATION, DEVELOPING COUNTRIES, ORGANIC.  
 \*NOTES, FILED.  
 \*DATE, 750801

## ABSTRACT 68

\*TITLE, ENERGY--THERES NOT ENOUGH.  
 \*AUTHOR, BORGSTROM G.  
 \*SOURCE, AGR ENGR, SEPT 1977, PP 11-13.  
 \*KEYWORDS, AGRICULTURE, LAND USE, PRODUCTION.  
 \*NOTES, FILED. WITH THE EVER GROWING POPULATION OF PEOPLE AND ANIMALS, AND  
 THE DECREASE IN TILLABLE ACREAGE, WILL FOOD PRODUCTION BE ABLE TO KEEP  
 UP.  
 \*DATE, 770900

## ABSTRACT 69

\*TITLE, FOOD, FEED AND ENERGY.  
 \*AUTHOR, BORGSTROM G.  
 \*SOURCE, PRESENTED AT THE SYMPOSIUM ON ENERGY AND SOCIETY CALLED BY THE  
 SWEDISH ACADEMY OF SCIENCE, STOCKHOLM, SWEDEN, DEC 1973, 13 PP.  
 \*KEYWORDS, AGRICULTURE, FOOD ENERGY, ENERGY CONSUMPTION.  
 \*NOTES, FILED  
 \*DATE, 731200

## ABSTRACT 70

\*TITLE, ENERGY AND LABOUR BOTTLENECKS AND THEIR INFLUENCE ON THE CHOICE  
 OF IMPROVED EQUIPMENT.  
 \*AUTHOR, BOSHOFF W H, MINTO S D.  
 \*SOURCE, FARM EQUIPMENT WORKSHOP, PAPER III A, FAO, ROME, ITALY, UNDATED.  
 \*KEYWORDS, AGRICULTURE, KENYA, AFRICA.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 71

\*TITLE, MATCHING EQUIPMENT TO BIG TRACTORS FOR EFFICIENT FIELD OPERATIONS.  
 \*AUTHOR, BOWERS W.  
 \*SOURCE, ASAE PAPER 78-1031, 1978, 7 PP.  
 \*KEYWORDS, AGRICULTURE, TRACTOR, EFFICIENCY, REQUIREMENTS, MACHINERY.  
 \*NOTES, FILED. BY MATCHING TILLAGE EQUIPMENT AT 86 PERCENT OF MAXIMUM  
 AVAILABLE POWER AND TO GIVE FIELD SPEEDS IN THE GENERAL RANGE OF  
 7.25 TO 10.0 KM/H, OVERLOADING AND MAJOR BREAKDOWNS ARE REDUCED  
 WHILE MAINTAINING MAXIMUM EFFECTIVENESS OF THE TILLAGE OPERATIONS.  
 \*DATE, 780000



- \*TITLE, MANURE MANAGEMENT ENERGY CONSUMPTION IN SWINE CONFINEMENT SYSTEMS.
- \*AUTHOR, BRODIE H L.
- \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MI/ANN ARBOR SCI PUBL INC, 1975, PP 237-243.
- \*KEYWORDS, AGRICULTURE, MANURE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 73

- \*TITLE, THE PARTIAL IMPACT OF THE ENERGY CRISIS ON AGRICULTURE IN ASIAN COUNTRIES.
- \*AUTHOR, BROWN D D.
- \*SOURCE, IBRD, 17 JAN 1974.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, FERTILIZER, CHEMICALS, DEVELOPING COUNTRIES, CONSERVATION, ASIA.
- \*NOTES, FILED.
- \*DATE, 740117

## ABSTRACT 74

- \*TITLE, WORLD FOOD AND NUTRITION STUDY, INTERIM REPORT.
- \*AUTHOR, BROWN H S, ET AL.
- \*SOURCE, LIBRARY OF CONGRESS 75-37120, NAS, PRINTING AND PUBL OFFICE, 2101 CONSTITUTION AVE NW, WASHINGTON DC, 1975, 62PP.
- \*KEYWORDS, AGRICULTURE, WORLD WIDE, USA, FOOD ENERGY, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 75

- \*TITLE, ENERGY AND OUR FOOD SYSTEM - A MICROSCALE VIEW.
- \*AUTHOR, BROWN S J, BATTY J C.
- \*SOURCE, AGR ENGR, MAY 1977, PP 16-17.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 770500

## ABSTRACT 76

- \*TITLE, ENERGY ALLOCATIONS IN THE FOOD SYSTEM - A MICROSCALE VIEW.
- \*AUTHOR, BROWN S J, BATTY J C.
- \*SOURCE, TRANSACTIONS OF THE ASAE, 19(4)/758-761, 1976.
- \*KEYWORDS, AGRICULTURE, ENERGY BUDGET.
- \*NOTES,
- \*DATE, 760000

## ABSTRACT 77

- \*TITLE, CROP PRODUCTIVITY -- RESEARCH IMPERATIVES.
- \*AUTHOR, BROWN A W A, ED.
- \*SOURCE, INTERNATIONAL CONF ON CROP PRODUCTIVITY, MICH AGR EXPT STA, EAST LANSING, MI 48824, 20-24 OCT 1975, 399 PP.
- \*KEYWORDS, AGRICULTURE, CROP PROTECTION.
- \*NOTES, FILED. SIX DISCUSSION GROUPS WERE CONCERNED WITH - NITROGEN INPUT, CARBON INPUT, WATER AND SOIL AND MINERAL INPUT, PLANT PROTECTION FROM PESTS, ENVIRONMENTAL STRESS, AND PLANT DEVELOPMENT PROCESSES. THE REPORTS DISCUSS WHAT WERE CONSIDERED THE MOST IMPORTANT FUNDAMENTAL BIOLOGICAL PROCESSES THAT LIMIT CROP PRODUCTIVITY AND ALSO IDENTIFY RESEARCH IMPERATIVES DEEMED ESSENTIAL TO RAPIDLY ADVANCE THE KNOWLEDGE OF THESE PROCESSES.
- \*DATE, 751120

## ABSTRACT 78

- \*TITLE, WORLD FOOD AND NUTRITION STUDY - THE POTENTIAL CONTRIBUTIONS OF RESEARCH.
- \*AUTHOR, BROWN H S, ET AL.
- \*SOURCE, LIBRARY OF CONGRESS 77-81318, PRINTING AND PUBL OFFICE, NAS, 2101 CONSTITUTION AVE NW, WASHINGTON DC 20418, 1977, 192 PP.
- \*KEYWORDS, AGRICULTURE, WORLD WIDE, POLICY, SUPPLY DEMAND, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 770000

- \*TITLE, THAT WE MAY EAT - THE FOOD AND ENERGY SITUATION.
- \*AUTHOR, BUCHELE W F, BUCHELE M J.
- \*SOURCE, DEPT OF AGR ENGR, IOWA STATE UNIV, AMES, IA 50010,  
1 APRIL 1977, 91 PP.
- \*KEYWORDS, AGRICULTURE, SOLAR, PETROLEUM, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 770401

## ABSTRACT 80

- \*TITLE, WHAT HAPPENS WHEN DIESEL FUEL GOES TO ONE DOLLAR A GALLON.
- \*AUTHOR, BUCKINGHAM F.
- \*SOURCE, IMPLEMENT AND TRACTOR, 7 JAN 1978, PP 10-16.
- \*KEYWORDS, AGRICULTURE, DIESEL, DRYING, TILLAGE.
- \*NOTES, FILED.
- \*DATE, 780107

## ABSTRACT 81

- \*TITLE, REALISTIC AND UNREALISTIC ENERGY CONSERVATION POTENTIAL IN AGRICULTURE.
- \*AUTHOR, BUFFINGTON J D, ZAR J H.
- \*SOURCE, ARGONNE NATIONAL LAB, ARGONNE, IL, 16-19 JUNE 1976, 27PP.
- \*KEYWORDS, AGRICULTURE, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760616

## ABSTRACT 82

- \*TITLE, LAND, BREAD, AND HISTORY - A RESEARCH REPORT ON THE POTENTIAL FOR FOOD SELF-SUFFICIENCY IN VERMONT.
- \*AUTHOR, BURRILL G C, NOLFI J R.
- \*SOURCE, CENTER FOR STUDIES IN FOOD SELF-SUFFICIENCY, VERMONT INST OF COMMUNITY INVOLVEMENT, 90 MAIN ST, BURLINGTON, VT, 1976, 93PP.
- \*KEYWORDS, AGRICULTURE, VERMONT, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 83

- \*TITLE, ENERGY UTILIZATION IN VERMONT AGRICULTURE - A SUMMARY.
- \*AUTHOR, BURRILL G C, NOLFI J R.
- \*SOURCE, CENTER FOR STUDIES IN FOOD SELF-SUFFICIENCY, VERMONT INST OF COMMUNITY INVOLVEMENT, 90 MAIN ST, BURLINGTON, VT, 1976,  
8 PP.
- \*KEYWORDS, AGRICULTURE, VERMONT, ACCOUNTING, TRACTOR, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 84

- \*TITLE, ENERGY UTILIZATION IN VERMONT AGRICULTURE - PART 2.
- \*AUTHOR, BURRILL G C, NOLFI J R.
- \*SOURCE, CENTER FOR STUDIES IN FOOD SELF-SUFFICIENCY, VERMONT INST OF COMMUNITY INVOLVEMENT, 90 MAIN ST, BURLINGTON, VT,  
1976, 76 PP.
- \*KEYWORDS, AGRICULTURE, VERMONT, DAIRY, ENERGY FLOW, ENERGY CONSUMPTION,  
POULTRY.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 85

- \*TITLE, CONSTRUCTION OF AN AGRICULTURAL SOLAR DRYING SYSTEM.
- \*AUTHOR, CARNEGIE E J, POHL J.
- \*SOURCE, PROC OF THE 1978 ANNUAL MEETING OF THE AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, VOL 2.1, DENVER, CO, 28-31 AUG 1978,  
8 PP.
- \*KEYWORDS, AGRICULTURE, SOLAR, DRYING.
- \*NOTES, FILED.
- \*DATE, 780828

## ABSTRACT 86

- \*TITLE, 1974 TEXAS FARM FUEL AND FERTILIZER SURVEY.
- \*AUTHOR, CAUGILL C E, WILLIAMSON P M, HUMPHREY M O, AOKINSON O.
- \*SOURCE, CROP AND LIVESTOCK REPORTING SERVICE, TEXAS DEPT OF AGR,  
PO BOX 70, AUSTIN, TX, 1974, 55PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, TEXAS, FERTILIZER,  
MACHINERY.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 87

- \*TITLE, BULLETIN D'INFORMATION DU CNEEMA.
- \*AUTHOR, CENTRE NATIONAL D'ETUDES ET D'EXPERIMENTATION DE MACHINISME AGRICOLE.
- \*SOURCE, CNEEMA REPORT 200, ANTONY, FRANCE, SEPT 1974.
- \*KEYWORDS, AGRICULTURE, FRANCE, METHANE, SOLAR.
- \*NOTES, FILED.
- \*DATE, 740900

## ABSTRACT 88

- \*TITLE, ESSAI SUR L'ENERGIE DANS L'AGRICULTURE OU DANS LE SYSTEME AGRO-ALIMENTAIRE EN FRANCE.
- \*AUTHOR, CENTRE NATIONAL D'ETUDES ET D'EXPERIMENTATION DE MACHINISME AGRICOLE.
- \*SOURCE, CNEEMA REPORT 404, ANTONY, FRANCE, JUNE 1975, 86 PP.
- \*KEYWORDS, AGRICULTURE, FRANCE, HISTORICAL, ENERGY ACCOUNTING, SOLAR, ALTERNATIVES, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 89

- \*TITLE, ENERGY REQUIREMENTS FOR AGRICULTURE IN CALIFORNIA.
- \*AUTHOR, CERVINKA V, CHANCELLOR W J, COFFELT R J, CURLEY R G, DOBIE J B.
- \*SOURCE, UNIV OF CALIF, JAN 1974.
- \*KEYWORDS, AGRICULTURE, ENERGY ACCOUNTING, REQUIREMENTS, PETROLEUM, ELECTRICAL, CALIFORNIA.
- \*NOTES, FILED.
- \*DATE, 740100

## ABSTRACT 90

- \*TITLE, METHODS USED IN DETERMINING ENERGY FLOWS IN CALIFORNIA AGRICULTURE.
- \*AUTHOR, CERVINKA V, CHANCELLOR W J, COFFELT R J, CURLEY R G, DOBIE J B, HARRISON B D.
- \*SOURCE, TRANSACTIONS OF THE ASAE, 18(2)/246-251, 1975.
- \*KEYWORDS, AGRICULTURE, FOSSIL FUELS, DIESEL, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 91

- \*TITLE, BALANCING ENERGY AND FOOD PRODUCTION, 1975-2000.
- \*AUTHOR, CHANCELLOR W J, GDSS J R.
- \*SOURCE, SCIENCE, 192(4236)/213-218, 16 APRIL 1976.
- \*KEYWORDS, AGRICULTURE, INTERNATIONAL.
- \*NOTES, FILED.
- \*DATE, 760416

## ABSTRACT 92

- \*TITLE, THE ROLE OF FUEL AND ELECTRICAL ENERGY IN INCREASING PRODUCTION FROM TRADITIONALLY BASED AGRICULTURE.
- \*AUTHOR, CHANCELLOR W J.
- \*SOURCE, ASAE PAPER 77-5529, 1977, 37 PP.
- \*KEYWORDS, AGRICULTURE, DEVELOPING COUNTRIES, DEVELOPMENT.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 93

- \*TITLE, INCORPORATING ENERGETIC MEASURES IN AN ANALYSIS OF CROP PRODUCTION PRACTICES IN SIGATOKA VALLEY, FIJI.
- \*AUTHOR, CHANDRO S, DEBOER A J, EVENSON J P.
- \*SOURCE, AGR SYSTEMS, 1(4)/301-311, 1976.
- \*KEYWORDS, AGRICULTURE, FIJI.
- \*NOTES,
- \*DATE, 760000

## ABSTRACT 94

\*TITLE, OPTIMIZING OREGON AGRICULTURAL PRODUCTION SYSTEMS WITH LIMITED ENERGY SUPPLIES.  
 \*AUTHOR, CHEN K L, WENSINK R B.  
 \*SOURCE, ASAE PAPER 76-5019, 1976, 31PP.  
 \*KEYWORDS, AGRICULTURE, OREGON, PRODUCTION, MODELS.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 95

\*TITLE, PROCEEDINGS OF ENERGY SYMPOSIUM III - ENERGY FOR FOOD PRODUCTION.  
 \*AUTHOR, CLARK S J.  
 \*SOURCE, REPORT CES-12, CENTER FOR ENERGY STUDIES, KANSAS STATE UNIV, MANHATTAN, KS, 15 SEPT 1975, 116 PP.  
 \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, EFFICIENCY, PRODUCTION, FERTILIZER, ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 750915

## ABSTRACT 96

\*TITLE, US AGRICULTURE IS GROWING TROUBLE AS WELL AS CROPS.  
 \*AUTHOR, CLARK W.  
 \*SOURCE, SMITHSONIAN, 5(10)/59-65, 1975.  
 \*KEYWORDS, AGRICULTURE, USA.  
 \*NOTES,  
 \*DATE, 750000

## ABSTRACT 97

\*TITLE, DEPARTMENT OF ENERGY PROGRAMS AND OBJECTIVES - ENERGY CONSERVATION IN AGRICULTURAL PRODUCTION.  
 \*AUTHOR, CLARK S J.  
 \*SOURCE, PREPARED BY WASH SCI MARKETING, INC, CONTRACT 31-109-38-3896, FOR THE US DEPT OF ENERGY, DIV OF INDUSTRIAL ENERGY CONSERVATION, WASH DC 20545, DEC 1977, 39 PP.  
 \*KEYWORDS, AGRICULTURE, DRYING, FERTILIZER, IRRIGATION, GREENHOUSE, ANIMAL PRODUCTION, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 771200

## ABSTRACT 98

\*TITLE, ENERGY CONSUMPTION, CONSERVATION, AND PROJECTED NEEDS FOR TEXAS AGRICULTURE.  
 \*AUTHOR, COBLE C G, LEPORI W A.  
 \*SOURCE, DEPT OF AGR ENGR, TEXAS A AND M UNIV, 1974, 70 PP.  
 \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, CONSERVATION, TEXAS.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 99

\*TITLE, MACHINERY ENERGY REQUIRMENTS FOR CROP PRODUCTION IN DELAWARE.  
 \*AUTHOR, COLLINS N E, WILLIAMS T H, KEMBLE L J.  
 \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MI/ANN ARBOR SCI PUBL INC, 1975, PP 123-132.  
 \*KEYWORDS, AGRICULTURE, DELAWARE, ENERGY CONSUMPTION, PRODUCTION.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 100

\*TITLE, BEEF FEEDLOT DESIGN AND MANAGEMENT IN MICHIGAN.  
 \*AUTHOR, CONNOR L J, ET AL.  
 \*SOURCE, FARM SCI RESEARCH REPORT 292, AGR EXPT STA, MICH STATE UNIV, EAST LANSING, MI 48824, FEB 1976, 31 PP.  
 \*KEYWORDS, AGRICULTURE, MICHIGAN, ANIMAL.  
 \*NOTES, FILED.  
 \*DATE, 760200



- \*TITLE, IMPLICATIONS OF CHANGING ENERGY PRICES AND SUPPLIES UPON MICHIGAN AGRICULTURE.
- \*AUTHOR, CONNOR L J.
- \*SOURCE, PRESENTED AT ENERGY ALTERNATIVES FOR MICH, CONF SPONSORED BY THE JOINT COMMITTEE ON ENERGY, MICH LEGISLATURE, LANSING, MI, 9 JUNE 1977, 13PP.
- \*KEYWORDS, AGRICULTURE, ENERGY BUDGET, POLICY, MICHIGAN.
- \*NOTES, FILED. CHARACTERISTICS OF MICH AGR SUCH AS EMPLOYMENT, VALUE, DIVERSITY AND FARM SIZE. TABLES ON THE ENERGY USE OF AGR IN MICH AND THE US, ALONG WITH ENERGY-PRICE POLICY.
- \*DATE, 770609

## ABSTRACT 102

- \*TITLE, ENERGY FOR AGRICULTURE CONFERENCE.
- \*AUTHOR, CORN REFINERS ASSOCIATION INC.
- \*SOURCE, CORN REFINERS ASSOC INC, 1001 CONN AVE NW, WASHINGTON D C, 18-19 SEPT 1973, 157 PP.
- \*KEYWORDS, AGRICULTURE, POLICY, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 730912

## ABSTRACT 103

- \*TITLE, ENERGY OUT OF AGRICULTURE--PLANTS AS A SOURCE OF FUEL AND POWER.
- \*AUTHOR, CORNFORTH J W.
- \*SOURCE, SPAN, 18(1)/10-11, 1975.
- \*KEYWORDS, AGRICULTURE, BIOMASS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 104

- \*TITLE, ENERGY CRISIS - NO JOKE.
- \*AUTHOR, COURTER P.
- \*SOURCE, MICH FARMER, 5 MAY 1973, PP 8, 16-17.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, FOSSIL FUELS, POLICY.
- \*NOTES, FILED. APRIL 1973 REPORT OF CONFERENCE ON AGRICULTURE AND THE ENERGY CRISIS AT THE UNIV OF NEBR.
- \*DATE, 730505

## ABSTRACT 105

- \*TITLE, SUMMARY OF CURRENT STATE EXTENSION WORK ON ENERGY CONSERVATION.
- \*AUTHOR, COX V T, LANPHER B F.
- \*SOURCE, FED EXTENSION SERVICE, USDA, WASHINGTON DC, 10 JAN 1974, 15 PP.
- \*KEYWORDS, AGRICULTURE, CONSERVATION, BIBLIOGRAPHY.
- \*NOTES, FILED.
- \*DATE, 740110

## ABSTRACT 106

- \*TITLE, SELECTING POWER EQUIPMENT TO SAVE ENERGY.
- \*AUTHOR, CROMWELL R P.
- \*SOURCE, FACT SHEET EC-18, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL 32611, 1976, 3PP.
- \*KEYWORDS, AGRICULTURE, TRACTOR, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 107

- \*TITLE, TRACTOR OPERATION FOR FUEL SAVINGS.
- \*AUTHOR, CROMWELL R P.
- \*SOURCE, ENERGY CONSERVATION FACT SHEET EC-21, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 1976, 2 PP.
- \*KEYWORDS, AGRICULTURE, TRACTOR, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 108

- \*TITLE, TUNE-UPS SAVE FUEL.
- \*AUTHOR, CROMWELL R P.
- \*SOURCE, ENERGY CONSERVATION FACT SHEET EC-20, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 1976, 2 PP.
- \*KEYWORDS, AGRICULTURE, MACHINERY, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 109

- \*TITLE, RELATIONS BETWEEN FOOD PRODUCTION PROCESSING AND DISTRIBUTION ALTERNATIVES AND ENERGY.
- \*AUTHOR, CROSSON P R.
- \*SOURCE, RESOURCES FOR THE FUTURE, 1755 MASS AVE NW, WASHINGTON DC 20016, JUNE 1976, 15PP.
- \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, ALTERNATIVES, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 110

- \*TITLE, FOOD PRODUCTION AND THE ENERGY DILEMMA.
- \*AUTHOR, CUMMINGS R W.
- \*SOURCE, THE ROCKEFELLER FOUNDATION, AUG 1974, 28 PP.
- \*KEYWORDS, AGRICULTURE, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 740800

## ABSTRACT 111

- \*TITLE, GETTING OUT OF THE FOOD ENERGY FIX.
- \*AUTHOR, CUTLER M R.
- \*SOURCE, AGR ENGR, 59(1)/41-44, JAN 1978.
- \*KEYWORDS, AGRICULTURE, POLICY.
- \*NOTES, FILED.
- \*DATE, 780100

## ABSTRACT 112

- \*TITLE, FUEL, FERTILIZER--WILL YOU GET ENOUGH.
- \*AUTHOR, DAHL O. ET AL.
- \*SOURCE, COOPERATIVE EXTENSION SERVICE, UNIV OF ILL, URBANA-CHAMPAIGN, IL, 1974, 58 PP.
- \*KEYWORDS, AGRICULTURE, FERTILIZER, SUPPLY DEMAND, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 113

- \*TITLE, ENERGY AND US.
- \*AUTHOR, DAVIS D R.
- \*SOURCE, ARKANSAS PROCESSING CROPS REVIEW, 11(4)/1-4, OCT 1975, UNIV OF ARKANSAS.
- \*KEYWORDS, AGRICULTURE, FOSSIL FUELS, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 751000

## ABSTRACT 114

- \*TITLE, ENERGY PRODUCTION AND USE IN DUTCH AGRICULTURE.
- \*AUTHOR, DEKKERS W A, LANGE J M, DEWIT C T.
- \*SOURCE, NETHERLANDS J OF AGR SCI, 22/107-118, 1974.
- \*KEYWORDS, AGRICULTURE, FOOD ENERGY, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 115

- \*TITLE, WHAT IS AGRICULTURAL EXTENSION.
- \*AUTHOR, DOERING O C.
- \*SOURCE, DEPT OF AGR ECON, PURDUE UNIV, WEST LAFAYETTE, IN, AUG 1976, 10 PP.
- \*KEYWORDS, AGRICULTURE, POLICY.
- \*NOTES, FILED.
- \*DATE, 760800

## ABSTRACT 116

- \*TITLE, ALTERNATE FUELS AND AGRICULTURAL PRODUCTION.
- \*AUTHOR, DOERING O C.
- \*SOURCE, DEPT OF AGR ECON, PURDUE UNIV, WEST LAFAYETTE, IN, FEB 1976, 9 PP, STATEMENT FOR THE NRC COMMITTEE ON NUCLEAR AND ALTERNATIVE ENERGY SYSTEMS.
- \*KEYWORDS, AGRICULTURE, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 760200

## ABSTRACT 117

- \*TITLE, AGRICULTURE AND THE ENERGY DILEMMA.
- \*AUTHOR, DOERING O C, MCKENZIE B A.
- \*SOURCE, CES PAPER 5, PURDUE UNIV, WEST LAFAYETTE, IN, NOV 1973, 9PP.
- \*KEYWORDS, AGRICULTURE, INDIANA, DRYING.
- \*NOTES, FILED.
- \*DATE, 731000

## ABSTRACT 118

- \*TITLE, EXAMINING CHANGES IN LP-GAS AVAILABILITY FOR AGRICULTURE IN THE CORN BELT.
- \*AUTHOR, DOERING O C.
- \*SOURCE, DEPT OF AGR ECON, PURDUE UNIV, WEST LAFAYETTE, IN 47907, AUG 1974, 13 PP.
- \*KEYWORDS, AGRICULTURE, LPGAS, FUEL CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 740800

## ABSTRACT 119

- \*TITLE, ENERGY POLICY ISSUES FOR AGRICULTURE.
- \*AUTHOR, DOERING O C.
- \*SOURCE, INCREASING UNDERSTANDING OF PUBLIC PROBLEMS AND POLICIES, FARM FOUNDATION, 1974, 9 PP.
- \*KEYWORDS, AGRICULTURE, POLICY, FUEL CONSUMPTION, USA.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 120

- \*TITLE, THE ENERGY BALANCE OF FOOD LEGUME PRODUCTION.
- \*AUTHOR, DOERING O C.
- \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT-VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMAN PRESS INC, 24-28 OCT 1977, PP 725-732
- \*KEYWORDS, AGRICULTURE, ENERGY ACCOUNTING, INDIANA, THAILAND, NIGERIA.
- \*NOTES, FILED. THIS PAPER EXAMINES THE ENERGY INPUT/OUTPUT RELATIONSHIPS OF SEVERAL MAJOR FOOD LEGUMES. COMPARISONS ARE MADE WITH RESPECT TO OVERALL RESOURCE USE AND THE RELATIONSHIP BETWEEN LAND CAPABILITY AND THE CHOICE OF A CROP AND CROPPING SYSTEM.
- \*DATE, 771024

## ABSTRACT 121

- \*TITLE, AN ENERGY BASED ANALYSIS OF ALTERNATIVE PRODUCTION METHODS AND CROPPING SYSTEMS IN THE CORN BELT.
- \*AUTHOR, DOERING O C.
- \*SOURCE, NSF/RA-770125, AGR ECON DEPT, PURDUE UNIV, WEST LAFAYETTE, IN 47907, JUNE 1977, 44PP.
- \*KEYWORDS, AGRICULTURE, ENERGY BUDGET, CONSERVATION, MODELS.
- \*NOTES, FILED. IDENTIFIED AND EVALUATED ARE CROPPING SYSTEMS AND PRODUCTION METHODS FOR CORN, SOYBEANS, WHEAT AND ALFALFA, WHICH WOULD REDUCE THE TOTAL ENERGY INPUTS RELATIVE TO THE AMOUNT OF PRODUCT.
- \*DATE, 770600



## ABSTRACT 122

- \*TITLE, ENERGY IN AGRICULTURE--ACCOUNTING FOR TILLAGE EQUIPMENT AND OTHER MACHINERY IN AGRICULTURAL ENERGY ANALYSIS.
- \*AUTHOR, DOERING O C, CONSIDINE T J, HARLING C E.
- \*SOURCE, NSF/RA-770128, AGR EXPT STA, PURDUE UNIV, WEST LAFAYETTE, IN 47907, JUNE 1977, 4PP.
- \*KEYWORDS, AGRICULTURE, MACHINERY, ENERGY ACCOUNTING.
- \*NOTES, FILED. THE ENERGY VALUE, BASED ON INDUSTRY SOURCES, OF DIFFERENT TILLAGE EQUIPMENT AND FARM MACHINERY IS PRESENTED. DISCOUNTING, SCRAPPAGE AND UTILIZATION ARE DISCUSSED. COMPARISONS ARE MADE BETWEEN THE NEW DISAGGREGATED DATA AND INITIAL ATTEMPTS TO DETERMINE FARM MACHINERY'S ENERGY CONTENT BASED ON ENERGY CONTENT OF AUTOMOBILES.
- \*DATE, 770600

## ABSTRACT 123

- \*TITLE, EVALUATING ALTERNATIVE ENERGY TECHNOLOGIES IN AGRICULTURE.
- \*AUTHOR, DOERING O C, PEART R M.
- \*SOURCE, NSF/RA-770124, AGR ECON DEPT, PURDUE UNIV, WEST LAFAYETTE, IN 47907, JUNE 1977, 16PP.
- \*KEYWORDS, AGRICULTURE, ENERGY BUDGET, CONSERVATION, MODELS.
- \*NOTES, FILED. IDENTIFIED AND EVALUATED ARE CROPPING SYSTEMS AND PRODUCTION METHODS FOR CORN, SOYBEANS, WHEAT AND ALFALFA, WHICH WILL REDUCE THE TOTAL ENERGY INPUTS REQUIRED RELATIVE TO PRODUCTION. ECONOMIC AND TECHNICAL FEASIBILITY IS CONSIDERED.
- \*DATE, 770600

## ABSTRACT 124

- \*TITLE, AGRICULTURE AND ENERGY USE IN THE YEAR 2000.
- \*AUTHOR, DOERING O C.
- \*SOURCE, AMER J AGR ECON, 59(5)/1066-1070, DEC 1977.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 771200

## ABSTRACT 125

- \*TITLE, CURRENT ENERGY USE IN THE FOOD AND FIBER SYSTEM.
- \*AUTHOR, DOERING O C, GAVETT E E, VAN ARSDALL R T, RALL E, DEVLIN P.
- \*SOURCE, PREPARED BY ECON RESEARCH SERVICE, USDA, 23 JUNE 1977, 21 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 770623

## ABSTRACT 126

- \*TITLE, ENERGY CONSUMPTION IN SWINE CONFINEMENT BUILDINGS.
- \*AUTHOR, DRIGGERS L B.
- \*SOURCE, ASAE PAPER 76-4537, 1976, 6 PP.
- \*KEYWORDS, AGRICULTURE, BUILDINGS, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE 760000

## ABSTRACT 127

- \*TITLE, ENERGY AND AMERICAN AGRICULTURE.
- \*AUTHOR, DUNCAN M, WEBB K.
- \*SOURCE, ECON REVIEW, 63(4)/3-14, APRIL 1978.
- \*KEYWORDS, AGRICULTURE, USA, POLICY.
- \*NOTES, FILED.
- \*DATE, 780400

## ABSTRACT 128

- \*TITLE, ENERGY USE IN US AGRICULTURE - AN EVALUATION OF NATIONAL AND REGIONAL IMPACTS FROM ALTERNATIVE ENERGY POLICIES.
- \*AUTHOR, DVOSKIN D, HEADY E O, ENGLISH B C.
- \*SOURCE, CARD REPORT 78, THE CENTER FOR AGR AND RURAL DEV, IOWA STATE UNIV, AMES, IA 50011, MARCH 1978, 121 PP.
- \*KEYWORDS, AGRICULTURE, NATURAL GAS, POLICY.
- \*NOTES, FILED.
- \*DATE. 780300

## ABSTRACT 129

- \*TITLE, THE US FOOD AND FIBER SECTOR - ENERGY USE AND OUTLOOK.
- \*AUTHOR, ECONOMIC RESEARCH SERVICE, US-DEPARTMENT OF AGRICULTURE.
- \*SOURCE, PREPARED BY ECON RESEARCH SERVICE, USDA, FOR THE COMMITTEE ON AGR AND FORESTRY, US SENATE, 93RD CONGRESS, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1974, 111PP.
- \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, POLICY, MARKETING, FUEL CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 130

- \*TITLE, AUTOMATIC FEEDING OF CATTLE.
- \*AUTHOR, ELECTRICITY COUNCIL.
- \*SOURCE, FARM ELECTRIC HANDBOOK 19, APRIL 1974, 87 PP, THE ELECTRICITY COUNCIL, FARM-ELECTRIC CENTRE, NATIONAL AGR CENTRE, KENILWORTH, WARWICKSHIRE CV8 2LS, ENGLAND.
- \*KEYWORDS, AGRICULTURE, ANIMAL, FOOD ENERGY, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 740400

## ABSTRACT 131

- \*TITLE, AUTOMATIC FEEDING OF POULTRY AND PIGS.
- \*AUTHOR, ELECTRICITY COUNCIL.
- \*SOURCE, FARM ELECTRIC HANDBOOK 20, MAY 1974, 60 PP, THE ELECTRICITY COUNCIL, FARM-ELECTRIC CENTRE, NATIONAL AGR CENTRE, KENILWORTH, WARWICKSHIRE CV8 2LS, ENGLAND.
- \*KEYWORDS, AGRICULTURE, ANIMAL, FOOD ENERGY, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 740500

## ABSTRACT 132

- \*TITLE, FEED PREPARATION.
- \*AUTHOR, ELECTRICITY COUNCIL.
- \*SOURCE, FARM ELECTRIC HANDBOOK 14, OCT 1971, 112 PP, THE ELECTRICITY COUNCIL, TRAFALGAR BLDG, 1 CHARING CROSS, LONDON SW1A 2DS, ENGLAND.
- \*KEYWORDS, AGRICULTURE, ANIMAL, FOOD PROCESSING, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 711000

## ABSTRACT 133

- \*TITLE, GRAIN DRYING AND STORAGE.
- \*AUTHOR, ELECTRICITY COUNCIL.
- \*SOURCE, FARM ELECTRIC HANDBOOK 21, NOV 1974, 124 PP, THE ELECTRICITY COUNCIL, FARM-ELECTRIC CENTRE, NATIONAL AGR CENTRE, KENILWORTH, WARWICKSHIRE CV8 2LS, ENGLAND.
- \*KEYWORDS, AGRICULTURE, DRYING, STORAGE.
- \*NOTES, FILED.
- \*DATE, 741100

## ABSTRACT 134

- \*TITLE, HAY DRYING.
- \*AUTHOR, ELECTRICITY COUNCIL.
- \*SOURCE, FARM ELECTRIC HANDBOOK 22, OCT 1975, 66 PP, THE ELECTRICITY COUNCIL, FARM-ELECTRIC CENTRE, NATIONAL AGR CENTRE, STONELEIGH, KENILWORTH, WARWICKSHIRE CV8 2LS, ENGLAND.
- \*KEYWORDS, AGRICULTURE, DRYING.
- \*NOTES, FILED.
- \*DATE, 751000

## ABSTRACT 135

- \*TITLE, MILK PRODUCTION.
- \*AUTHOR, ELECTRICITY COUNCIL.
- \*SOURCE, FARM ELECTRIC HANDBOOK 17, JUNE 1972, 72 PP, THE ELECTRICITY COUNCIL, FARM-ELECTRIC CENTRE, NATIONAL AGR CENTRE, KENILWORTH, WARWICKSHIRE CV8 2LS, ENGLAND.
- \*KEYWORDS, AGRICULTURE, DAIRY, ELECTRICAL, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 720600

- \*TITLE, PUMPING.
- \*AUTHOR, ELECTRICITY COUNCIL.
- \*SOURCE, FARM ELECTRIC HANDBOOK 11, OCT 1971, 81 PP, THE ELECTRICITY COUNCIL, 1 CHARING CROSS, LONDON SW1A 2DS, ENGLAND.
- \*KEYWORDS, AGRICULTURE, WATER POWER, IRRIGATION.
- \*NOTES, FILED.
- \*DATE, 711000

## ABSTRACT 137

- \*TITLE, VEGETABLE STORAGE.
- \*AUTHOR, ELECTRICITY COUNCIL.
- \*SOURCE, FARM ELECTRIC HANDBOOK 23, NOV 1974, 118 PP, THE ELECTRICITY COUNCIL, FARM-ELECTRIC CENTRE, KENILWORTH, WARWICKSHIRE CV8 2LS.
- \*KEYWORDS, AGRICULTURE, STORAGE.
- \*NOTES, FILED.
- \*DATE, 741100

## ABSTRACT 138

- \*TITLE, FOOD AND ENERGY.
- \*AUTHOR, FARM ELECTRIFICATION COUNCIL.
- \*SOURCE, FARM ELECTRIFICATION COUNCIL, 909 UNIV AVE, COLUMBIA, MO, 13 PP.
- \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, FOOD ENERGY, POPULATION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 139

- \*TITLE, FOOD AND ENERGY SYMPOSIUM.
- \*AUTHOR, FARM ELECTRIFICATION COUNCIL.
- \*SOURCE, FARM ELECTRIFICATION COUNCIL, 818 LOCUST, DES MOINES, IA, 20 AUG 1975.
- \*KEYWORDS, AGRICULTURE, ELECTRICAL, CONSERVATION, SOLAR, NUCLEAR.
- \*NOTES, FILED.
- \*DATE, 750820

## ABSTRACT 140

- \*TITLE, ARE FOOD PRICES HIGH.
- \*AUTHOR, FERRIS J.
- \*SOURCE, MICH FARM ECON 364, AGR ECON DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, 1973, 4 PP.
- \*KEYWORDS, AGRICULTURE, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 730400

## ABSTRACT 141

- \*TITLE, ENERGY AND AGRICULTURE - RESEARCH IMPLICATIONS.
- \*AUTHOR, FISCHER L, BIERE A.
- \*SOURCE, REPORT 2, NORTH CENTRAL REGIONAL STRATEGY COMMITTEE ON NATURAL RESOURCE DEV, OCT 1973, 99 PP.
- \*KEYWORDS, AGRICULTURE, SOCIAL IMPLICATIONS, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 731000

## ABSTRACT 142

- \*TITLE, ENERGY CONSUMPTION OF THE FLORIDA VEGETABLE INDUSTRY.
- \*AUTHOR, FLUCK R C.
- \*SOURCE, FLORIDA AGR EXPT STA J SERIES NO 7060, AGR ENGR DEPT, UNIV OF FLORIDA, GAINESVILLE, 1975, 13 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, FLORIDA, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 750000

- \*TITLE, FOOD AND ENERGY.
- \*AUTHOR, FOOD AND ENERGY COUNCIL.
- \*SOURCE, FOOD AND ENERGY COUNCIL, 909 UNIV AVE, COLUMBIA, MO 65201, 1977, 15 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY SOURCES, POPULATION.
- \*NOTES, FILED. THE CURRENT AND FUTURE ASPECTS OF THE WORLD FOOD SUPPLY, INCREASED CROP YIELD, INCREASED POPULATION, THE ENERGY CRISIS AND IMPROVED TECHNOLOGY, ARE DEALT WITH.
- \*DATE, 770000

## ABSTRACT 144

- \*TITLE, AGRICULTURE, ENERGY, AND SOCIETY.
- \*AUTHOR, FOWLER J M, KRYGER K C, CAREY H H.
- \*SOURCE, US DEPT OF ENERGY, TECHNICAL INFO OFFICE, PO BOX 62, OAK RIDGE, TN 37830, FEB 1978, 109 PP.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 780200

## ABSTRACT 145

- \*TITLE, FUEL USE FOR CROP AND LIVESTOCK PRODUCTION IN 1973 WITH PROJECTIONS TO 1985.
- \*AUTHOR, FOX A S.
- \*SOURCE, PREPARED FOR PRESENTATION AT THE SOUTHERN AGR ECON ASSOC MEETING, NEW ORLEANS, LA, FEB 1975, 11PP.
- \*KEYWORDS, AGRICULTURE, FOSSIL FUELS, REQUIREMENTS.
- \*NOTES, FILED.
- \*DATE, 750200

## ABSTRACT 146

- \*TITLE, DIRECT ENERGY USE IN MILK PRODUCTION - METHODOLOGY AND COEFFICIENT.
- \*AUTHOR, FRANK G G.
- \*SOURCE, PRESENTED AT THE AMER AGR ECON ASSOC MEETING, COLUMBUS, OH, 10 AUG 1975, 12PP.
- \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, ANIMAL, DAIRY.
- \*NOTES, FILED.
- \*DATE, 750800

## ABSTRACT 147

- \*TITLE, A GUIDE TO ENERGY SAVINGS--FOR THE DAIRY FARMER
- \*AUTHOR, FRANK G G.
- \*SOURCE, FEA, OFFICE OF COMMUNICATION, PUBLICATIONS DIV, U.S. DEPT OF AGR, WASHINGTON DC 20250, JUNE 1977, 50PP.
- \*KEYWORDS, AGRICULTURE, DAIRY, CONSERVATION, ENERGY CONSUMPTION
- \*NOTES, FILED.
- \*DATE, 770600

## ABSTRACT 148

- \*TITLE, ENERGY AND FOOD - ENERGY USED IN PRODUCTION, PROCESSING, DELIVERY AND MARKETING OF SELECTED FOOD ITEMS.
- \*AUTHOR, FRITSCH A J, DUJACK L W, JIMMERSON D A.
- \*SOURCE, ENERGY SERIES VI, CENTER FOR SCI IN THE PUBLIC INTEREST, 1779 CHURCH ST, WASHINGTON D C, JUNE 1975, 74 PP.
- \*KEYWORDS, AGRICULTURE, PRODUCTION, MARKETING, ENERGY RATIO, ENERGY SUBSIDY, ENERGY FLOW, STATISTICS, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 750600



- \*TITLE, AGRICULTURE AND THE ENERGY CRISIS.
- \*AUTHOR, GAVETT E E.
- \*SOURCE, PRESENTED AT THE NATIONAL CONFERENCE ON AGR AND THE ENERGY CRISIS, UNIV OF NEBR, 10-11 APRIL 1973, 20 PP.
- \*KEYWORDS, AGRICULTURE, SOLAR, ORGANIC, ALCOHOL.
- \*NOTES, FILED.
- \*DATE, 730410

## ABSTRACT 150

- \*TITLE, CAN 1918 FARMING FEED 1975 PEOPLE.
- \*AUTHOR, GAVETT E E.
- \*SOURCE, THE FARM INDEX, AUG 1975, PP 10-13.
- \*KEYWORDS, AGRICULTURE, LABOR, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 750800

## ABSTRACT 151

- \*TITLE, OIL RICH, TRACTOR POOR.
- \*AUTHOR GERSTNER J.
- \*SOURCE, JOHN DEERE J, 5(1)/6-9, WINTER 1976.
- \*KEYWORDS, AGRICULTURE, MIDDLE EAST.
- \*NOTES, FILED.
- \*DATE, 760000
- GIBBONS

## ABSTRACT 152

- \*TITLE, ENERGETICS OF FOOD SYSTEMS, THERMODYNAMIC THRIFT AND POWER VIA PHOTOSYNTHESIS.
- \*AUTHOR, GIFFORD R M.
- \*SOURCE, THE AUSTRALIAN INST OF AGR SCIENCE, 21 JUNE 1974, PP 66-86.
- \*KEYWORDS, AGRICULTURE, AUSTRALIA, ENERGETICS, ENERGY ACCOUNTING, MINIMUM TILLAGE.
- \*NOTES, FILED.
- \*DATE, 740621

## ABSTRACT 153

- \*TITLE, ENERGETICS OF AGRICULTURE AND FOOD PRODUCTION WITH SPECIAL EMPHASIS ON THE AUSTRALIAN SITUATION.
- \*AUTHOR, GIFFORD R M, MILLINGTON R J.
- \*SOURCE, CSIRO BULLETIN 288, 1975, 29 PP.
- \*KEYWORDS, AGRICULTURE, ENERGETICS, ENERGY ACCOUNTING, ORGANIC, AUSTRALIA, EFFICIENCY, TILLAGE.
- \*NOTES, FILED. PAPER FOR PRESENTATION AT THE UNESCO MAN AND THE BIOSPHERE PROGRAM, NATIONAL SYMPOSIUM ON ENERGY AND HOW WE LIVE, ADELAIDE, 15-18 MAY 1973.
- \*DATE, 750000

## ABSTRACT 154

- \*TITLE, BIOPHYSICAL CONSTRAINTS IN AUSTRALIAN FOOD PRODUCTION - IMPLICATIONS FOR POPULATION POLICY.
- \*AUTHOR, GIFFORD R M, KALMA J D, ASTON A R, MILLINGTON R J.
- \*SOURCE, SEARCH, 6(6)/212-220, JUNE 1975.
- \*KEYWORDS, AGRICULTURE, AUSTRALIA, POPULATION, POLICY.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 155

- \*TITLE, THE EMERGING ECONOMIC BASE FOR LOW-ENERGY AGRICULTURE.
- \*AUTHOR, GOLDSTEIN J.
- \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL ED, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975, PP 17-28.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, WASTES.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 156

- \*TITLE, THE FLOW OF ENERGY IN A FOREST ECOSYSTEM.
- \*AUTHOR, GOSS J R, HOLMES R T, LIKENS G E, BORMANN F H.
- \*SOURCE, SCIENTIFIC AMER, 238(3)/93-102, MARCH 1978.
- \*KEYWORDS, AGRICULTURE, PHOTOSYNTHESIS, ENERGY FLOW.
- \*NOTES, FILED.
- \*DATE, 780300

## ABSTRACT 157

- \*TITLE, FARM ENERGY DURING AN ERA OF SCARCITY.
- \*AUTHOR, GOSTOVICH J.
- \*SOURCE, MINN AGR ECONOMIST NO 570, INST OF AGR, UNIV OF MINN, ST PAUL, AUG 1975, 5 PP.
- \*KEYWORDS, AGRICULTURE, FERTILIZER, ELECTRICAL, DRYING, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 750800

## ABSTRACT 158

- \*TITLE, ENERGY IN AGRICULTURE.
- \*AUTHOR, GREEN M B.
- \*SOURCE, CHEMISTRY AND INDUSTRY, AUG 1976, PP 641-646.
- \*KEYWORDS, AGRICULTURE, UNITED KINGDOM, ENERGY ACCOUNTING.
- \*NOTES, FILED. PAPER PROVIDES SOME QUANTITATIVE DATA ON ENERGY INPUTS TO THE UNITED KINGDOMS SYSTEM OF FOOD PRODUCTION, PROCESSING, DISTRIBUTION AND PREPARATION.
- \*DATE, 760800

## ABSTRACT 159

- \*TITLE, EATING OIL - ENERGY USE IN FOOD PRODUCTION.
- \*AUTHOR, GREEN M B.
- \*SOURCE, BOULDER, CO/WESTVIEW PRESS, 1978, 205 PP.
- \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 780000

## ABSTRACT 160

- \*TITLE, SOLAR ENERGY APPLICATIONS IN AGRICULTURE AND INDUSTRY.
- \*AUTHOR, GREYERBIEHL.
- \*SOURCE, PROC OF THE 1978 ANNUAL MEETING OF THE AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, VOL 2.1, DENVER, CO, 28-31 AUG 1978, 8 PP.
- \*KEYWORDS, AGRICULTURE, SOLAR.
- \*NOTES, FILED.
- \*DATE, 780828

## ABSTRACT 161

- \*TITLE, ENERGY IN AGRICULTURE--ENERGY REQUIREMENTS AND AREAS OF ADAPTATION FOR EIGHT TILLAGE-PLANTING SYSTEMS FOR CORN.
- \*AUTHOR, GRIFFITH D R, MANNING J V, RICHEY C B.
- \*SOURCE, J PAPER 6380, AGR EXPT STA, PURDUE UNIV, WEST LAFAYETTE, IN 47907, JUNE 1977, 8 PP.
- \*KEYWORDS, AGRICULTURE, TILLAGE.
- \*NOTES, FILED. FUEL USE, PLANT GROWTH AND GRAIN YIELD COMPARISONS ARE DISCUSSED FOR DIFFERENT TILLAGE-PLANTING SYSTEMS.
- \*DATE, 770600

## ABSTRACT 162

- \*TITLE, ENERGY REQUIREMENTS FOR NEW YORK STATE AGRICULTURE.
- \*AUTHOR, GUNKEL W W.
- \*SOURCE, AGR EXTENSION BULLETIN 405, CORNELL UNIV, ITHACA, NY, NOV 1974, 48 PP.
- \*KEYWORDS, AGRICULTURE, REQUIREMENTS, ENERGY ACCOUNTING, ECONOMICS, NEW YORK.
- \*NOTES, FILED. ENGINEERING ANALYSIS OF FARM OPERATIONS, PP 20-43.
- \*DATE, 741100

- \*TITLE, ENERGY REQUIREMENTS FOR NEW YORK STATE AGRICULTURE, PART 2  
INDIRECT ENERGY INPUTS.
- \*AUTHOR, GUNKEL W W, ET AL.
- \*SOURCE, AGR EXT ENGR BULLETIN 406, AGR ECON EXT BULLETIN 76-24, DEPT OF  
AGR ENGR AND AGR ECON, N Y STATE COL OF AGR AND LIFE SCI, CORNELL  
UNIV, ITHACA, N Y, JULY 1976, 28 PP.
- \*KEYWORDS, AGRICULTURE, NEW YORK, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760700

## ABSTRACT 164

- \*TITLE, PRODUCTIVE AGRICULTURE AND A QUALITY ENVIRONMENT.
- \*AUTHOR, GUNSAUS I C, BERTRAND A R, CARLSON A E, DAGLEY S.
- \*SOURCE, NAS, DIV OF BIOLOGY AND AGR, COMMITTEE ON AGR AND THE  
ENVIR, WASHINGTON DC, 1974, 189PP.
- \*KEYWORDS, AGRICULTURE, CROP PROTECTION, FERTILIZER, ANIMAL WASTE,  
ENVIRONMENT, ELECTRICAL, ENERGY ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 165

- \*TITLE, ENERGY UTILIZATION ON SELECTED MICHIGAN FARMS.
- \*AUTHOR, HALL F W, MADDEX R L, BAKKER-ARKEPA F W.
- \*SOURCE, ASAE PAPER 75-3017, 1975, 23 PP.
- \*KEYWORDS, AGRICULTURE, MICHIGAN, ENERGY ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 166

- \*TITLE, ELECTRIC POWER AND PROCESSING - A HISTORY OF CONTRIBUTIONS-CHALLENGES  
OF THE FUTURE.
- \*AUTHOR, HALL C W.
- \*SOURCE, ASAE PAPER 76-3001, 6 PP.
- \*KEYWORDS, AGRICULTURE, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 167

- \*TITLE, ENERGY AND AGRICULTURAL ENGINEERING.
- \*AUTHOR, HALL C W.
- \*SOURCE, AGR ENGR, MARCH 1975, PP 13-14.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, ENERGY RATIO.
- \*NOTES, FILED.
- \*DATE, 750300

## ABSTRACT 168

- \*TITLE, THE DOLLAR, ENERGY AND EMPLOYMENT COSTS OF PROTEIN CONSUMPTION.
- \*AUTHOR, HANNON B M, HARRINGTON C, HOWELL R W, KIRKPATRICK K.
- \*SOURCE, CAC 182, CENTER FOR ADVANCED COMPUTATION, UNIV OF ILLINOIS,  
URBANA, ILL 61801, JULY 1976, 81 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY FLOW, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760700

## ABSTRACT 169

- \*TITLE, AGRICULTURAL NEEDS FOR ENERGY.
- \*AUTHOR, HANSEN E H.
- \*SOURCE, APPENDEK 1, MINUTES OF AGR MARKETING AND RELATED INDUSTRIES,  
ECOP, 24-26 OCT 1973, 11 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 731024

## ABSTRACT 170

- \*TITLE, AGRICULTURAL PRODUCTION AND ENERGY RESOURCES.
- \*AUTHOR, HEICHEL G H.
- \*SOURCE, AMERICAN SCIENTIST, 64/64-72, JAN-FEB 1976.
- \*KEYWORDS, AGRICULTURE, PRODUCTION, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 760100



- \*TITLE, COMPARATIVE EFFICIENCY OF ENERGY USE IN CROP PRODUCTION.
- \*AUTHOR, HEICHEL G H.
- \*SOURCE, BULLETIN 739, CONN AGR EXPT STA, NEW HAVEN, CT, NOV 1973, PP 3-26.
- \*KEYWORDS, AGRICULTURE, CULTURAL ENERGY.
- \*NOTES, FILED.
- \*DATE, 731100

## ABSTRACT 172

- \*TITLE, ENERGY NEEDS AND FOOD YIELDS.
- \*AUTHOR, HEICHEL G H.
- \*SOURCE, TECHNOLOGY REVIEW, 76(8)/2-9, JULY-AUG 1974.
- \*KEYWORDS, AGRICULTURE, CULTURAL ENERGY, PHOTOSYNTHESIS.
- \*NOTES, FILED.
- \*DATE, 740700

## ABSTRACT 173

- \*TITLE, ENERGY USE AND CROP PRODUCTION.
- \*AUTHOR, HEICHEL G H.
- \*SOURCE, AAAS ANNUAL MEETING, 26-31 JAN 1975, NEW YORK, 14 PP.
- \*KEYWORDS, AGRICULTURE, TILLAGE, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 750130

## ABSTRACT 174

- \*TITLE, ANTICIPATING THE ENERGY NEEDS OF AMERICAN AGRICULTURE.
- \*AUTHOR, HEICHEL G H, FRINK C R.
- \*SOURCE, J OF SOIL AND WATER CONSERVATION, 30(1)/48, 53, JAN-FEB 1975.
- \*KEYWORDS, AGRICULTURE, CULTURAL ENERGY, SOLAR.
- \*NOTES, FILED.
- \*DATE, 750100

## ABSTRACT 175

- \*TITLE, ENERGY ANALYSIS OF FORAGE PRODUCTION.
- \*AUTHOR, HEICHEL G.
- \*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT - VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 733-742.
- \*KEYWORDS, AGRICULTURE, ENERGETICS.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 176

- \*TITLE, THE ENERGY CRISIS AND THE EFFICIENCY OF TRACTORS AND FARMING MACHINERY.
- \*AUTHOR, HEREDIA E A.
- \*SOURCE, PAPER PRESENTED AT THE ASSEMBLY OF THE CEMA, MADRID, SPAIN, 6 JUNE 1975.
- \*KEYWORDS, AGRICULTURE, TRACTOR, PETROLEUM.
- \*NOTES, FILED. ENGLISH.
- \*DATE, 750606

## ABSTRACT 177

- \*TITLE, ASSESSING ENERGY EFFICIENCIES IN AUGER CONVEYORS.
- \*AUTHOR, HERUM F L, ROSS I S.
- \*SOURCE, ASAE PAPER 75-3016, 10 PP.
- \*KEYWORDS, AGRICULTURE, MECHANIZATION, REQUIREMENTS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 178

- \*TITLE, LIMITATIONS OF THE ENERGY APPROACH IN DEFINING PRIORITIES IN AGRICULTURE.
- \*AUTHOR, HILL S B, RAMSAY J A.
- \*SOURCE, PAPER PRESENTED AT ENERGY AND AGR CONF, CBNS, WASHINGTON UNIV, ST LOUIS, MO, 16-19 JUNE 1976, 18PP.
- \*KEYWORDS, AGRICULTURE, SOCIAL IMPLICATIONS, POLICY.
- \*NOTES, FILED.
- \*DATE, 760616

## ABSTRACT 179

- \*TITLE, ENERGY ASPECTS OF WORLD FOOD PROBLEMS.
- \*AUTHOR, HINMAN G, BUTCHER W, LEOPOLD A C,  
PIMENTEL D, ROSS J, YOUNG E J.
- \*SOURCE, ENERGY COMMISSION OF THE INST OF ECOLOGY, FOUNDERS CONF,  
MORGANTOWN, WV, 16-19 APRIL 1975, 23 PP.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 750416

## ABSTRACT 180

- \*TITLE, FOOD RELATED ENERGY REQUIREMENTS.
- \*AUTHOR, HIRST E.
- \*SOURCE, SCIENCE, 184/134-138, 12 APRIL 1974.
- \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 740412

## ABSTRACT 181

- \*TITLE, MATERIAL - ENERGY REQUIREMENTS AND PRODUCTION COSTS FOR  
ALTERNATE DAIRY FARMING SYSTEMS.
- \*AUTHOR, HOLTMAN J B, CONNOR L J, LUCAS R E, WOLAK F J.
- \*SOURCE, FARM SCI RESEARCH REPORT 332, AGR EXPT STA, MICH STATE UNIV,  
EAST LANSING, APRIL 1977, 8 PP.
- \*KEYWORDS, AGRICULTURE, DAIRY, MODELS, ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 770400

## ABSTRACT 182

- \*TITLE, AGRICULTURAL ENERGY, GETTING YOUR FUEL TANKS IN PERSPECTIVE.
- \*AUTHOR, HOOD M.
- \*SOURCE, SUCCESSFUL FARMING, MAY 1975.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 750500

## ABSTRACT 183

- \*TITLE, A SOLAR GREENBED FOR AGRICULTURAL APPLICATIONS.
- \*AUTHOR, HORAK P.
- \*SOURCE, PROC OF THE 1978 ANNUAL MEETING OF THE AMER SECTION OF THE  
INTERNATIONAL SOLAR ENERGY SOC, VOL 2.1, DENVER, CO,  
28-31 AUG 1978, 3 PP.
- \*KEYWORDS, AGRICULTURE, SOLAR.
- \*NOTES, FILED.
- \*DATE, 780828

## ABSTRACT 184

- \*TITLE, ENERGY IN AGRICULTURE--DRYING ENERGY FROM CORN COBS.
- \*AUTHOR, HORSFIELD B, DOSTER D H, PEART R M.
- \*SOURCE, NSF/RA-770129, AGR EXPT STA, PURDUE UNIV, WEST LAFAYETTE, IN 47907,  
JUNE 1977, 10PP.
- \*KEYWORDS, AGRICULTURE, BIOMASS, DRYING.
- \*NOTES, FILED. THE COLLECTION, ENERGY EXTRACTION AND ENERGY CONTENT OF CORN  
COBS IS DISCUSSED ALONG WITH THE ECONOMICS OF USING THE COBS FOR  
DRYING CORN.
- \*DATE, 770600

## ABSTRACT 185

- \*TITLE, THE ENERGY SITUATION - CURRENT CRUNCH, COMING CRISIS, AND  
CONVULSIVE CATASTROPHE, OR CARELESS CRUNCH, CORRECTABLE CRISIS,  
AND COUNTERFEIT CATASTROPHE.
- \*AUTHOR, HOYT J S, ET AL.
- \*SOURCE, REPORT OF THE EXTENSION AD HOC ENERGY COMMITTEE, AGR EXTENSION  
SERVICE, UNIV OF MINN, 15 NOV 1973, 40 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, POLICY, HOME.
- \*NOTES, FILED.
- \*DATE, 731015

\*TITLE, SUGARCANE - ITS ENERGY RELATIONSHIPS WITH FOSSIL FUEL.  
 \*AUTHOR, HUDSON J C.  
 \*SOURCE, SPAN, 18(1)/12-14, 1975.  
 \*KEYWORDS, AGRICULTURE, UNITED KINGDOM, FOSSIL FUELS.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 187

\*TITLE, ENERGY AND MONETARY REQUIREMENTS FOR FED BEEF PRODUCTION.  
 \*AUTHOR, HUGHES H A, HOLTMAN J B, CONNOR L J.  
 \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT,  
 W J JEWELL ED, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975,  
 PP 89-104.  
 \*KEYWORDS, AGRICULTURE, ANIMAL PRODUCTION, ENERGY CONSUMPTION, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 188

\*TITLE, ENERGY COSTS OF INTENSIFYING BEEF PRODUCTION.  
 \*AUTHOR, HUGHES H A.  
 \*SOURCE, TRANSACTIONS OF THE ASAE, 19(1)/138-140, 144, 1976.  
 \*KEYWORDS, AGRICULTURE, ECONOMICS.  
 \*NOTES,  
 \*DATE, 760000

## . ABSTRACT 189

\*TITLE, SYSTEMS ANALYSIS OF ENERGY CONSUMPTION IN BEEF PRODUCTION.  
 \*AUTHOR, HUGHES H A, HOLTMAN J B.  
 \*SOURCE, TRANSACTIONS OF THE ASAE, 17(6)/1161-1166, 1974.  
 \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION.  
 \*NOTES,  
 \*DATE, 740000

## ABSTRACT 190

\*TITLE, ENERGY CONSERVATION DURING BROODING.  
 \*AUTHOR, HUGHES H A.  
 \*SOURCE, ENERGY MANAGEMENT SERIES ME-105, VIR POLYTECHNIC INST AND STATE  
 UNIV, BLACKSBURG, VA 24061, JULY 1977, 2PP.  
 \*KEYWORDS, AGRICULTURE, POULTRY, BUILDINGS.  
 \*NOTES, FILED.  
 \*DATE, 770700

## ABSTRACT 191

\*TITLE, THE EFFECTS OF RADIATION ABSORPTION ON CONVECTIVE INSTABILITY  
 IN SALT-GRADIENT SOLAR PONDS.  
 \*AUTHOR, HULL J R.  
 \*SOURCE, PROC OF THE 1978 ANNUAL MEETING OF THE AMER SECTION OF THE  
 INTERNATIONAL SOLAR ENERGY SOC, VOL 2.1, DENVER, CO,  
 28-31 AUG 1978, 4 PP.  
 \*KEYWORDS, AGRICULTURE, SOLAR, STORAGE.  
 \*NOTES, FILED.  
 \*DATE, 780828

## ABSTRACT 192

\*TITLE, CAST CONSIDERS - IS FUEL A FACTOR IN THE MOVE TO REDUCE TILLAGE.  
 \*AUTHOR, IMPLEMENT AND TRACTOR.  
 \*SOURCE, IMPLEMENT AND TRACTOR, 7 JAN 1978, PP 22-23.  
 \*KEYWORDS, AGRICULTURE, TILLAGE, FUEL CONSUMPTION, REQUIREMENTS.  
 \*NOTES, FILED. THIS WAS DERIVED FROM - ENERGY USE IN AGRICULTURE NOW  
 AND FOR THE FUTURE- A REPORT ISSUED BY THE COUNCIL FOR AGR  
 SCI AND TECH, A PUBLIC FOUNDATION WHICH GATHERS AND ISSUES  
 INFO ON AGR ISSUES.  
 \*DATE, 780107

## ABSTRACT 193

\*TITLE, AN OVERVIEW OF ENERGY CONSUMPTION IN CORN PRODUCTION AND MARKETING.  
 \*AUTHOR, ISAACS G W.  
 \*SOURCE, PRESENTED BEFORE THE CONF ON ENERGY IN AGR, PURDUE UNIV,  
 WEST LAFAYETTE, IN 47907, 19 SEPT 1973, 6 PP.  
 \*KEYWORDS, AGRICULTURE, SUPPLY DEMAND, ENERGY CONSUMPTION, PRODUCTION,  
 REQUIREMENTS, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 730919

## ABSTRACT 194

- \*TITLE, THE CYCLES OF PLANT AND ANIMAL NUTRITION.
- \*AUTHOR, JANICK J, NOLLER C H, RHYKERD C L.
- \*SOURCE, SCIENTIFIC AMER, 235(3)/75-87, SEPT 1976.
- \*KEYWORDS, AGRICULTURE, NITROGEN, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 195

- \*TITLE, ENERGY CONSERVATION IN AMISH AGRICULTURE.
- \*AUTHOR, JOHNSON W A, STOLTZFUS V, CRAUMER P.
- \*SOURCE, SCIENCE, 198/373-378, 28 OCT 1977.
- \*KEYWORDS, AGRICULTURE, CONSERVATION.
- \*NOTES, FILED. AMISH FARMERS CAN CUT ENERGY USE WITHOUT REDUCING YIELDS.
- \*DATE, 771028

## ABSTRACT 196

- \*TITLE, ENERGY CONSIDERATIONS IN CROP PROTECTION.
- \*AUTHOR, JONES D P.
- \*SOURCE, OUTLOOK ON AGRICULTURE, 8(3)/141-147, 1974.
- \*KEYWORDS, AGRICULTURE, CHEMICALS, CROP PROTECTION.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 197

- \*TITLE, THE POLITICAL ECONOMY OF FOOD AND ENERGY.
- \*AUTHOR, JUNKER L. ED.
- \*SOURCE, MICH BUSINESS PAPERS 62, GRADUATE SCHOOL OF BUSINESS ADMINISTRATION, UNIV OF MICH, ANN ARBOR, MI, 1977, 137 PP.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, SUPPLY DEMAND.
- \*NOTES, FILED. PRESENTED IS A COLLECTION OF PAPERS IN WHICH FIVE AUTHORITIES EXPLORE VARIOUS IMPLICATIONS OF THE CURRENT LEVELS AND DISTRIBUTION OF THE WORLDS SUPPLY OF FOOD AND ENERGY SOURCES. TOPICS INCLUDE WORLD FEEDING - FACTS AND FALLACIES, FARMING FOR PROFIT IN A HUNGRY WORLD - THE MYTH OF AGRICULTURAL EFFICIENCY, THE STATUS OF COMPETITION IN THE FOOD MANUFACTURING AND FOOD RETAILING INDUSTRIES, MIND MANAGING THE FOOD AND ENERGY CRISIS, AND BIOECONOMICS - A NEW LOOK AT THE NATURE OF ECONOMIC ACTIVITY.
- \*DATE, 770000

## ABSTRACT 198

- \*TITLE, ENERGY CONSERVATION IN AGRICULTURE - A REPORT OF PROGRESS.
- \*AUTHOR, KANSAS STATE UNIVERSITY.
- \*SOURCE, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, KS, 10 OCT 1975, 22 PP.
- \*KEYWORDS, AGRICULTURE, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 751010

## ABSTRACT 199

- \*TITLE, ENERGY MANAGEMENT RESEARCH.
- \*AUTHOR, KEENER H M, ROLLER W L.
- \*SOURCE, DEPT OF AGR ENGR, OARDC, WOOSTER, OH 44691, 19 OCT 1976, 14 PP.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 761019

## ABSTRACT 200

- \*TITLE, ENERGY CONSERVATION PROGRAM DESCRIPTION FOR AGRICULTURE AND FOOD PROCESS EFFICIENCY BRANCH.
- \*AUTHOR, KELSO L.
- \*SOURCE, US DEPT OF ENERGY, OFFICE OF CONSERVATION AND SOLAR APPLICATIONS, WASHINGTON DC 20545, JULY 1978, 77 PP.
- \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 780700



\*TITLE, THE FUEL/FOOD CONNECTION.  
 \*AUTHOR, KENORICK J B.  
 \*SOURCE, CALIFORNIA AGRICULTURE, 30(1)/2, JAN 1976.  
 \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, FOOD ENERGY.  
 \*NOTES, FILED.  
 \*DATE, 760100

## ABSTRACT 202

\*TITLE, SYSTEMS MODEL OF FORAGE TRANSPORT AND HANDLING.  
 \*AUTHOR, KJELGAARD W L, QUAAE M L.  
 \*SOURCE, TRANSACTIONS OF THE ASAE, 18(4)/610-613, 1975.  
 \*KEYWORDS, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 203

\*TITLE, ENERGY AND TIME NEEDS IN FORAGE SYSTEMS.  
 \*AUTHOR, KJELGAARD W L.  
 \*SOURCE, ASAE PAPER 77-1512, 1977, 15 PP.  
 \*KEYWORDS, AGRICULTURE, ORYING.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 204

\*TITLE, ENERGY - IMPACTS ON AGRICULTURE, GREAT PLAIN STATES 1976 - 2000.  
 \*AUTHOR, KLEIS R W, ET AL.  
 \*SOURCE, GPAC 82, AGR EXPT STA, UNIV OF NEBR,  
 LINCOLN, NE, 1976, 26 PP.  
 \*KEYWORDS, AGRICULTURE, TECHNOLOGY ASSESSMENT.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 205

\*TITLE, ENERGY CONSUMED IN HARVESTING AND ENERGY LOST IN HARVESTING.  
 \*AUTHOR, KLINE R O, KEENER H M.  
 \*SOURCE, OARDC, WOOSTER, OH 44691, OCT 1974, 6 PP.  
 \*KEYWORDS, AGRICULTURE, HARVESTING, REQUIREMENTS.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 206

\*TITLE, ANALYSIS OF THE NATIONAL ENERGY PLAN - THE EFFECTS ON  
 TEXAS AGRICULTURE.  
 \*AUTHOR, KNUTSON R O, ET AL.  
 \*SOURCE, MP-1331, TEXAS AGR EXPT STA, COLLEGE STATION, TX,  
 JUNE 1977, 76 PP.  
 \*KEYWORDS, AGRICULTURE, TEXAS, IRRIGATION, ANIMAL PRODUCTION,  
 ENERGY CONSUMPTION, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 770600

## ABSTRACT 207

\*TITLE, ENERGY ECONOMICS OF ALFALFA JUICE PROTEIN.  
 \*AUTHOR, KOEGEL R G, BRUHN H O.  
 \*SOURCE, TRANSACTIONS OF THE ASAE, 21(4)/605-609, JULY-AUG 1978.  
 \*KEYWORDS, AGRICULTURE, ENERGY ACCOUNTING.  
 \*NOTES, FILED.  
 \*DATE, 780800

## ABSTRACT 208

\*TITLE, ENERGY AND AGRICULTURE.  
 \*AUTHOR, KOENIG H E, CONNOR L J, STOUT B A.  
 \*SOURCE, PAPER PRESENTED AT 1976 SUMMER WORKSHOP ON ENERGY EXTENSION  
 SERVICE, LAWRENCE LAB, UNIV OF CALIF, BERKELEY, CA,  
 18-25 JULY 1976, 27PP.  
 \*KEYWORDS, AGRICULTURE, ENERGY SOURCES, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 760718



- \*TITLE, FOOD AND ENERGY--THE TRACTOR ENGINEERS ROLE.
- \*AUTHOR, KULHANY J T.
- \*SOURCE, ASAE PAPER 77-1050, 1977, 11PP.
- \*KEYWORDS, AGRICULTURE, MACHINERY, DESIGN.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 210

- \*TITLE, ENERGY REQUIREMENTS IN INTENSIVE AGRICULTURAL PRODUCTION.
- \*AUTHOR, KULSHRESTHA S P.
- \*SOURCE, ANNUAL REPORT OF THE COORDINATED RESEARCH SCHEME, EXPT STA, DEPT OF AGR ENGR, G B PANT, UNIV OF AGR AND TECH, PANTNAGAR, INDIA, 1973-74, 109 PP.
- \*KEYWORDS, AGRICULTURE, INDIA, REQUIREMENTS, MECHANIZATION.
- \*NOTES, FILED. DESCRIBES FOUR EXPERIMENTS WITH VARIOUS LEVELS OF MECHANIZATION.
- \*DATE, 730000

## ABSTRACT 211

- \*TITLE, ENERGY USES IN NEBRASKA AGRICULTURE.
- \*AUTHOR, LANE D E, FISCHBACH P E, TETER N C.
- \*SOURCE, EXTENSION BULLETIN CC 255, UNIV OF NEBR, LINCOLN, NE, NOV 1973, 35PP.
- \*KEYWORDS, AGRICULTURE, ENERGY ACCOUNTING, TILLAGE, REQUIREMENTS, LOAD SPEED, OPERATING PROCEDURE, IRRIGATION, DRYING, NEBRASKA.
- \*NOTES, FILED.
- \*DATE, 731100

## ABSTRACT 212

- \*TITLE, DE ENERGIEHUISHOUDING IN DE NEIDERLANDSE LANDBOUW.
  - \*AUTHOR, LANGE J M.
  - \*SOURCE, PUBLICATION 12, INST VOOR MECHANISATIE, ARBEID EN GERBOUWEN, IMAG, WAGENINGEN, DEC 1974.
  - \*KEYWORDS, AGRICULTURE, NETHERLANDS, ENERGY ACCOUNTING.
  - \*NOTES, FILED. ENGLISH SUMMARY-TO GAIN INSIGHT INTO INPUT/OUTPUT FOR AGR, 1950-1970
- |                              |            |                |
|------------------------------|------------|----------------|
| ENERGY FROM SUN FOR AGR..... | DECREASED  | 4.5 PERCENT    |
| HUMAN LABOR.....             | DECREASED  | 60.0 PERCENT   |
| NUMBER OF HORSES.....        | DECREASED  | 83.0 PERCENT   |
| TRACTORS AND IMPLEMENTS..... | INCREASED  |                |
|                              | (DIRECT)   | 300.0 PERCENT  |
|                              | (INDIRECT) | 800.0 PERCENT  |
| ELECTRICITY.....             | INCREASED  | 250.0 PERCENT  |
| HEATING.....                 | INCREASED  | 500.0 PERCENT  |
| GLASSHOUSE.....              | DOUBLED    |                |
| HERBICIDES, PESTICIDES.....  | INCREASED  | 60.0 PERCENT   |
| CATTLE FODDER.....           | INCREASED  | 1200.0 PERCENT |
- 29 TABLES.
- \*DATE, 741200

## ABSTRACT 213

- \*TITLE, EFFICIENT USE OF ENERGY IN STABLE - CLIMATIZATION BY MEANS OF CONTROL SYSTEMS AND HEAT RECOVERY EQUIPMENT.
- \*AUTHOR, LAPIDAIRE J M, GOEDSEELS V, TUERLINCKX G.
- \*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT - VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMFORD, NY 10528/PERGAMON PRESS INC, 24-280CT 1977, PP 799-807.
- \*KEYWORDS, AGRICULTURE, BUILDINGS, AIR CONDITIONING.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 214

- \*TITLE, THE FUEL COST OF FOOD.
- \*AUTHOR, LASLEY F A.
- \*SOURCE, MARKETING AND TRANSPORTATION SITUATION, 192/14-19, FEB 1974.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 740200

- \*TITLE, ENERGY AND FOOD PRODUCTION.
- \*AUTHOR, LEACH G.
- \*SOURCE, INTERNATIONAL INST FOR ENVIR AND DEV, LONDON, JUNE 1975, 151 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY RATIO, DEVELOPING COUNTRIES, ENERGETICS, UNITED KINGDOM, ORGANIC, METHANE, ENERGY ACCOUNTING, FERTILIZER, MECHANIZATION, ANIMAL, DRYING, TRANSPORTATION, ENERGY BUDGET.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 216

- \*TITLE, FROM STONE AGE TO SUPERMARKET-ENERGY AND FOOD PRODUCTION.
- \*AUTHOR, LEACH G.
- \*SOURCE, UNDERCURRENTS 13, NOV-DEC 1975, PP 10-14.
- \*KEYWORDS, AGRICULTURE, ENERGY RATIO, UNITED KINGDOM, WORLD WIDE, ENERGY SUBSIDY.
- \*NOTES, FILED.
- \*DATE, 751100

## ABSTRACT 217

- \*TITLE, NO SIMPLE ANSWER TO THE ENERGY SUPPLY PROBLEM.
- \*AUTHOR, LEACH G.
- \*SOURCE, POWER FARMING, FEB 1974, P 26.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 740200

## ABSTRACT 218

- \*TITLE, ENERGY AND FOOD PRODUCTION.
- \*AUTHOR, LEACH G.
- \*SOURCE, FOOD POLICY, 1(1)/62-73, NOV 1975.
- \*KEYWORDS, AGRICULTURE, SUPPLY DEMAND, UNITED KINGDOM, FOOD ENERGY.
- \*NOTES, FILED. FOOD PRODUCTION IN THE INDUSTRIALIZED COUNTRIES IS HEAVILY DEPENDENT ON IMPUTS OF ENERGY FROM FOSSIL FUELS. THIS ARTICLE ANALYZES THESE IMPUTS WITH PARTICULAR ATTENTION TO THE UNITED KINGDOM. PRESENTED IS A WIDE RANGE OF DATA ON THE TOTAL ENERGY USED AND HOW THIS RELATES TO FACTORS SUCH AS OUTPUTS, LABOR, AND LAND. EMPHASIZED IS THE IMPORTANCE OF LOW ENERGY ALTERNATIVES FOR THIRD WORLD COUNTRIES.
- \*DATE, 751100

## ABSTRACT 219

- \*TITLE, ENERGY INTENSIVENESS OF WASHINGTON AGRICULTURE AND THE EFFECTS OF INCREASES IN ENERGY PRICES ON WASHINGTON AGRICULTURE.
- \*AUTHOR, LEE G K.
- \*SOURCE, FOR PRESENTATION AT THE CONF ON ENERGY AND AGR, ST LOUIS, MO, JUNE 1976, 17 PP.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, WASHINGTON, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760600

## ABSTRACT 220

- \*TITLE, ITS A MATTER OF ENERGY TRANSFORMATION EFFICIENCY.
- \*AUTHOR, LEHOCZKY L.
- \*SOURCE, IMPLEMENT AND TRACTOR, 7 JAN 1978, PP 18-19.
- \*KEYWORDS, AGRICULTURE, EFFICIENCY, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 780107

## ABSTRACT 221

- \*TITLE, DIRECT ECONOMIC EFFECTS OF INCREASED ENERGY PRICES ON CORN AND SOYBEAN PRODUCTION ON CASH GRAIN FARMS IN SOUTHWESTERN MICHIGAN.
- \*AUTHOR, LEHRMAN J A, BLACK R J, CONNOR L J.
- \*SOURCE, AGRICULTURAL ECONOMICS REPORT 310, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, SEPT 1976, 30 PP.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, MICHIGAN.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 222

- \*TITLE, ENERGY- A CHALLENGE AND AN OPPORTUNITY FOR AGRICULTURE.
- \*AUTHOR, LEPORI W A, LACEWELL R D.
- \*SOURCE, TEXAS AGRICULTURAL PROGRESS, FALL 1977, PP 10-11.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 223

- \*TITLE, CONCERNS AND ACTIONS ON FOOD PRODUCTION AND ENERGY USE.
- \*AUTHOR, LITTON J.
- \*SOURCE, FARM ELECTRIFICATION COUNCIL, FOOD AND ENERGY SYMPOSIUM, WASHINGTON D C, 20 AUG 1975, 11 PP.
- \*KEYWORDS, AGRICULTURE, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 750820

## ABSTRACT 224

- \*TITLE, A COMPARISON OF THE PRODUCTION, ECONOMIC RETURNS, AND ENERGY-INTENSIVENESS OF CORN BELT FARMS THAT DO AND DO NOT USE INORGANIC FERTILIZERS AND PESTICIDES.
- \*AUTHOR, LOCKERETZ W. ET AL.
- \*SOURCE, CBNS-AE-4, WASHINGTON UNIV, ST LOUIS, MO, JULY 1975.
- \*KEYWORDS, AGRICULTURE, FERTILIZER, CHEMICALS.
- \*NOTES, FILED. SEE OTHER DOCUMENTS IN THIS SERIES.
- \*DATE, 750700

## ABSTRACT 225

- \*TITLE, AGRICULTURAL RESOURCES CONSUMED IN BEEF PRODUCTION.
- \*AUTHOR, LOCKERETZ W. ET AL.
- \*SOURCE, CBNS-AE-3, WASHINGTON UNIV, ST LOUIS, MO, JUNE 1975.
- \*KEYWORDS, AGRICULTURE, ANIMAL, FERTILIZER, LAND USE.
- \*NOTES, FILED. SEE OTHER DOCUMENTS IN THIS SERIES.
- \*DATE, 750600

## ABSTRACT 226

- \*TITLE, THE EFFECT OF RECENT ENERGY PRICE INCREASES ON FIELD CROP PRODUCTION COSTS.
- \*AUTHOR, LOCKERETZ W, COMMONER B, GERTLER M, KLEPPER R.
- \*SOURCE, CBNS-AE-1, WASHINGTON UNIV, ST LOUIS, MO, DEC 1974.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, FERTILIZER, CHEMICALS, MECHANIZATION, DRYING, IRRIGATION, TRANSPORTATION.
- \*NOTES, FILED. IN ALMOST ALL CASES, THE PRICE RECEIVED FOR THE CROP HAS RISEN MORE RAPIDLY THAN THE COST OF ENERGY INPUTS (1970-74). SEE OTHER DOCUMENTS IN THIS SERIES BY LOCKERETZ.
- \*DATE, 741200

## ABSTRACT 227

- \*TITLE, ORGANIC AND CONVENTIONAL CROP PRODUCTION IN THE CORN BELT - A COMPARISON OF ECONOMIC PERFORMANCE AND ENERGY USE FOR SELECTED FARMS.
- \*AUTHOR, LOCKERETZ W, KLEPPER R, COMMONER B, GERTLER M, FIST S, O LEARY D.
- \*SOURCE, CBNS, WASHINGTON UNIV, ST LOUIS, MO, JUNE 1976, 42 PP.
- \*KEYWORDS, AGRICULTURE, ORGANIC, PRODUCTION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760600

## ABSTRACT 228

- \*TITLE, ENERGY IN CORN BELT CROP PRODUCTION.
- \*AUTHOR, LOCKERETZ W. ET AL.
- \*SOURCE, CBNS-AE-5, WASHINGTON UNIV, ST LOUIS, MO, JULY 1975.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, ENERGY ACCOUNTING, MECHANIZATION, FERTILIZER, CHEMICALS, DRYING.
- \*NOTES, FILED. SEE OTHER DOCUMENTS IN THIS SERIES.
- \*DATE, 750700

## ABSTRACT 229

- \*TITLE, THE VULNERABILITY OF CROP PRODUCTION SYSTEMS TO ENERGY PROBLEMS.
- \*AUTHOR, LOCKERETZ W, GERTLER M, KLEPPER R, COMMONER B.
- \*SOURCE, CBNS-AE-2, WASHINGTON UNIV, ST LOUIS, MO, JAN 1975.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, ALTERNATIVES, CONSERVATION.
- \*NOTES, FILED. SEE OTHER DOCUMENTS IN THIS SERIES.
- \*DATE, 750100

## ABSTRACT 230

- \*TITLE, FIELD CROP PRODUCTION ON ORGANIC FARMS IN THE MIDWEST.
- \*AUTHOR, LOCKERETZ W, SHEARER G, KLEPPER R, SWEENEY S.
- \*SOURCE, J OF SOIL AND WATER CONSERVATION, 33(3)/130-134, MAY 1978.
- \*KEYWORDS, AGRICULTURE, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 780500

## ABSTRACT 231

- \*TITLE, AGRICULTURE AND ENERGY.
- \*AUTHOR, LOCKERETZ W. ED.
- \*SOURCE, NEW YORK, NY 10003/ACADEMIC PRESS, INC, 1977, 750 PP.
- \*KEYWORDS, AGRICULTURE, TILLAGE, ANIMAL, FERTILIZER, IRRIGATION, DEVELOPING COUNTRIES, POLICY, DRYING, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 232

- \*TITLE, SIMULATION OF AN ENERGY-FOOD HOUSING SYSTEM.
- \*AUTHOR, LOEWER O J, COLLIER D G, DUNCAN G A, MYNEAR D K, CICKRAN W J.
- \*SOURCE, ASAE PAPER 75-4507.
- \*KEYWORDS, AGRICULTURE, FOSSIL FUELS, GREENHOUSE, SOLAR, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 233

- \*TITLE, TECHNOLOGICAL ALTERNATIVES.
- \*AUTHOR, MACKILLOP A.
- \*SOURCE, NEW SCIENTIST, 22 NOV 1973, PP 549-551.
- \*KEYWORDS, AGRICULTURE, ALTERNATIVES, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 731122

## ABSTRACT 234

- \*TITLE, MODELING WHEEL TRACTOR ENERGY REQUIREMENTS AND TRACTIVE PERFORMANCES.
- \*AUTHOR, MACNAB J E, WENSINK R B, BOOSTER D E.
- \*SOURCE, ASAE PAPER 76-1039, 1976, 18 PP.
- \*KEYWORDS, AGRICULTURE, MODELS, TRACTOR.
- \*NOTES, FILED.
- \*DATE, 760600

## ABSTRACT 235

- \*TITLE, HIGH MOISTURE CORN -- STORAGE REQUIREMENTS - CONVERSION FACTORS
- \*AUTHOR, MADDEX R L.
- \*SOURCE, FACTS 6, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, DEC 1973, 2 PP.
- \*KEYWORDS, AGRICULTURE, STORAGE, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 731200

## ABSTRACT 236

- \*TITLE, A LARGE SCALE NORTHERN CLIMATE SOLAR GARDEN.
- \*AUTHOR, MAES R E.
- \*SOURCE, PROC OF THE 1978 ANNUAL MEETING OF THE AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, VOL 2-1, DENVER, CO, 28-31 AUG 1978, 7 PP.
- \*KEYWORDS, AGRICULTURE, SOLAR.
- \*NOTES, FILED.
- \*DATE, 780828

## ABSTRACT 237

- \*TITLE, ENERGY AND AGRICULTURE IN THE THIRD WORLD.
- \*AUTHOR, MAKHIJANI A.
- \*SOURCE, CAMBRIDGE, MA/BALLINGER PUBL CO, 1975, 168 PP.
- \*KEYWORDS, AGRICULTURE, PRODUCTION, DEVELOPING COUNTRIES, MECHANIZATION, IRRIGATION, LABOR, ANIMAL, WOOD, MANURE, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 750000



- \*TITLE, ENERGY AND US AGRICULTURE - 1974 DATA BASE - VOL 1.
- \*AUTHOR, MARLAY R. ET AL.
- \*SOURCE, FEA/D-76/459, STOCK NO 041-018-00128-0, US GOVT PRINTING OFFICE, WASHINGTON, D C 20402, SEPT 1976, 260 PP.
- \*KEYWORDS, AGRICULTURE, USA, STATISTICS.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 239

- \*TITLE, ENERGY AND US AGRICULTURE - 1974 DATA BASE.
- \*AUTHOR, MARLAY R. ET AL.
- \*SOURCE, STOCK NO 041-018-00136-1, US DEPT OF AGR, ECON RESEARCH SERVICE, FEDERAL ENERGY ADMINISTRATION, US GOVT PRINTING OFFICE, WASHINGTON DC 20405, APRIL 1977, 182 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, STATISTICS.
- \*NOTES, FILED. RESULTS OF A COMPREHENSIVE INVESTIGATION OF ENERGY USE IN AGRICULTURAL PRODUCTION. ENERGY USE ESTIMATES FOR EACH OF 27 CROP AND 10 LIVESTOCK COMMODITIES.
- \*DATE, 770400

## ABSTRACT 240

- \*TITLE, ENERGY CONSUMPTION IN AGRICULTURAL FIELD WORK.
- \*AUTHOR, MATTHEWS J.
- \*SOURCE, SPAN, 18(1)/25-26, 1975.
- \*KEYWORDS, AGRICULTURE, FUEL CONSUMPTION, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 241

- \*TITLE, A NEW LOOK AT ENERGY SOURCES.
- \*AUTHOR, MCCLLOUD D E. ET AL.
- \*SOURCE, SPECIAL PUBL 22, AMER SOC OF AGRON, MADISON, WI, 1974, 50 PP.
- \*KEYWORDS, AGRICULTURE, PETROLEUM, FOSSIL FUELS, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 242

- \*TITLE, SOLAR DRYING OF CROPS AND FOODS IN HUMID TROPICAL CLIMATES.
- \*AUTHOR, MCDOWELL J.
- \*SOURCE, THE CARIBBEAN FOOD AND NUTRITION INST, JAMAICA CENTRE/TRINIDAD CENTRE, 1973, 42 PP.
- \*KEYWORDS, AGRICULTURE, SOLAR, DRYING.
- \*NOTES, FILED, NAS. ALSO SEE THE CONCEPT OF VILLAGE TECH IN EASTERN AFRICA BY MCDOWELL, UNICEF, NAIROBI, KENYA, 26 NOV 1974.
- \*DATE, 730000

## ABSTRACT 243

- \*TITLE, THE PROCEEDINGS OF ENERGY - KEY TO FOOD PRODUCTION.
- \*AUTHOR, MCFATE K L.
- \*SOURCE, A NATIONAL SYMPOSIUM ON ELECTRICAL ENERGY FOR THE FOOD CHAIN, SPONSORED BY THE FARM ELECTRIFICATION COUNCIL, INC, IN COOPERATION WITH EDISON ELECTRIC INST NATIONAL RURAL ELECTRIC COOPERATIVE ASSN, ST LOUIS, MISSOURI, 15-16 SEPT 1976, 128 PP.
- \*KEYWORDS, AGRICULTURE, IOWA, ENERGY BUDGET, NUCLEAR, FOSSIL FUELS, FERTILIZER, SOLAR, WIND.
- \*NOTES, FILED.
- \*DATE, 760916

## ABSTRACT 244

- \*TITLE, LP GAS - THE SUPPLY FOR THIS YEARS HARVEST.
- \*AUTHOR, MCKENZIE B A, DOERING O C.
- \*SOURCE, AGR ENGR, JULY 1973, PP 12-13.
- \*KEYWORDS, AGRICULTURE, SUPPLY DEMAND, LPGAS, INDIANA.
- \*NOTES, FILED.
- \*DATE, 730700



- \*TITLE, ENERGY RESOURCES AND AGRICULTURE.
- \*AUTHOR, MCKINSEY J W.
- \*SOURCE, SPECIAL REPORT 174, DEPT OF AGR ECON, UNIV OF MISSOURI, COLUMBIA, MO, JUNE 1975, 39 PP.
- \*KEYWORDS, AGRICULTURE, HISTORICAL, ENERGY SOURCES.
- \*NOTES, -FILED.
- \*DATE, 750600

## ABSTRACT 246

- \*TITLE, RADICAL AGRICULTURE.
- \*AUTHOR, MERRILL R.
- \*SOURCE, NEW YORK/HARPER AND ROW INC, 1976, 459 PP.
- \*KEYWORDS, AGRICULTURE, LAND USE, CULTURAL ENERGY, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 247

- \*TITLE, BEEF FEEDLOT DESIGN AND MANAGEMENT-A PROGRAM REPORT.
- \*AUTHOR, MICHIGAN STATE UNIVERSITY.
- \*SOURCE, STAFF PAPER 73-34, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, MI 48824, SEPT 1973, 19PP.
- \*KEYWORDS, AGRICULTURE, ANIMAL, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 730900

## ABSTRACT 248

- \*TITLE, ENERGY SAVINGS THROUGH ALTERNATIVE FUEL UTILIZATION IN DESERT AGRICULTURE.
- \*AUTHOR, MILES J A.
- \*SOURCE, ASAE PAPER 75-1004, 16 PP.
- \*KEYWORDS, AGRICULTURE, REQUIREMENTS, CULTURAL ENERGY, ARIZONA.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 249

- \*TITLE, ENERGY NEEDS FOR MINNESOTA AGRICULTURE PRODUCTION 1974-1985.
- \*AUTHOR, MINNESOTA ENERGY AGENCY.
- \*SOURCE, MINN ENERGY AGENCY, RESEARCH DIV, OCT 1975, 29 PP.
- \*KEYWORDS, AGRICULTURE, LPGAS, DIESEL, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 751000

## ABSTRACT 250

- \*TITLE, PRELIMINARY THOUGHTS ON THE PROPOSED STUDY OF ENERGY RESOURCE USE IN SMALL-HOLDER AGRICULTURE.
- \*AUTHOR, MUCHIRI G.
- \*SOURCE, DEPT OF AGR MECHANIZATION AND FARM PLANNING, UNIV OF NAIROBI, KENYA.
- \*KEYWORDS, AGRICULTURE, ENERGY SOURCES, MODELS, KENYA.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 251

- \*TITLE, NATIONAL ENERGY USE IN SWINE PRODUCTION.
- \*AUTHOR, MUEHLING A J.
- \*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT - VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 809-814.
- \*KEYWORDS, AGRICULTURE, BUILDINGS.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 252

- \*TITLE, ENERGY IN AGRICULTURE--DEVELOPING AN ENERGY INPUT-OUTPUT SIMULATOR FOR ANALYSIS OF ALTERNATIVE CROPPING SYSTEMS IN THE CORN BELT.
- \*AUTHOR, MULLER R E. ET AL.
- \*SOURCE, NSF/RA-770126, AGR EXPT STA, PURDUE UNIV, WEST LAFAYETTE, IN 47907, JUNE 1977, 44PP.
- \*KEYWORDS, AGRICULTURE, OPERATING PROCEDURE, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. A COMPUTER PROGRAM THAT EVALUATES HOW ALTERNATIVE AGRICULTURAL PRACTICES WOULD AFFECT THE PRODUCTIVITY OF THE FARM AND MEASURES CHANGES IN ENERGY INPUTS TO THE FARM, IS PRESENTED IN DETAIL.
- \*DATE, 770690

## ABSTRACT 253

- \*TITLE, ENERGY INPUT-OUTPUT SIMULATION OF MIDWEST CROP PRODUCTION.
- \*AUTHOR, MULLER R E, PEART R M, DOERING D C, PARSONS S D, DALE R F, PECKETT R C.
- \*SOURCE, ASAE PAPER 78-5022, 1978, 20 PP.
- \*KEYWORDS, AGRICULTURE, MODELS, ENERGY RATIO.
- \*NOTES, FILED. A SIMULATOR WAS DEVELOPED TO EVALUATE ALTERNATIVE AGR PRACTICES FOR ENERGY EFFICIENCY IN MIDWEST CROP PRODUCTION. IT SUMMERIZES CROP PRODUCTION AND ENERGY USE TAKING REAL WEATHER DATA INTO CONSIDERATION. RESULTS SHOWED THAT ON PRODUCTIVE SOILS, ENERGY OUTPUT/INPUT RATIOS WERE 6 FOR CORN AND WHEAT, 10 FOR ALFALFA AND 12 FOR SOYBEANS.
- \*DATE, 780000

## ABSTRACT 254

- \*TITLE, INTEGRATED FOOD PRESERVATION CENTER.
- \*AUTHOR, NACCACH A F.
- \*SOURCE, PROC OF THE 1978 ANNUAL MEETING OF THE AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, VOL 2.1, DENVER, CO, 28-31 AUG 1978, 6 PP.
- \*KEYWORDS, AGRICULTURE, SOLAR, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 780828

## ABSTRACT 255

- \*TITLE, WEEDS - COEXISTENCE OR CONTROL.
- \*AUTHOR, NALEWAJA J D.
- \*SOURCE, J OF ENVIRONMENTAL QUALITY, 1(4)/344-349, OCT-DEC 1972.
- \*KEYWORDS, AGRICULTURE, CROP PROTECTION.
- \*NOTES, FILED.
- \*DATE, 721000

## ABSTRACT 256

- \*TITLE, AGRICULTURAL PRODUCTION EFFICIENCY.
- \*AUTHOR, NATIONAL ACADEMY OF SCIENCE.
- \*SOURCE, NAS, WASHINGTON D C, 1975, 199 PP.
- \*KEYWORDS, AGRICULTURE, LAND USE, PHOTOSYNTHESIS, ANIMAL, ENERGETICS, CULTURAL ENERGY.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 257

- \*TITLE, ENERGY VS PRODUCTIVITY - DIMINISHING RETURNS.
- \*AUTHOR, NATIONAL SCIENCE FOUNDATION.
- \*SOURCE, MOSAIC, 6(3)/9-12, MAY/JUNE 1975.
- \*KEYWORDS, AGRICULTURE, FERTILIZER, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 750500

## ABSTRACT 258

- \*TITLE, A NATIONAL PROGRAM OF AGRICULTURAL ENERGY RESEARCH AND DEVELOPMENT.
- \*AUTHOR, NATIONAL ASSOCIATION OF STATE UNIVERSITY AND LAND GRANT COLLEGES, US-DEPARTMENT OF AGRICULTURE.
- \*SOURCE, REPORT TO THE NATIONAL PLANNING COMMITTEE OF THE AGR POLICY ADVISORY COMMITTEE, CONDUCTED BY REP OF THE NATIONAL ASSOC OF STATE UNIV AND LAND GRANT COLLEGES AND THE USDA, SEPT 1976, 91 PP.
- \*KEYWORDS, AGRICULTURE, POLICY, USA.
- \*NOTES, FILED.
- \*DATE, 760900

- \*TITLE, PUTTING THE U.S. AGRICULTURAL ENERGY PICTURE INTO FOCUS.
- \*AUTHOR, NELSON L F, BURROWS W C.
- \*SOURCE, ASAE PAPER 74-1040, 14 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, USA.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 260

- \*TITLE, THE U.S. AGRICULTURAL ENERGY PICTURE.
- \*AUTHOR, NELSON L F, BURROWS W C.
- \*SOURCE, AGR ENGR, SEPT 1974, PP 17-19.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, USA.
- \*NOTES, FILED.
- \*DATE, 740900

## ABSTRACT 261

- \*TITLE, RECOGNIZING PRODUCTIVE, ENERGY-EFFICIENT AGRICULTURE IN THE COMPLEX U.S. FOOD SYSTEM.
- \*AUTHOR, NELSON L F, BURROWS W C, STICKLER F C.
- \*SOURCE, ASAE PAPER 75-7505, 20 PP.
- \*KEYWORDS, AGRICULTURE, FOSSIL FUELS, MECHANIZATION, CULTURAL ENERGY.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 262

- \*TITLE, ENERGY IN AGRICULTURE--CONSERVING ENERGY WITH NITRIFICATION INHIBITORS.
- \*AUTHOR, NELSON D W, SOMMERS L E, HUBER D H, WARREN H L.
- \*SOURCE, JOURNAL PAPER NO 6289, AGR EXPT STA, PURDUE UNIV, WEST LAFAYETTE, IN 49707, JUNE 1977, 8PP.
- \*KEYWORDS, AGRICULTURE, FERTILIZER, NITROGEN FIXATION.
- \*NOTES, FILED. THE USE OF NITRIFICATION INHIBITORS IMPROVED THE EFFICIENCY OF N FERTILIZER UTILIZATION BY INCREASING THE CROP YIELD AND PROTEIN CONTENT AND BY DECREASING CROP DISEASE AND LOSSES OF APPLIED N DUE TO LEACHING AND DENITRIFICATION. POTENTIAL ENERGY SAVING BENEFITS WERE ALSO NOTED.
- \*DATE, 770600

## ABSTRACT 263

- \*TITLE, NEW YORKS FOOD AND LIFE SCIENCES, QUARTERLY.
- \*AUTHOR, NEW YORKS FOOD AND LIFE SCIENCE.
- \*SOURCE, NEW YORKS FOOD AND LIFE SCI, 11(1)/23 PP, 1978.
- \*KEYWORDS, AGRICULTURE, GENERAL, GREENHOUSE, PHOTOSYNTHESIS, METHANE, ANAEROBIC FERMENTATION.
- \*NOTES, FILED. ARTICLES IN THIS ISSUE ARE, ENERGY AND AGRICULTURE, THE ENERGY CRISIS - ITS TIME TO ACT, SAVING ENERGY IN GREENHOUSES, ENERGY CONVERSION BY PHOTOSYNTHESIS, ANAEROBIC FERMENTATION OF AGRICULTURAL RESIDUES INTO BIOGAS, THE FEASIBILITY OF METHANE PRODUCTION FROM DAIRY WASTES - A FARMERS PERSPECTIVE.
- \*DATE, 780000

## ABSTRACT 264

- \*TITLE, 35TH ANNUAL PROGRESS REPORT OF THE NEW YORK STATE FOOD AND ENERGY COUNCIL.
- \*AUTHOR, NEW YORK STATE FOOD AND ENERGY COUNCIL.
- \*SOURCE, SUBMITTED TO THE EXECUTIVE COMMITTEE, NEW YORK STATE FOOD AND ENERGY COUNCIL, 3 MAY 1978, 87 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, FRUITS AND VEGETABLES, DAIRY, SOLAR.
- \*NOTES, FILED.
- \*DATE, 780503

## ABSTRACT 265

- \*TITLE, REPORT OF THE ENERGY WORKING PARTY.
- \*AUTHOR, OCALLAGHAN J R, ET AL.
- \*SOURCE, REPORT NO 1, JOINT CONSULTATIVE ORGANIZATION FOR RESEARCH AND DEVELOPMENT IN AGR AND FOOD, MINISTRY OF AGR, FISHERIES AND FOOD, LONDON, DEC 1974, 28 PP.
- \*KEYWORDS, AGRICULTURE, UNITED KINGDOM, ENERGY ACCOUNTING, FERTILIZER, MECHANIZATION, PETROLEUM, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 741200

- \*TITLE, ENERGY AND AGRICULTURE - SOME ECONOMIC ISSUES.
- \*AUTHOR, PASOUR E C, BULLOCK J B.
- \*SOURCE, PREPARED FOR ENERGY AND AGR CONF, WASHINGTON UNIV, ST LOUIS, 16-19 JUNE 1976, 15 PP.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, FOOD ENERGY, USA.
- \*NOTES, FILED.
- \*DATE, 760616

## ABSTRACT 267

- \*TITLE, ENERGY AND AGRICULTURE - FACT VS MYTH.
- \*AUTHOR, PASOUR E C, BULLOCK J B.
- \*SOURCE, PAPER 4982, JOURNAL SERIES OF THE NORTH CAROLINA AGR EXPT STA, RALEIGH, 1976, 13 PP.
- \*KEYWORDS, AGRICULTURE, ACCOUNTING, USA, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 268

- \*TITLE, ENERGY USE PATTERNS FOR AGRICULTURAL PRODUCTION IN NEW MEXICO
- \*AUTHOR, PATRICK N A.
- \*SOURCE, PAPER PRESENTED AT ENERGY AND AGR CONF, ST LOUIS, MO, 16-19 JUNE 1976, 13 PP.
- \*KEYWORDS, AGRICULTURE, NEW MEXICO, MODELS, REQUIREMENTS, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760616

## ABSTRACT 269

- \*TITLE, OUTLOOK FOR FUEL.
- \*AUTHOR, PATTERSON R E.
- \*SOURCE, SOUTHERN REGIONAL AGRICULTURAL OUTLOOK WORKSHOP, 16-18 SEPT 1974, ATLANTA, GEORGIA, 8 PP.
- \*KEYWORDS, AGRICULTURE, SUPPLY DEMAND, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 740916

## ABSTRACT 270

- \*TITLE, ENERGY, NATURAL RESOURCES AND RESEARCH IN AGRICULTURE - EFFECTS ON ECONOMIC GROWTH AND PRODUCTIVITY FOR THE UNITED STATES.
- \*AUTHOR, PAVELIS G A.
- \*SOURCE, ECON RESEARCH SERVICE, USDA, WASHINGTON D C, 1 AUG 1973, 41 PP.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, ELECTRICAL, PETROLEUM, USA.
- \*NOTES, FILED.
- \*DATE, 730801

## ABSTRACT 271

- \*TITLE, ENERGY IN AGRICULTURE--EVALUATING ENERGY-SAVING PRACTICES BY SIMULATION.
- \*AUTHOR, PEART R M, DOERING O C.
- \*SOURCE, NSF/RA-770127, AGR EXPT STA, PURDUE UNIV, WEST LAFAYETTE, IN 47907, JUNE 1977, 5PP.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED. A CORN HARVEST SIMULATOR IS DISCUSSED.
- \*DATE, 770600

## ABSTRACT 272

- \*TITLE, THE ENVIRONMENTAL EFFICIENCY OF AGRICULTURE.
- \*AUTHOR, PERELMAN M J.
- \*SOURCE, CBNS NOTES, WASHINGTON UNIV, ST LOUIS, MO, 6(1)/1-6, 1973.
- \*KEYWORDS, AGRICULTURE, PETROLEUM, FOSSIL FUELS, MECHANIZATION.
- \*NOTES, FILED.
- \*DATE, 730000

## ABSTRACT 273

- \*TITLE, MECHANIZATION AND THE DIVISION OF LABOR IN AGRICULTURE.
- \*AUTHOR, PERELMAN M J.
- \*SOURCE, AMER J OF AGR ECON, AUG 1973, PP 523-526.
- \*KEYWORDS, AGRICULTURE, MECHANIZATION, LABOR, FOSSIL FUELS, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 730000



\*TITLE, FARMING WITH PETROLEUM.  
 \*AUTHOR, PERELMAN M J.  
 \*SOURCE, ENVIRONMENT, 14(8)/8-13, OCT 1973.  
 \*KEYWORDS, AGRICULTURE, PETROLEUM, ELECTRICAL, MECHANIZATION.  
 \*NOTES, FILED.  
 \*DATE, 731000

## ABSTRACT 275

\*TITLE, ENERGY AND FOOD - ENERGY USED ON PRODUCTION, PROCESSING, DELIVERY AND MARKETING OF SELECTED FOOD ITEMS.  
 \*AUTHOR, PIEROTTI A, KEELER A G, FRITSCH A J.  
 \*SOURCE, CSPI ENERGY SERIES X, CENTER FOR SCI IN THE PUBLIC INTEREST, 1755 S STREET NW, WASHINGTON, D C 20009, 1977, 76 PP.  
 \*KEYWORDS, AGRICULTURE, FOOD PROCESSING, ENERGY FLOW, USA, MARKETING, TRANSPORTATION.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 276

\*TITLE, FOOD PRODUCTION AND THE ENERGY CRISIS.  
 \*AUTHOR, PIMENTEL D. ET AL.  
 \*SOURCE, SCIENCE, 182/ 443-450, 2 NOV 1973.  
 \*KEYWORDS, AGRICULTURE, WORLD WIDE.  
 \*NOTES, FILED.  
 \*DATE, 731102

## ABSTRACT 277

\*TITLE, ENERGY AND LAND CONSTRAINTS IN FOOD PROTEIN PRODUCTION.  
 \*AUTHOR, PIMENTEL D, DRITSCHILLO W, KRUMMEL J, KRUTZMAN J.  
 \*SOURCE, SCIENCE, 190/754-761, 21 NOV 1975.  
 \*KEYWORDS, AGRICULTURE, FOOD ENERGY.  
 \*NOTES, FILED.  
 \*DATE, 751121

## ABSTRACT 278

\*TITLE, FOOD AND THE ENERGY CRISIS.  
 \*AUTHOR, PIMENTEL D.  
 \*SOURCE, AGR ENGR, DEC 1973, P 11.  
 \*KEYWORDS, AGRICULTURE, MECHANIZATION, MANURE, FERTILIZER.  
 \*NOTES, FILED.  
 \*DATE, 731200

## ABSTRACT 279

\*TITLE, AGRICULTURAL PRODUCTION - RESOURCE NEEDS AND LIMITATIONS.  
 \*AUTHOR, PIMENTEL D.  
 \*SOURCE, PRESENTED AT THE FORTIETH NORTH AMER WILDLIFE AND NATURAL RESOURCES CONFERENCE AND RELATED MEETINGS, PITTSBURGH, PENN, 17 MARCH 1975.  
 \*KEYWORDS, AGRICULTURE, FOOD ENERGY, POPULATION, SOLAR, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 750317

## ABSTRACT 280

\*TITLE, ENERGY USE IN WORLD FOOD PRODUCTION.  
 \*AUTHOR, PIMENTEL D.  
 \*SOURCE, PAPER PREPARED FOR FAO, 11 JULY 1974.  
 \*KEYWORDS, AGRICULTURE, INTERNATIONAL, ENERGETICS, ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 740711

## ABSTRACT 281

\*TITLE, LAND DEGRADATION - EFFECTS ON FOOD AND ENERGY RESOURCES.  
 \*AUTHOR, PIMENTEL D. ET AL.  
 \*SOURCE, SCIENCE, 194(4261)/149-155, 1976.  
 \*KEYWORDS, AGRICULTURE, LAND USE.  
 \*NOTES, FILED.  
 \*DATE, 760000



\*TITLE, ENERGY USE IN CEREAL GRAIN PRODUCTION.  
\*AUTHOR, PIMENTEL D.  
\*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT - VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 759-767.  
\*KEYWORDS, AGRICULTURE, LABOR, LAND USE, ENERGY ACCOUNTING.  
\*NOTES, FILED.  
\*DATE, 771024

## ABSTRACT 283

\*TITLE, ENERGY AND AGRICULTURE - THE CRISIS IS REAL.  
\*AUTHOR, POLLARD P, OHM K.  
\*SOURCE, MICHIGAN FARMER, 269(6)/4-6, 9-10, 18 MARCH 1978  
\*KEYWORDS, AGRICULTURE.  
\*NOTES, FILED.  
\*DATE, 780318

## ABSTRACT 284

\*TITLE, ENERGY AND AGRICULTURE, PART 2 - FREEING THE FARM FROM ENERGY DEPENDENCE.  
\*AUTHOR, POLLARD B, OHM K.  
\*SOURCE, MICHIGAN FARMER, 269(7)/8-10, 14-21, 1 APRIL 1978.  
\*KEYWORDS, AGRICULTURE, SOLAR, POLICY.  
\*NOTES, FILED.  
\*DATE, 780401

## ABSTRACT 285

\*TITLE, ENERGY AND AGRICULTURE, PART 3 - WHERE ENERGY PROBLEMS ARE HEADING.  
\*AUTHOR, POLLARD B, OHM K.  
\*SOURCE, MICHIGAN FARMER, 269(8)/18-20, 15 APRIL 1978.  
\*KEYWORDS, AGRICULTURE, POLICY.  
\*NOTES, FILED.  
\*DATE, 780415

## ABSTRACT 286

\*TITLE, ENERGY AND AGRICULTURE IN MICHIGAN - ENERGY COSTS WILL RISE, BUT FARMERS HERE MAY ESCAPE SEVERE INTERRUPTIONS OF SUPPLY.  
\*AUTHOR, POLLARD B, OHM K.  
\*SOURCE, MICHIGAN FARMER, 269(8)/10-16, 15 APRIL 1978.  
\*KEYWORDS, AGRICULTURE, MICHIGAN, ELECTRICAL, NUCLEAR.  
\*NOTES, FILED.  
\*DATE, 780415

## ABSTRACT 287

\*TITLE, THE ENERGY CRISIS-ITS EFFECT ON AGRICULTURE.  
\*AUTHOR, PRICE D R, GUNKEL W W.  
\*SOURCE, PRESENTED AT THE WINTER MEETING AND TRADE SHOW OF THE NEW YORK STATE HORTICULTURAL SCC, ROCHESTER, NY, 17 JAN 1974, 6 PP.  
\*KEYWORDS, AGRICULTURE, PETROLEUM, ENERGY SOURCES, CONSERVATION.  
\*NOTES, FILED.  
\*DATE, 740117

## ABSTRACT 288

\*TITLE, FOOD AND ENERGY - THEIR INTERDEPENDENCE.  
\*AUTHOR, PRICE D R.  
\*SOURCE, CORNELL ENGR QUARTERLY, APRIL 1977, PP 59-68.  
\*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, PETROLEUM, POLICY, NEW YORK.  
\*NOTES, FILED.  
\*DATE, 770400

## ABSTRACT 289

\*TITLE, IS ENERGY BEING WASTED IN PRODUCING FOOD.  
\*AUTHOR, PRICE D R.  
\*SOURCE, CORNELL UNIV, ITHICA NY, 13 PP, UNPUBLISHED, UNDATED.  
\*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, EFFICIENCY.  
\*NOTES, FILED. ENERGY USE AND EFFICIENCY IN US AGRICULTURE, FROM THE FARM TO THE CONSUMER.  
\*DATE,

\*TITLE, ENERGY AND RESOURCE ALTERNATIVES FOR DIFFERENT CROPPING SYSTEMS-  
 \*AUTHOR, PURDUE UNIVERSITY.  
 \*SOURCE, SCHOOL OF AGR, PURDUE UNIV, WEST LAFAYETTE, IN 47907,  
 15 FEB 1977, 40 PP.  
 \*KEYWORDS, AGRICULTURE, ENERGY FLOW, MODELS.  
 \*NOTES, FILED.  
 \*DATE, 770215

## ABSTRACT 291

\*TITLE, THE FLOW OF ENERGY IN AN AGRICULTURAL SOCIETY.  
 \*AUTHOR, RAPPAPORT R A.  
 \*SOURCE, SCIENTIFIC AMER, SEPT 1971, PP 117-132.  
 \*KEYWORDS, AGRICULTURE, NEW GUINEA, ENERGY FLOW.  
 \*NOTES, FILED.  
 \*DATE, 710000

## ABSTRACT 292

\*TITLE, ENERGY IN U.S. AGRICULTURE - COMPENDIUM OF ENERGY RESEARCH  
 PROJECTS.  
 \*AUTHOR, RATHWELL J, GALES G.  
 \*SOURCE, ENERGY CONSERVATION PAPER NO 37A, FEA, WASHINGTON D C,  
 1975, 176 PP.  
 \*KEYWORDS, AGRICULTURE, BIBLIOGRAPHY, CATALOG, ENERGETICS.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 293

\*TITLE, A STUDY OF THE PERFORMANCE OF FIFTY FARM TRACTORS.  
 \*AUTHOR, REECE F N, LARSON G H.  
 \*SOURCE, TECH BULLETIN 99, KANSAS AGR EXPT STA, MANHATTAN, MAY 1959.  
 \*KEYWORDS, AGRICULTURE, TRACTOR.  
 \*NOTES,  
 \*DATE, 590500

## ABSTRACT 294

\*TITLE, ENGINE DEVELOPMENTS AND AGRICULTURAL EQUIPMENT FUEL  
 CONSUMPTION TRENDS.  
 \*AUTHOR, REGUEIRO J F.  
 \*SOURCE, LAND, SEA, AIR, SPACE, SP-411, SEPT 1976, 10 PP.  
 \*KEYWORDS, AGRICULTURE, ENGINE, FUEL CONSUMPTION, MACHINERY.  
 \*NOTES, FILED.  
 \*DATE, 760900

## ABSTRACT 295

\*TITLE, THE RESOURCES AVAILABLE FOR AGRICULTURE.  
 \*AUTHOR, REVELLE R.  
 \*SOURCE, SCIENTIFIC AMER, 235(3)/165-179, SEPT 1976.  
 \*KEYWORDS, AGRICULTURE, AFRICA, PHOTOSYNTHESIS, SOLAR, NITROGEN,  
 LAND USE, IRRIGATION, WORLD WIDE.  
 \*NOTES, FILED.  
 \*DATE, 760900

## ABSTRACT 296

\*TITLE, THE ENERGY SITUATION AND UTILIZATION BY THE DAIRY INDUSTRY.  
 \*AUTHOR, RIPPEN A L.  
 \*SOURCE, FOOD SCI AND HUMAN NUTRITION DEPT, MICH STATE UNIV, EAST  
 LANSING, MICH 48824, NOV 1976, 24 PP.  
 \*KEYWORDS, AGRICULTURE, DAIRY, ENERGY CONSUMPTION, ENERGY SOURCES,  
 CONSERVATION, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 761100

## ABSTRACT 297

\*TITLE, SIMULATION OF ENERGY ALTERNATIVES FOR DAIRY PROCESS WATER HEATING.  
 \*AUTHOR, ROLLER W L, KEENER H M, MEYER G E, ELWELL D L.  
 \*SOURCE, ASAE PAPER 77-3541, 1977, 18 PP.  
 \*KEYWORDS, AGRICULTURE, DAIRY, ALTERNATIVES.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 298

\*TITLE, ENERGY AND THE FOOD CHAIN.  
\*AUTHOR, ROLLER W L.  
\*SOURCE, DEPT OF AGR ENGR, OARDC, WOOSTER, OH 44691, MARCH 1977, 11 PP.  
\*KEYWORDS, AGRICULTURE, FOOD ENERGY, GENERAL.  
\*NOTES, FILED.  
\*DATE, 770300

## ABSTRACT 299

\*TITLE, FARM ENERGY FUTURE.  
\*AUTHOR, ROLLER W L.  
\*SOURCE, PREPARED FOR ANNUAL EXTENSION CONF, 19 OCT 1976, 6 PP.  
\*KEYWORDS, AGRICULTURE.  
\*NOTES, FILED.  
\*DATE, 761019

## ABSTRACT 300

\*TITLE, FOOD PRODUCTION AND THE ENERGY CRISIS - A COMMENT.  
\*AUTHOR, RUTTAN V W, PIMENTEL D.  
\*SOURCE, SCIENCE, 187/560-561, 14 FEB 1975.  
\*KEYWORDS, AGRICULTURE, FOOD ENERGY.  
\*NOTES, FILED.  
\*DATE, 750214

## ABSTRACT 301

\*TITLE, AN ECONOMIC ANALYSIS OF IRRIGATED FARMING WITH DIMINISHING GROUND WATER RESERVES.  
\*AUTHOR, SANGHI A K, KLEPPER R.  
\*SOURCE, CBNS-AE-8, WASHINGTON UNIV, ST LOUIS, MAY 1976, 50 PP.  
\*KEYWORDS, AGRICULTURE, ECONOMICS, IRRIGATION.  
\*NOTES, FILED.  
\*DATE, 760500

## ABSTRACT 302

\*TITLE, A GUIDE TO ENERGY SAVINGS--FOR THE ORCHARD GROWER.  
\*AUTHOR, SCHIENBEIN A.  
\*SOURCE, FEA, OFFICE OF COMMUNICATIONS, PUBL DIV, US DEPT OF AGR, WASHINGTON DC 20250, JUNE 1977, 49PP.  
\*KEYWORDS, AGRICULTURE, FRUITS AND VEGETABLES, ENERGY CONSUMPTION, CONSERVATION.  
\*NOTES, FILED.  
\*DATE, 770600

## ABSTRACT 303

\*TITLE, ENERGY AND US AGRICULTURE - A STATEWIDE CONSERVATION PROGRAM ON KANSAS AND NEBRASKA FARMS.  
\*AUTHOR, SHELTON D P, ET AL.  
\*SOURCE, MF451, KANSAS STATE UNIV, MANHATTAN, KS, AUG 1977, 16 PP.  
\*KEYWORDS, AGRICULTURE, KANSAS, NEBRASKA.  
\*NOTES, FILED. BRIEFLY PRESENTED IS ENERGY USE AND EFFICIENCY ON THE FARM ALONG WITH AN ENERGY MANAGEMENT PROGRAM FOR FARMERS.  
\*DATE, 770800

## ABSTRACT 304

\*TITLE, GEAR UP - THROTTLE DOWN.  
\*AUTHOR, SHELTON D P, VON BARGEN K.  
\*SOURCE, FARM ENERGY TIPS CC279, INST OF AGR AND NATURAL RESOURCES, UNIV OF NEBR, LINCOLN, NE, OCT 1977, 2 PP.  
\*KEYWORDS, AGRICULTURE, TRACTOR, EFFICIENCY.  
\*NOTES, FILED.  
\*DATE, 771000

- \*TITLE, TRACTOR INSTRUMENTATION FOR PRACTICAL DEMONSTRATIONS AND DATA ACQUISITION.
- \*AUTHOR, SHELTON D P, BASHFORD L L.
- \*SOURCE, ASAE PAPER 77-1523, 1977, 13 PP.
- \*KEYWORDS, AGRICULTURE, TRACTOR, FUEL CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 306

- \*TITLE, ENERGY REQUIRMENTS IN INTENSIVE AGRICULTURAL PRODUCTION PROGRAMME.
- \*AUTHOR, SINGH C P, KAHLOH S S, RANDHAWA G S, PANESAR B S.
- \*SOURCE, ANNUAL REPORT, DEPT OF FARM POWER AND MACHINERY, PUNJAB AGR UNIV, LUDHIANA, INDIA, 1975.
- \*KEYWORDS, AGRICULTURE, TECHNOLOGY ASSESSMENT, REQUIREMENTS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 307

- \*TITLE, ENERGY SUBSIDY AS A CRITERION IN FOOD POLICY PLANNING.
- \*AUTHOR, SLESSER M.
- \*SOURCE, J FOOD SCI AGR, 24-1193-1207, 1973.
- \*KEYWORDS, AGRICULTURE, REQUIREMENTS, FOOD PROCESSING, FOOD ENERGY, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 730000

## ABSTRACT 308

- \*TITLE, ENERGY FOR AGRICULTURE.
- \*AUTHOR, SMERDON E T.
- \*SOURCE, PREPARED FOR PRESENTATION AT THE CONFERENCE ON AGR GROWTH IN AN URBAN AGE, GAINESVILLE, FLORIDA, 11-12 FEB 1975, 15 PP.
- \*KEYWORDS, AGRICULTURE, PETROLEUM, FOOD PROCESSING, CONSERVATION, TILLAGE.
- \*NOTES, FILED.
- \*DATE, 750211

## ABSTRACT 309

- \*TITLE, FOOD PRODUCTION POTENTIAL FROM HOME GARDENS.
- \*AUTHOR, SMITH S W, WALKER W R.
- \*SOURCE, ASAE PAPER 76-2522, 1976, 11 PP.
- \*KEYWORDS, AGRICULTURE, HOME, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 310

- \*TITLE, OPPORTUNITIES FOR ENERGY SAVINGS IN CRCP PRODUCTION.
- \*AUTHOR, SMITH M L, VIESSMAN W, KANE T.
- \*SOURCE, REPORT TO THE SUBCOMMITTEE ON ADVANCED ENERGY TECHNOLOGIES AND ENERGY CONSERVATION RESEARCH, DEV AND DEMONSTRATION OF THE COMMITTEE ON SCI AND TECH, US HOUSE OF REP, 95TH CONGRESS, SECCND SESSION BY THE ENVIR AND NATURAL RESOURCES POLICY DIV, CONGRESSIONAL RESEARCH SERVICE, LIBRARY OF CONGRESS, JAN 1978, 200 PP.
- \*KEYWORDS, AGRICULTURE, NITROGEN, DRYING, CONSERVATION, IRRIGATION.
- \*NOTES, FILED.
- \*DATE, 780100

## ABSTRACT 311

- \*TITLE, ENERGY IN AGRICULTURE.
- \*AUTHOR, SOUTHERN REGIONAL EDUCATION BOARD.
- \*SOURCE, SOUTHERN REGIONAL EDUCATION BOARD, 130 SIXTH ST NW, ATLANTA, GA, 1-3 OCT 1975, 113PP.
- \*KEYWORDS, AGRICULTURE, USA, FERTILIZER, POLICY, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 751001

## ABSTRACT 312

- \*TITLE, ENERGY IN PERSPECTIVE.
- \*AUTHOR, SOUTHWELL P H.
- \*SOURCE, PRESENTATION TO ONTARIO INST OF AGROLOGISTS, ANNUAL MEETING, APRIL 1974, UNIV OF GUELPH, 20 PP.
- \*KEYWORDS, AGRICULTURE, HISTORICAL, CANADA, POPULATION, ORGANIC, ENERGY SOURCES, ENERGY ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 740400



- \*TITLE, ENERGY USE IN AGRICULTURAL SYSTEMS.
- \*AUTHOR, SPEDDING C R W, WALSINGHAM J M.
- \*SOURCE, SPAN, 18(1)/7-9, 1975.
- \*KEYWORDS, AGRICULTURE, EFFICIENCY, RECYCLING, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750000

- \*TITLE, VENTILATION SYSTEM OPERATION AND ENERGY USE IN FARROWING BUILDINGS.
- \*AUTHOR, SPILLMAN C K, MURPHY J P, ROBBINS F V.
- \*SOURCE, ASAE PAPER 76-4536, 1976, 10 PP.
- \*KEYWORDS, AGRICULTURE, BUILDINGS, FUEL CONSUMPTION, INSULATION.
- \*NOTES, FILED.
- \*DATE, 760000

- \*TITLE, RESEARCH RECOMMENDATIONS BY STUDY TEAM 4C - ENERGY AND EQUIPMENT.
- \*AUTHOR, SPLINTER W E. ET AL.
- \*SOURCE, WORLD FOOD AND NUTRITION STUDY, NATIONAL ACADEMY OF SCIENCE, 1976 (IN PRESS).
- \*KEYWORDS, AGRICULTURE, MECHANIZATION, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 760000

- \*TITLE, ENERGY REQUIREMENTS IN MANAGING FOR FOOD AND FIBER PRODUCTION.
- \*AUTHOR, SPLINTER W E.
- \*SOURCE, PRESENTED AT THE AAAS MEETING, DENVER, CO, 1976, 23 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, USA.
- \*NOTES, FILED.
- \*DATE, 780000

- \*TITLE, ENERGY AND AGRICULTURE - A NATIONAL CASE STUDY.
- \*AUTHOR, STANHILL G.
- \*SOURCE, AGRO-ECOSYSTEMS, 1/205-217, 1974, AMSTERDAM.
- \*KEYWORDS, AGRICULTURE, ISRAEL, FOOD ENERGY, SOLAR, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 740000

- \*TITLE, AGRICULTURE AND ENERGY - THE GREEN COUNTERREVOLUTION.
- \*AUTHOR, STANSBURG J, FLATTAU E.
- \*SOURCE, CONSERVATION NEWS, NAT WILDLIFE FED, 1 FEB 1974, PP 2-4.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 740201

- \*TITLE, FUEL IN BRITISH AGRICULTURE.
- \*AUTHOR, STANSFIELD J R.
- \*SOURCE, NIAE REPORT NO 13, NATIONAL INST AGR ENGR, WEST PARK, SILSOE, BEDFORD MK45 4HS, JAN 1974.
- \*KEYWORDS, AGRICULTURE, UNITED KINGDOM, PETROLEUM, CONSERVATION, DRYING, GREENHOUSE, ENERGY SOURCES, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 740100



## ABSTRACT 320

\*TITLE, FUEL AND POWER IN AGRICULTURE.  
 \*AUTHOR, STANSFIELD J R.  
 \*SOURCE, SPAN, 18(1)/23-24, 1975.  
 \*KEYWORDS, AGRICULTURE, UNITED KINGDOM, FERTILIZER, FOSSIL FUELS.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 321

\*TITLE, ENERGY USE IN THE US FOOD SYSTEM.  
 \*AUTHOR, STEINHART J S, STEINHART C E.  
 \*SOURCE, SCIENCE, 184(4134)/307-316, 19 APRIL 1974.  
 \*KEYWORDS, AGRICULTURE, ECONOMICS, PRODUCTION, LABOR, FOOD ENERGY.  
 \*NOTES, FILED.  
 \*DATE, 740419

## ABSTRACT 322

\*TITLE, IMPACTS OF ENERGY UNCERTAINTIES ON THE FOOD SYSTEM IN THE UPPER MIDWEST.  
 \*AUTHOR, STINCHFIELD J.  
 \*SOURCE, UPPER MIDWEST COUNCIL, FEDERAL RESERVE BANK BUILDING, MINNEAPOLIS, MN 55480, MAY 1977, 37 PP.  
 \*KEYWORDS, AGRICULTURE, POLICY, CONSERVATION, USA.  
 \*NOTES, FILED.  
 \*DATE, 770500

## ABSTRACT 323

\*TITLE, ENERGY USE IN US AGRICULTURE.  
 \*AUTHOR, STOUT B A.  
 \*SOURCE, AEIS 357, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING 48824, 15 SEPT 1976, 8 PP.  
 \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, USA.  
 \*NOTES, FILED.  
 \*DATE, 760915

## ABSTRACT 324

\*TITLE, ENERGY FOR WORLD-WIDE AGRICULTURE.  
 \*AUTHOR, STOUT B A, MYERS C A, MURAND A, FAIDLEY L W.  
 \*SOURCE, FAO, APRIL 1977, 424 PP.  
 \*KEYWORDS, AGRICULTURE, WORLD WIDE, ENERGY FLOW, SOLAR, WIND, FERTILIZER, ENGINE, ELECTRICAL, ORGANIC, ALTERNATIVES.  
 \*NOTES, FILED.  
 \*DATE, 770400

## ABSTRACT 325

\*TITLE, ENERGY USE IN AGRICULTURE-NOW AND FOR THE FUTURE.  
 \*AUTHOR, STOUT B A, ET AL.  
 \*SOURCE, REPORT 68, COUNCIL FOR AGR SCI AND TECH, IOWA STATE UNIV, AMES, IA 50011, AUG 1977, 28 PP.  
 \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, USA.  
 \*NOTES, FILED.  
 \*DATE, 770800

## ABSTRACT 326

\*TITLE, STATISTICAL ANALYSIS OF NEBRASKA PTO VARYING POWER AND FUEL CONSUMPTION DATA.  
 \*AUTHOR, SULEK J J, LANE D E.  
 \*SOURCE, PROC AMER SOC AGR ENGR, 2(1)/43-45, 49, 1968.  
 \*KEYWORDS, AGRICULTURE, TRACTOR.  
 \*NOTES,  
 \*DATE, 680000

## ABSTRACT 327

\*TITLE, ENERGY AND U S AGRICULTURE - FEAS PROGRAMS AND POLICIES.  
 \*AUTHOR, SYNG V J.  
 \*SOURCE, PRESENTED AT THE ENGINEERING FOUNDATIONS CONFERENCE ON ENERGY'S ROLE IN FOOD PRODUCTION, PACIFIC GROVE, CALIF, 9 FEB 1977, 19 PP.  
 \*KEYWORDS, AGRICULTURE, CONSERVATION, ENERGY CONSUMPTION.  
 \*NOTES, FILED.  
 \*DATE, 770209

- \*TITLE, ENERGY USE IN CROP PRODUCTION - VEGETABLES.
- \*AUTHOR, TERHUNE E C.
- \*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANGEMENT- VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 769-773.
- \*KEYWORDS, AGRICULTURE, FRUITS AND VEGETABLES, PRODUCTION, ENERGY ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 329

- \*TITLE, UNDERSTANDING THE ENERGY CRISIS.
- \*AUTHOR, TEXAS A AND M UNIVERSITY.
- \*SOURCE, TEXAS AGR PROGRESS, 20(3)/4-7, AGR EXPT STA, TEXAS A AND M UNIV, COLLEGE STATION, TX, SUMMER 1974.
- \*KEYWORDS, AGRICULTURE, CONSERVATION, LEGISLATION.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 330

- \*TITLE, UNDERSTANDING THE ENERGY CRISIS.
- \*AUTHOR, TEXAS A AND M UNIVERSITY.
- \*SOURCE, TEXAS AGR PROGRESS, FALL 1974, PP 14-19, AGR EXPT STA, TEXAS A AND M UNIV, COLLEGE STATION, TX.
- \*KEYWORDS, AGRICULTURE, ENERGY ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 331

- \*TITLE, ALTERNATE ENERGY SOURCES FOR TEXAS AGRICULTURE-A REVIEW OF RESEARCH AND DEVELOPMENT.
- \*AUTHOR, TEXAS A AND M UNIVERSITY.
- \*SOURCE, PRESENTED TO THE TEXAS HOUSE SUBCOMMITTEE ON ALTERNATE SOURCES OF ENERGY FOR AGR, TEXAS A AND M UNIV, COLLEGE STATION, TX 77843, 13-14 MARCH 1978, 132 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY SOURCES, TEXAS, ORGANIC.
- \*NOTES, FILED. ENERGY FROM BIOMASS. POTENTIALS FOR ENERGY FROM BIOMASS IN TEXAS. CONVERSION OF AGRICULTURAL PRODUCTS AND BY-PRODUCTS INTO ETHYL ALCOHOL. COMMERCIAL METHANE PRODUCTION USING SOLAR ENERGY. AGRICULTURAL APPLICATIONS USING SOLAR ENERGY. WIND ENERGY AS A RESOURCE.
- \*DATE, 780313

## ABSTRACT 332

- \*TITLE, AS ENERGY SHAPES THE FUTURE OF AGRICULTURE.
- \*AUTHOR, THOMAS G W.
- \*SOURCE, PREPARED FOR THE SOUTHWEST ENERGY-MINERALS CONF, ALBUQUERQUE, NM, NOV 2, 1977, 28 PP.
- \*KEYWORDS, AGRICULTURE, ENERGY ACCOUNTING.
- \*NOTES, FILED. THOMAS IS THE PRESIDENT OF NEW MEXICO STATE UNIV.
- \*DATE, 771102

## ABSTRACT 333

- \*TITLE, ENERGY REQUIREMENTS OF CANADIAN BIOMASS AND AGRICULTURAL PRODUCTION.
- \*AUTHOR, TIMBERS G E, DOWNING C G E.
- \*SOURCE, PROCEEDINGS OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, 9-13 AUG 1976, P 142.
- \*KEYWORDS, AGRICULTURE, REQUIREMENTS, BIOMASS, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 760809

## ABSTRACT 334

- \*TITLE, DEVELOPMENT OF A SIMULATION MODEL FOR THE MILK HOUSE.
- \*AUTHOR, TIMMONS M B, LUDINGTON D C, ALBRIGHT L D.
- \*SOURCE, ASAE PAPER 77-3538, 1977, 27 PP.
- \*KEYWORDS, AGRICULTURE, DAIRY, MODELS.
- \*NOTES, FILED.
- \*DATE, 770000

\*TITLE, NOTE ON THE USE OF ENERGY IN AGRICULTURE.  
 \*AUTHOR, UN-ECONOMIC COMMISSION FOR EUROPE.  
 \*SOURCE, AGR/GE.2/R.33, ECE, COMMITTEE ON AGR PROBLEMS,  
 21ST SESSION, 15-19 SEPT 1975, 11 PP.  
 \*KEYWORDS, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 750915

## ABSTRACT 336

\*TITLE, ENERGY FOR AGRICULTURAL PRODUCTION.  
 \*AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.  
 \*SOURCE, PPAB/75/69(DP), PROGRAMME AND POLICY ADVISORY BOARD,  
 FAO, ROME, ITALY, 18 JULY 1975, 10PP.  
 \*KEYWORDS, AGRICULTURE, ENERGY SOURCES, FERTILIZER, CHEMICALS, DRYING,  
 MECHANIZATION, IRRIGATION, INTERNATIONAL.  
 \*NOTES, FILED.  
 \*DATE, 750718

## ABSTRACT 337

\*TITLE, ENERGY FOR AGRICULTURE IN THE DEVELOPING COUNTRIES.  
 \*AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.  
 \*SOURCE, FAO MONTHLY BULLETIN OF AGR ECON AND STATISTICS, 5(2)/2-8,  
 FEB 1976.  
 \*KEYWORDS, AGRICULTURE, PRODUCTION, FERTILIZER, CHEMICALS.  
 \*NOTES, FILED.  
 \*DATE, 760200

## ABSTRACT 338

\*TITLE, FARM EQUIPMENT AND FOSSIL FUEL CONSUMPTION IN AGRICULTURE.  
 \*AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.  
 \*SOURCE, AGR ENGR SERVICE, FAO, ROME, ITALY, MAY 1974, 13PP,  
 UNPUBLISHED.  
 \*KEYWORDS, AGRICULTURE, MECHANIZATION, ENERGY CONSUMPTION, REQUIREMENTS.  
 \*NOTES, FILED.  
 \*DATE, 740500

## ABSTRACT 339

\*TITLE, FUEL AND FARM MACHINERY.  
 \*AUTHOR, UNIVERSITY OF FLORIDA.  
 \*SOURCE, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL,  
 17PP, UNDATED.  
 \*KEYWORDS, AGRICULTURE, TRACTOR.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 340

\*TITLE, ENERGY IN AGRICULTURE.  
 \*AUTHOR, UNIVERSITY OF KENTUCKY.  
 \*SOURCE, AGR ENGR DEPT, UNIV OF KENTUCKY, LEXINGTON, KY 40506, 1976, 80PP.  
 \*KEYWORDS, AGRICULTURE, CONSERVATION, ALTERNATIVES, BIOMASS.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 341

\*TITLE, ENERGY MANAGEMENT ON THE FARM.  
 \*AUTHOR, US-DEPARTMENT OF AGRICULTURE.  
 \*SOURCE, ENERGY LETTER, USDA, WASHINGTON DC 20250, MARCH 1974, 5 PP.  
 \*KEYWORDS, AGRICULTURE, STORAGE, DRYING, IRRIGATION, FERTILIZER,  
 MECHANIZATION.  
 \*NOTES, FILED.  
 \*DATE, 740300

## ABSTRACT 342

\*TITLE, ENERGY TO KEEP AGRICULTURE GOING.  
 \*AUTHOR, US-DEPARTMENT OF AGRICULTURE.  
 \*SOURCE, ENERGY LETTER, USDA, WASHINGTON DC 20250, MARCH 1974, 6 PP.  
 \*KEYWORDS, AGRICULTURE, FERTILIZER, FOSSIL FUELS, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 740300

- \*TITLE, REPORT OF THE PROCEEDINGS OF THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION WORKSHOP ON ENERGY CONSERVATION IN AGRICULTURAL PRODUCTION.
- \*AUTHOR, US-DEPARTMENT OF COMMERCE.
- \*SOURCE, NTIS, US DEPARTMENT OF COMMERCE, SPRINGFIELD, VA 22161, 16 JULY 1976, 99PP.
- \*KEYWORDS, AGRICULTURE, CONSERVATION, DESIGN, ANIMAL PRODUCTION, GREENHOUSE, DRYING, PUMPS, WASTES.
- \*NOTES, FILED.
- \*DATE, 760716

## ABSTRACT 344

- \*TITLE, AN UPDATE ON HUNGER IN AMERICA.
- \*AUTHOR, US-DEPARTMENT OF AGRICULTURE.
- \*SOURCE, DOMESTIC FOOD PROGRAMS, USDA, 1 MARCH 1978, 17 PP.
- \*KEYWORDS, AGRICULTURE, POPULATION, SOCIAL IMPLICATIONS.
- \*NOTES, FILED. PAPER MAKES USE OF THE WELL KNOWN REPORT-HUNGER USA.
- \*DATE, 780301

## ABSTRACT 345

- \*TITLE, INVENTORY OF AGRICULTURAL ENERGY RESEARCH AND DEVELOPMENT AND TECHNOLOGY TRANSFER FOR FY 1977.
- \*AUTHOR, US-DEPARTMENT OF AGRICULTURE, NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND GRANT COLLEGES.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 771250

## ABSTRACT 346

- \*TITLE, ENERGY CONSERVATION IN THE FOOD SYSTEM - A PUBLICATIONS LIST.
- \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.
- \*SOURCE, FEA, WASHINGTON DC, MAY 1976, 73 PP.
- \*KEYWORDS, AGRICULTURE, BIBLIOGRAPHY, CONSERVATION, FOOD PROCESSING, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 347

- \*TITLE, ENERGY POLICIES-PRICE IMPACTS ON THE US FOOD SYSTEM.
- \*AUTHOR, VAN ARSDALL R T, DEVLIN P J.
- \*SOURCE, AGR ECON REPORT 407, USDA, WASHINGTON DC 20250, JULY 1978, 44 PP.
- \*KEYWORDS, AGRICULTURE, POLICY.
- \*NOTES, FILED.
- \*DATE, 780700

## ABSTRACT 348

- \*TITLE, ENERGY REQUIREMENTS IN THE U.S. FOOD SYSTEM.
- \*AUTHOR, VAN ARSDALL R T.
- \*SOURCE, AGR OUTLOOK, MARCH 1976, PP 18-21.
- \*KEYWORDS, AGRICULTURE, FOOD ENERGY, USA.
- \*NOTES, FILED.
- \*DATE, 760300

## ABSTRACT 349

- \*TITLE, FARM EQUIPMENT AND FOSSIL FUEL CONSUMPTION IN AGRICULTURE.
- \*AUTHOR, VAN GILST W J.
- \*SOURCE, FOOD AND AGRICULTURE ORGANIZATION, UNITED NATIONS, ROME, 1974.
- \*KEYWORDS, AGRICULTURE, FOSSIL FUELS, DEVELOPING COUNTRIES, MECHANIZATION, DIESEL.
- \*NOTES, FILED.
- \*DATE, 740000



\*TITLE, ENERGY CONSUMPTION AND POTENTIAL APPLICATIONS OF SOLAR ENERGY IN ITALIAN AGRICULTURE.  
 \*AUTHOR, DI VECCHIA A. ET AL.  
 \*SOURCE, PROC OF THE 1978 ANNUAL MEETING OF THE AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, VOL 2.1, DENVER, CO, 28-31 AUG 1978, 5 PP.  
 \*KEYWORDS, AGRICULTURE, SOLAR, ITALY, ENERGY CONSUMPTION.  
 \*NOTES, FILED.  
 \*DATE, 780828

ABSTRACT 351

\*TITLE, FEED, FUEL AND FERTILIZER.  
 \*AUTHOR, VOHRA P, ROBINSON D W.  
 \*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 823-828.  
 \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, FERTILIZER.  
 \*NOTES, FILED.  
 \*DATE, 771024

ABSTRACT 352

\*TITLE, AGRICULTURE - RISE TO PROMINENCE AT HOME AND ABROAD.  
 \*AUTHOR, WADE N.  
 \*SOURCE, SCIENCE, 182/1321-1323, 28 DEC 1973.  
 \*KEYWORDS, AGRICULTURE, FOOD ENERGY.  
 \*NOTES, FILED.  
 \*DATE, 731228

ABSTRACT 353

\*TITLE, ENERGY--FACTS AND FIGURES.  
 \*AUTHOR, WAEELTI H.  
 \*SOURCE, E M 3943, COOPERATIVE EXTENSION SERVICE, COLLEGE OF AGR, WASHINGTON STATE UNIV, PULLMAN, AUG 1975, 18 PP.  
 \*KEYWORDS, AGRICULTURE, ENERGY RATIO, SOLAR, WIND.  
 \*NOTES, FILED.  
 \*DATE, 750800

ABSTRACT 354

\*TITLE, ENERGY FLUX VALUES TO A SOLAR FOOD DRYER FROM MODIFIED SOLAR CELLS.  
 \*AUTHOR, WAGNER C J, BRYAN W L, MILLER J M.  
 \*SOURCE, PROC OF THE 1978 ANNUAL MEETING OF THE AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, VOL 2.1, DENVER, CO, 28-31 AUG 1978, 4 PP.  
 \*KEYWORDS, AGRICULTURE, SOLAR, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 780828

ABSTRACT 355

\*TITLE, MARYLAND AGRICULTURE IN A WORLD OF SCARCE ENERGY.  
 \*AUTHOR, WALDEN D J, BENDER F E, HARRIS W L.  
 \*SOURCE, AGR ECON, COOPERATIVE EXTENSION SERVICE, UNIV OF MARYLAND, COLLEGE PARK, JULY 1974, 4 PP.  
 \*KEYWORDS, AGRICULTURE, MARYLAND, ENERGY CONSUMPTION.  
 \*NOTES, FILED.  
 \*DATE, 740700

ABSTRACT 356

\*TITLE, WHERE WILL WE GET THE FUEL TO FARM.  
 \*AUTHOR, WENNBLOM R D.  
 \*SOURCE, FARM JOURNAL, NOV 1975, 2 PP.  
 \*KEYWORDS, AGRICULTURE, PETROLEUM, USA, LIQUEFACTION.  
 \*NOTES, FILED.  
 \*DATE, 751100

## ABSTRACT 357

- \*TITLE, FOOD SHORTAGES - A POOR MANS ENERGY CRISIS.
- \*AUTHOR, WEST Q M.
- \*SOURCE, ECON RESEARCH SER, USDA, WASHINGTON, D C, 1973, 9 PP.
- \*KEYWORDS, AGRICULTURE, FOOD ENERGY, SUPPLY DEMAND.
- \*NOTES, FILED.
- \*DATE, 730090

## ABSTRACT 358

- \*TITLE, THE ENERGY CRISIS - WHERE FARM FIELD AND OIL FIELD MEET.
- \*AUTHOR, WHEELER C A.
- \*SOURCE, 1976 CORN ANNUAL, CORN REFINERS ASSOCIATION, 1001 CONNECTICUT AVE N W, WASHINGTON D C, 1976, PP 20-23.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 359

- \*TITLE, FUEL REQUIREMENTS FOR SELECTED FARMING OPERATIONS.
- \*AUTHOR, WHITE R G.
- \*SOURCE, EXTENSION BULLETIN E-780, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, FEB 1974, 4PP.
- \*KEYWORDS, AGRICULTURE, REQUIREMENTS.
- \*NOTES, FILED. GIVES LOW, AVERAGE, HIGH GASOLINE REQUIREMENTS FOR TILLAGE, PLANTING, CULTIVATION, HARVESTING, MISC.
- \*DATE, 740200

## ABSTRACT 360

- \*TITLE, ENERGY USE IN AGRICULTURE.
- \*AUTHOR, WHITE D J.
- \*SOURCE, PRESENTED AT UK SCI RESEARCH COUNCIL SUMMER SCHOOL ASPECTS OF ENERGY CONVERSION, LINCOLN COLLEGE, OXFORD, 14-25 JULY 1975, 36 PP.
- \*KEYWORDS, AGRICULTURE, UNITED KINGDOM, FERTILIZER, SOLAR, WASTES, WASTE HEAT.
- \*NOTES, FILED.
- \*DATE, 750714

## ABSTRACT 361

- \*TITLE, ENERGY UTILIZATION ON BEEF FEEDLOTS AND DAIRY FARMS.
- \*AUTHOR, WILLIAMS D W, MCCARTY T R, GUNKEL W W, PRICE D R, JEWELL W J.
- \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL ED, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975, PP 29-48.
- \*KEYWORDS, AGRICULTURE, DAIRY, MANURE, ENERGY FLOW, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 362

- \*TITLE, MAXIMUM PRODUCTION CAPACITY OF FOOD CROPS.
- \*AUTHOR, WITTMER S H.
- \*SOURCE, MICH AGR EXPT STA J ARTICLE 6668, 1974, 20 PP.
- \*KEYWORDS, AGRICULTURE, PHOTOSYNTHESIS, FERTILIZER, TILLAGE.
- \*NOTES, FILED.
- \*DATE, 740104

## ABSTRACT 363

- \*TITLE, AGRICULTURAL PRODUCTIVITY AND THE ENERGY CRISIS.
- \*AUTHOR, WITTMER S H.
- \*SOURCE, PHI KAPPA PHI J, 15(1)/35-37, WINTER 1975.
- \*KEYWORDS, AGRICULTURE, PHOTOSYNTHESIS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 364

- \*TITLE, AGRICULTURE S RESPONSE TO THE ENERGY CRISIS.
- \*AUTHOR, WITTMER S H.
- \*SOURCE, MICH AGR EXPT STA J ARTICLE 6485, MICH STATE UNIV, EAST LANSING, MI 48824, 7 PP.
- \*KEYWORDS, AGRICULTURE, PHOTOSYNTHESIS, FOSSIL FUELS, FERTILIZER, IRRIGATION, TILLAGE, DIESEL, SOLAR.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 365

- \*TITLE, FOOD AND ENERGY PRODUCTION, DUAL CHALLENGES FOR TODAY'S AGRICULTURE.
- \*AUTHOR, WITTMER S H.
- \*SOURCE, AGR ENGR, JULY 1974, PP 42-43.
- \*KEYWORDS, AGRICULTURE, FOOD ENERGY, LABOR, MECHANIZATION.
- \*NOTES, FILED.
- \*DATE, 740700

## ABSTRACT 366

- \*TITLE, IMPACT OF ENERGY REDUCTIONS ON AGRICULTURAL PRODUCTIVITY.
- \*AUTHOR, WITTMER S H.
- \*SOURCE, MICH AGR EXPT STA J ARTICLE 7009, MICH STATE UNIV, EAST LANSING, MI 48824, 11 PP.
- \*KEYWORDS, AGRICULTURE, PETROLEUM, FERTILIZER, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 367

- \*TITLE, WORLD FOOD AND NUTRITION STUDY, ENHANCEMENT OF FOOD PRODUCTION FOR THE UNITED STATES.
- \*AUTHOR, WITTMER S H. ET AL.
- \*SOURCE, NAS, WASHINGTON D C, REPORT OF THE BOARD ON AGR AND RENEWABLE RESOURCES, PREPARED FOR NRC STUDY ON WORLD FOOD AND NUTRITION, 1975, 174 PP.
- \*KEYWORDS, AGRICULTURE, CROP PROTECTION, RESOURCES, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 368

- \*TITLE, ENERGY ASPECTS OF AGRICULTURAL PRODUCTIVITY.
- \*AUTHOR, WITTMER S H.
- \*SOURCE, PAPER PRESENTED AT AN INTERNATIONAL SYMPOSIUM ON ENERGY BIOCONVERSION, 8-9 JULY 1976, CAMPINAS, STATE OF SAO PAULO, BRAZIL.
- \*KEYWORDS, AGRICULTURE, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 760708

## ABSTRACT 369

- \*TITLE, THE ENERGY SQUEEZE.
- \*AUTHOR, WOOD G.
- \*SOURCE, BIG FARMER, 49(9)/7-12, OCT 1977.
- \*KEYWORDS, AGRICULTURE.
- \*NOTES, FILED. THE EFFECTS OF DWINDLING ENERGY SOURCES ON THE FARMER.
- \*DATE, 771003

## ABSTRACT 370

- \*TITLE, SHALLOW SOLAR PUMP POWERED IRRIGATION PUMPING - A FEASIBILITY STUDY.
- \*AUTHOR, WOOD R L, PLATT E A.
- \*SOURCE, PROC OF THE 1978 ANNUAL MEETING OF THE AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, VOL 2.1, DENVER, CO, 28-31 AUG 1978, 5 PP.
- \*KEYWORDS, AGRICULTURE, SOLAR, IRRIGATION.
- \*NOTES, FILED.
- \*DATE, 780828

## ABSTRACT 371

- \*TITLE, A GUIDE TO ENERGY SAVINGS--FOR THE FIELD CROPS PRODUCER.
- \*AUTHOR, WYNN N A.
- \*SOURCE, FEA, OFFICE OF COMMUNICATIONS, PUBL DIV, US DEPT OF AGR, WASHINGTON DC 20250, JUNE 1977, 58PP.
- \*KEYWORDS, AGRICULTURE, ENERGY CONSUMPTION, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770600

## ABSTRACT 372

- \*TITLE, A GUIDE TO ENERGY SAVINGS--FOR THE VEGETABLE PRODUCER.
- \*AUTHOR, WYNN N A.
- \*SOURCE, FEA, OFFICE OF COMMUNICATIONS, PUBL DIV, US DEPT OF AGR, WASHINGTON DC 20250, JULY 1977, 54PP.
- \*KEYWORDS, AGRICULTURE, FRUITS AND VEGETABLES, CONSERVATION, GREENHOUSE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 770700

## ABSTRACT 373

- \*TITLE, ENERGY AND AGRICULTURE - ECONOMIC PERSPECTIVES.
- \*AUTHOR, YOUDE J G, CARTER H O.
- \*SOURCE, CALIF AGR, OCT 1974, PP 4-5.
- \*KEYWORDS, AGRICULTURE, ECONOMICS, HOME, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 741000

## ALTERNATIVES 374 -- 397

## ABSTRACT 374

- \*TITLE, ENERGY GROWTH ALTERNATIVES.
- \*AUTHOR, ANON.
- \*SOURCE, EQUILIBRIUM, 2(3)/1-49, JULY 1974.
- \*KEYWORDS, ALTERNATIVES, JOURNAL.
- \*NOTES, FILED.
- \*DATE, 740700

## ABSTRACT 375

- \*TITLE, ALTERNATE SOURCES OF ENERGY.
- \*AUTHOR, ECCLIS F. ET AL.
- \*SOURCE, NEW YORK/ THE SEABURY PRESS, 1975, 278 PP.
- \*KEYWORDS, ALTERNATIVES, SOLAR, WIND, WATER POWER, TRANSPORTATION, AGRICULTURE, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 376

- \*TITLE, THE TECHNICAL AND ECONOMIC FEASIBILITY OF SOME ALTERNATIVE FUELS FOR AUTOMOTIVE TRANSPORTATION.
- \*AUTHOR, GILLIS J C, PANGBORN J B, VYAS K C.
- \*SOURCE, INST OF GAS TECH, 3424 S STATE ST, CHICAGO, AUG 1975, 7 PP.
- \*KEYWORDS, ALTERNATIVES, AUTOMOBILE, TECHNOLOGY ASSESSMENT, ECONOMICS.
- \*NOTES, FILED. PAPER PRESENTED AT THE 10TH INTERSOCIETY ENERGY CONVERSION ENGR CONF, UNIV OF DELAWARE, 18-22 AUG 1975.
- \*DATE, 750800



## ABSTRACT 377

- TITLE, TOWARD A NATIONAL ENERGY POLICY.
- AUTHOR, MOBIL OIL CORP.
- SOURCE, MOBIL OIL CORP, 1975, 10 PP.
- KEYWORDS, ALTERNATIVES, POLICY, ENERGY SOURCES.
- NOTES, FILED.
- DATE, 750030

## ABSTRACT 378

- TITLE, WATER IN SYNTHETIC FUEL PRODUCTION - THE TECHNOLOGY AND ALTERNATIVES.
- AUTHOR, PROBSTEIN R S, GOLD M.
- SOURCE, CAMBRIDGE, MA/MIT PRESS, 1978, 296 PP.
- KEYWORDS, ALTERNATIVES, COAL, PRODUCTION.
- NOTES, FILED.
- DATE, 780000

## ABSTRACT 379

- TITLE, FEASIBILITY OF ALTERNATIVE RENEWABLE RESOURCES.
- AUTHOR, SOCIETY FOR SOCIAL RESPONSIBILITY IN SCIENCE.
- SOURCE, SOC FOR SOCIAL RESPONSIBILITY IN SCI (ACT), CANBERRA, AUSTRALIA, 1975, 65PP.
- KEYWORDS, ALTERNATIVES, JOURNAL, AUSTRALIA, RENEWABLE ENERGY.
- NOTES, FILED. SYMPOSIUM ON SOLAR ENERGY RESOURCES, AUSTRALIAN NATIONAL UNIV, 12 NOV 1975.
- DATE, 750000

## ANIMAL DRAFT 380

## ABSTRACT 380

- TITLE, ECONOMIC ASPECTS OF OX-CULTIVATION.
- AUTHOR, ADELHELM R, SCHMIDT H.
- SOURCE, PAPER FOR WORKSHOP ON FARM EQUIPMENT INNOVATIONS FOR AGR DEV AND RURAL INDUSTRIALIZATION, FACULTY OF AGR, KABETE/NAIROBI, 19-21 AUG 1975, 23 PP.
- KEYWORDS, ANIMAL DRAFT.
- NOTES,
- DATE, 750819

## ANIMAL PRODUCTION 381 -- 413

## ABSTRACT 381

- TITLE, A GUIDE TO ENERGY SAVINGS - FOR THE POULTRY PRODUCER.
- AUTHOR, BENSON V W.
- SOURCE, FEA, OFFICE OF COMMUNICATIONS, PUBL DIV, US DEPT OF AGR, WASHINGTON DC 20250, JUNE 1977, 46PP.
- KEYWORDS, ANIMAL PRODUCTION, POULTRY, ENERGY CONSUMPTION, CONSERVATION.
- NOTES, FILED.
- DATE, 770600

## ABSTRACT 382

- \*TITLE, MOLASSAS, SUGAR (SUCROSE), CORN TALLOW, SOYBEAN OIL AND MIXED FATS AS SOURCES OF ENERGY FOR GROWING SWINE.
- \*AUTHOR, BROOKS C C.
- \*SOURCE, J OF AMER SCIENCE, 34(2)/217-224, 1972.
- \*KEYWORDS, ANIMAL PRODUCTION.
- \*NOTES,
- \*DATE, 720000

## ABSTRACT 383

- \*TITLE, ENERGY USE AND DEMAND IN WARM CONFINEMENT SWINE BUILDINGS.
- \*AUTHOR, CHRISTIANSON L L, MCFATE K L, KLIEBENSTEIN J B.
- \*SOURCE, ASAE PAPER 77-3052, 1977, 14PP.
- \*KEYWORDS, ANIMAL PRODUCTION, ENERGY CONSUMPTION, HEAT, VENTILATION.
- \*NOTES, FILED. HEATING, VENTILATION, AND LIGHTING ENERGY CONSUMPTION DATA FOR WARM CONFINEMENT GESTATION, FARROWING, NURSERY, AND FINISHING FACILITIES.
- \*DATE, 770000

## ABSTRACT 384

- \*TITLE, SIMULATION AND OPTIMIZATION OF ENERGY REQUIREMENTS FOR LIVESTOCK HOUSING.
- \*AUTHOR, CHRISTIANSON L L, HELLICKSON M A.
- \*SOURCE, ASAE PAPER 76-4027, 1976.
- \*KEYWORDS, ANIMAL PRODUCTION, BUILDINGS.
- \*NOTES,
- \*DATE, 760000
- CLARK

## ABSTRACT 385

- \*TITLE, POULTRY IS ASSURED.
- \*AUTHOR, CLAYTON G A.
- \*SOURCE, POULTRY WORLD, 3 JAN 1974, P 22.
- \*KEYWORDS, ANIMAL PRODUCTION.
- \*NOTES,
- \*DATE, 740103

## ABSTRACT 386

- \*TITLE, COMPUTER EVALUATION OF ALTERNATIVE BROILER PRODUCTION PROGRAMS FOR ENERGY CONSERVATION POTENTIAL.
- \*AUTHOR, COLLINS N E, WALPOLE E W.
- \*SOURCE, MISCELLANEOUS PAPER 760, AGR EXPT STA, UNIV OF DELAWARE, NEWARK, DE, 9 PP, UNDATED.
- \*KEYWORDS, ANIMAL PRODUCTION, ALTERNATIVES, CONSERVATION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 387

- \*TITLE, FEED, FOOD AND THE FUTURE.
- \*AUTHOR, COMBS G F.
- \*SOURCE, FEEDSTUFFS, 10 JUNE 1974, PP 29, 41.
- \*KEYWORDS, ANIMAL PRODUCTION.
- \*NOTES,
- \*DATE, 740610

## ABSTRACT 388

- \*TITLE, THE PLACE OF LIVESTOCK IN MEETING HUMAN FOOD NEEDS.
- \*AUTHOR, CUNHA T J.
- \*SOURCE, FEEDSTUFFS, 10 FEB 1975, P 23.
- \*KEYWORDS, ANIMAL PRODUCTION.
- \*NOTES,
- \*DATE, 750210

- \*TITLE, SYMPOSIUM ON ENERGY METABOLISM.
- \*AUTHOR, EUROPEAN ASSOCIATION FOR ANIMAL PRODUCTION.
- \*SOURCE, EUROPEAN ASSOC FOR ANIMAL PRODUCTION CONF PROC, WAGENINGEN, NETHERLANDS, 11-15 SEPT 1961.
- \*KEYWORDS, ANIMAL PRODUCTION.
- \*NOTES.
- \*DATE, 610911

ABSTRACT 390

- \*TITLE, ENERGY UTILIZATION FOR SWINE PRODUCTION IN MODIFIED, OPEN-FRONT SHEDS.
- \*AUTHOR, HIRNING H J, JENSEN A M.
- \*SOURCE, ASAE PAPER 75-3016, 9 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, HEAT, ENERGY CONSUMPTION, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 750000

ABSTRACT 391

- \*TITLE, ENERGY USE AND CONSERVATION IN THE POULTRY INDUSTRIES.
- \*AUTHOR, ROGERS G B.
- \*SOURCE, PRESENTED AT NORTH CENTRAL STATES POULTRY EXTENSION WORKSHOP, LINDOLN, NE, 5 MAY 1976, 23 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, POULTRY, POULTRY AND EGG PRODUCTS, FOOD PROCESSING, ACCOUNTING, ECONOMICS, CONSERVATION, MARKETING.
- \*NOTES, FILED. ANALYZES ENERGY CONSUMPTION AND COST FOR THE PRODUCTION, PROCESSING AND MARKETING OF VARIOUS POULTRY AND EGG PRODUCTS.
- \*DATE, 760505
- \*TITLE, IMPACT ASSESSMENT OF MICROWAVE - VACUUM GRAIN DRYING CONSERVATION TECHNOLOGY.
- \*AUTHOR, HITTMAN ASSOCIATES.
- \*SOURCE, MIT-678, HITTMAN ASSOCIATES, INC, COLUMBIA, MD 21045, 31 DEC 1976, 62 PP.
- \*KEYWORDS, DRYING, MICROWAVE, MODELS, ALTERNATIVES, ECONOMICS.
- \*NOTES, FILED. TECHNOLOGICAL AND ECONOMIC FEASIBILITY OF SUBSTITUTING MICROWAVE-VACUUM GRAIN DRYING FOR EXISTING HIGH CAPACITY LPG, NATURAL GAS, OR OIL-FIRED HOT AIR DRYERS. HIGH COSTS ARE A BARRIER TO PRACTICAL IMPLEMENTATION, BASED ON COMPUTER SIMULATION.
- \*DATE, 761231

ABSTRACT 392

- \*TITLE, FORAGE CROPS.
- \*AUTHOR, HODGSDON H J.
- \*SOURCE, SCIENTIFIC AMER, 234(2)/61-68, 74, 75, FEB 1976.
- \*KEYWORDS, ANIMAL PRODUCTION, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 760200

ABSTRACT 393

- \*TITLE, MATERIAL-ENERGY REQUIREMENTS IN ALTERNATIVE DAIRY FARMING SYSTEMS.
- \*AUTHOR, HOLTMAN J B, CONNOR L J, LUCAS R E, WOLAK F J.
- \*SOURCE, PROC OF THE ENERGY AND AGR CONF, ACADEMIC PRESS INC, IN PRESS.
- \*KEYWORDS, ANIMAL PRODUCTION, REQUIREMENTS, ALTERNATIVES, DAIRY.
- \*NOTES, FILED.
- \*DATE.

ABSTRACT 394

- \*TITLE, TOWARDS COUNTRYSIDE DESIGN.
- \*AUTHOR, HUGHES H A, HOLTMAN J B.
- \*SOURCE, ASAE PAPER 73-5525, 23 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, ENERGY CONSUMPTION, MODELS.
- \*NOTES, FILED.
- \*DATE, 730000

ABSTRACT 395

- \*TITLE, DYNAMIC MODELING OF ENERGY UTILIZATION OF LACTATING ANIMALS.
- \*AUTHOR, KEENER H M, NELSON G L, CONRAD H R, ROLLER W L.
- \*SOURCE, ASAE PAPER 73-419, 7 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, CONVERSION, MODELS, DAIRY.
- \*NOTES, FILED.
- \*DATE, 730000

## ABSTRACT 403

- \*TITLE, A DUAL-STAGE, TIME-PROPORTIONING THERMOSTAT FOR USE IN LIVESTOCK SHELTERS.
- \*AUTHOR, REECE F N.
- \*SOURCE, ASAE PAPER 78-3023, 1978, 10 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, BUILDINGS, HEAT, VENTILATION.
- \*NOTES, FILED. A DUAL-STAGE, TIME PROPORTIONING THERMOSTAT HAS BEEN DEVELOPED FOR CONTROLLING BOTH HEATING AND VENTILATING FUNCTIONS IN LIVESTOCK SHELTERS. THE DEVICE, WHEN CONNECTED TO BROODER STOVES AND VENTILATION FANS, MAKES IT POSSIBLE TO CONTROL BOTH FUNCTIONS THROUGH A SINGLE TEMPERATURE ADJUSTMENT. OVERLAPPING OPERATION OF HEATING AND COOLING IS ELIMINATED, THUS CONSERVING ENERGY.
- \*DATE, 780000

## ABSTRACT 404

- \*TITLE, ENERGY USE AND CONSERVATION IN THE POULTRY INDUSTRIES.
- \*AUTHOR, ROGERS G B.
- \*SOURCE, PRESENTED AT NORTH CENTRAL STATES POULTRY EXTENSION WORKSHOP, LINCOLN, NE, 5 MAY 1976, 23 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, POULTRY, POULTRY AND EGG PRODUCTS, FOOD PROCESSING, ACCOUNTING, ECONOMICS, CONSERVATION, MARKETING.
- \*NOTES, FILED. ANALYZES ENERGY CONSUMPTION AND COST FOR THE PRODUCTION, PROCESSING AND MARKETING OF VARIOUS POULTRY AND EGG PRODUCTS.
- \*DATE, 760505
- \*TITLE, IMPACT ASSESSMENT OF MICROWAVE - VACUUM GRAIN DRYING CONSERVATION TECHNOLOGY.
- \*AUTHOR, HITTMAN ASSOCIATES.
- \*SOURCE, HIT-678, HITTMAN ASSOCIATES, INC, COLUMBIA, MD 21045, 31 DEC 1976, 62 PP.
- \*KEYWORDS, DRYING, MICROWAVE, MODELS, ALTERNATIVES, ECONOMICS.
- \*NOTES, FILED. TECHNOLOGICAL AND ECONOMIC FEASIBILITY OF SUBSTITUTING MICROWAVE-VACUUM GRAIN DRYING FOR EXISTING HIGH CAPACITY LPG, NATURAL GAS, OR OIL-FIRED HOT AIR DRYERS. HIGH COSTS ARE A BARRIER TO PRACTICAL IMPLEMENTATION, BASED ON COMPUTER SIMULATION.
- \*DATE, 761231

## ABSTRACT 405

- \*TITLE, ENERGY COSTS OF INTENSIVE LIVESTOCK PRODUCTION.
- \*AUTHOR, ROLLER W L, KEENER H M, KLINE R D.
- \*SOURCE, ASAE PAPER 75-4042, 27 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, FOSSIL FUELS, ACCOUNTING, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 406

- \*TITLE, CONCENTRATION OF LIVESTOCK AND POULTRY IN THE U.S. - 1969.
- \*AUTHOR, SCHOEFF R W.
- \*SOURCE, FEEDSTUFFS, 43(23)/29, 5 JUNE 1971.
- \*KEYWORDS, ANIMAL PRODUCTION, USA, LAND USE.
- \*NOTES, FILED.
- \*DATE, 710605

## ABSTRACT 407

- \*TITLE, ENVIRONMENTAL CONTROL FOR SWINE HOUSING BASED ON ENERGY CONSERVATION AND ANIMAL PERFORMANCE.
- \*AUTHOR, STEVENS G R, DESHAZER J A, THOMPSON T L, TETER N C.
- \*SOURCE, ASAE PAPER 76-4028, 15 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, MODELS, ENVIRONMENT, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760000



\*TITLE, CONVERSION OF ENERGY AND THE CHEMICAL COMPOSITION OF GAIN IN BACON PIGS.  
 \*AUTHOR, KIELANOWSKI J.  
 \*SOURCE, ANIMAL PRODUCTION, 8(1)/121-128, FEB 1966.  
 \*KEYWORDS, ANIMAL PRODUCTION.  
 \*NOTES.  
 \*DATE, 660200

## ABSTRACT 397

\*TITLE, EFFICIENCY OF ENERGY UTILIZATION IN GROWING PIGS.  
 \*AUTHOR, KIELANOWSKI J.  
 \*SOURCE, REPORT OF PROC AND INVITED PAPERS, 9TH INTERNATIONAL CONGRESS OF ANIMAL PRODUCTION, EDINBURGH, SCOTLAND, 1966.  
 \*KEYWORDS, ANIMAL PRODUCTION.  
 \*NOTES,  
 \*DATE, 660000

## ABSTRACT 398

\*TITLE, LAYING HOUSE ENERGY BUDGET ANALYSIS FOR THE NORTHEAST.  
 \*AUTHOR, LINDLEY J A.  
 \*SOURCE, ASAE PAPER 75-4537, 15 PP.  
 \*KEYWORDS, ANIMAL PRODUCTION, USA, ENERGY BUDGET, ENERGY CONSUMPTION.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 399

\*TITLE, A SIMULATION MODEL FOR ASSESSING ALTERNATIVE STRATEGES OF BEEF PRODUCTION WITH LAND, ENERGY, AND ECONOMIC CONSTRAINTS.  
 \*AUTHOR, LOEVER O J. ET AL.  
 \*SOURCE, ASAE PAPER 78-5025, 1978, 34 PP.  
 \*KEYWORDS, ANIMAL PRODUCTION, AGRICULTURE, MODELS.  
 \*NOTES, FILED. A COMPUTER MODEL HAS BEEN DEVELOPED TO ANALYZE ALTERNATE MANAGEMENT STRATEGIES OF BEEF AND CROP PRODUCTION WITH LAND, ENERGY, AND ECONOMIC CONSTRAINTS. A COMPLETE INVENTORY OF DRY MATTER, BEEF STATUS, PRODUCTION RESOURCES AND NET WORTH ARE MAINTAINED OVER THE SIMULATION PERIOD.  
 \*DATE, 780000

## ABSTRACT 400

\*TITLE, THE NORTHEAST GHANA SAVANNAH PROJECT - A CASE SUTDY IN PROJECT DESIGN.  
 \*AUTHOR, MATLOCK W G, JOHNSON J P.  
 \*SOURCE, J PAPER 2456, ARIZONA AGR EXPT STA, TUCSON, AZ, 1975, 23 PP.  
 \*KEYWORDS, ANIMAL PRODUCTION, GHANA, LANO USE.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 401

\*TITLE, THE ROLE AND EFFICIENCY OF ANIMALS IN UTILIZING FEED TO PRODUCE HUMAN FOOD.  
 \*AUTHOR, MAYNARD L A.  
 \*SOURCE, J OF NUTRITION, 32/345-360, 1946.  
 \*KEYWORDS, ANIMAL PRODUCTION, EFFICIENCY, SOCIAL IMPLICATIONS, FOOD ENERGY.  
 \*NOTES, FILED.  
 \*DATE, 460000

## ABSTRACT 402

\*TITLE, ENERGY AND FOOD SAVING IN LIVESTOCK PRODUCTION.  
 \*AUTHOR, PROSSER H W.  
 \*SOURCE, THE INST OF FUEL, SOUTH COAST SECTION, SOUTHAMPTON, 26 FEB 1976, 14 PP.  
 \*KEYWORDS, ANIMAL PRODUCTION, CONSERVATION, BUILDINGS.  
 \*NOTES, FILED.  
 \*DATE, 760226

## ABSTRACT 408

- \*TITLE, BEEF PRODUCTION EFFICIENCY.
- \*AUTHOR, TRENKLE A, WILLHAM R L.
- \*SOURCE, SCIENCE, 198/1009-1015, 9 DEC 1977.
- \*KEYWORDS, ANIMAL PRODUCTION, EFFICIENCY.
- \*NOTES, FILED. IN THE PRODUCTION OF HIGH QUALITY PROTEIN, FEED GRAINS WILL CONTINUE TO BE USED TO FINISH CATTLE FOR MARKET AS LONG AS ECON DICTATES. PRODUCTION SYSTEMS COULD BE DEVELOPED THAT WOULD MAKE RUMINANT ANIMALS LESS COMPETITIVE WITH HUMANS FOR FEED GRAINS, BUT THE COSTS OF INSTITUTING SUCH PROGRAMS WOULD BE PROHIBITIVE. SUFFICIENT GENETIC VARIATION EXISTS EITHER BETWEEN OR WITHIN BREEDS FOR THE CATTLE POPULATION TO BE ADAPTED TO NEW MANAGEMENT PROGRAMS AND FOR CURRENT METHODS OF BEEF PRODUCTION TO BE SIGNIFICANTLY IMPROVED.
- \*DATE, 771209

## ABSTRACT 409

- \*TITLE, NEW CHALLENGES FOR THE BEEF CATTLE INDUSTRY.
- \*AUTHOR, UNIVERSITY OF ARIZONA.
- \*SOURCE, TASK FORCE REPORT, AGR EXPT STA, UNIV OF ARIZONA, APRIL 1975, 28 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, WORLD WIDE, FOOD ENERGY, INDUSTRY, ARIZONA.
- \*NOTES, FILED.
- \*DATE, 750400

## ABSTRACT 410

- \*TITLE, THE ENERGY VALUE OF RATIONS FOR MONOGASTRIC ANIMALS.
- \*AUTHOR, VAN ES A J H.
- \*SOURCE, PROC OF THE INTERNATIONAL SYMPOSIUM ON ENERGY MANAGEMENT, LUXEMBURG, 27-28 MAY 1974, PP 36-44.
- \*KEYWORDS, ANIMAL PRODUCTION, ENERGY CONSUMPTION, FOOD ENERGY, CHEMICALS.
- \*NOTES, FILED.
- \*DATE, 740527

## ABSTRACT 411

- \*TITLE, FEED EVALUATION FOR DAIRY COWS.
- \*AUTHOR, VAN ES A J H.
- \*SOURCE, LIVESTOCK PRODUCTION SCIENCE, 2/95-107, 1975.
- \*KEYWORDS, ANIMAL PRODUCTION, FOOD ENERGY, EFFICIENCY, DAIRY.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 412

- \*TITLE, A GUIDE TO ENERGY SAVINGS--FOR THE LIVESTOCK PRODUCER
- \*AUTHOR, VAN ARSDALL R N.
- \*SOURCE, FEA, OFFICE OF COMMUNICATION, PUBL DIV, US DEPT OF AGR, WASHINGTON DC 20250, JUNE 1977, 78PP.
- \*KEYWORDS, ANIMAL PRODUCTION, ENERGY CONSUMPTION, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770600

## ABSTRACT 413

- \*TITLE, BEEF PRODUCTION OPTIONS AND REQUIREMENTS FOR FOSSIL FUEL.
- \*AUTHOR, WARD G M, KNOX P L, HOBSON B W.
- \*SOURCE, SCIENCE, 198/265-271, 21 OCT 1977.
- \*KEYWORDS, ANIMAL PRODUCTION, FOSSIL FUELS, ENERGY CONSUMPTION.
- \*NOTES, FILED. A LARGE PERCENTAGE OF THE FEED RESOURCES USED IN BEEF PRODUCTION CANNOT BE USED BY MAN OR MOST OTHER ANIMALS. THESE NONCOMPETITIVE FEEDS COULD BE USED IN DIFFERENT WAYS TO INCREASE BEEF PRODUCTION, BUT FOSSIL FUEL CONSUMPTION BY THE BEEF INDUSTRY WOULD NOT BE GREATLY REDUCED.
- \*DATE, 771021

## ABSTRACT 414

- \*TITLE, BIBLIOGRAPHY OF WORLD APPLIED SOLAR ENERGY RESEARCH (1940-1975).
- \*AUTHOR, GARG H P, AMINULLAH.
- \*SOURCE, CAZRI LIBRARY PUBLICATION SERIES 3, CENTRAL ARID ZONE RESEARCH INST, JODHPUR, INDIA, SEPT 1976, 195 PP.
- \*KEYWORDS, BIBLIOGRAPHY, SOLAR.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 415

- \*TITLE, WORLD BIBLIOGRAPHY ON BIO-GAS TECHNOLOGY AND ITS UTILIZATION.
- \*AUTHOR, GARG H P, AMINULLAH.
- \*SOURCE, CAZRI LIBRARY PUBLICATION SERIES 4, CENTRAL ARID ZONE RESEARCH INST, JODUR, INDIA, DEC 1977, 71 PP.
- \*KEYWORDS, BIBLIOGRAPHY, BIOGAS.
- \*NOTES, FILED.
- \*DATE, 771200

## ABSTRACT 416

- \*TITLE, INFORMATION ON INTERNATIONAL RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF ENERGY.
- \*AUTHOR, HERSEY D F. ED.
- \*SOURCE, NSF/RA-760057, NATIONAL SCI FOUNDATION, MAY 1976, 370 PP.
- \*KEYWORDS, BIBLIOGRAPHY, ORGANIC, NUCLEAR, CONVERSION, CONSERVATION, INTERNATIONAL.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 417

- \*TITLE, INDEX AND BIBLIOGRAPHY - ENERGY AND ENERGY RELATED MATERIALS.
- \*AUTHOR, IOWA STATE UNIVERSITY.
- \*SOURCE, EDUCATIONAL MATERIALS PROJECT, NORTH CENTRAL REGION, 111-N CURTISS MALL, IOWA STATE UNIV, AMES, IA 50011, 6 JAN 1978, 50 PP.
- \*KEYWORDS, BIBLIOGRAPHY, GENERAL.
- \*NOTES, FILED.
- \*DATE, 780106

## ABSTRACT 418

- \*TITLE, ENERGY RESEARCH AND TECHNOLOGY - ABSTRACTS OF NSF/RANN RESEARCH REPORTS, OCTOBER 1970 - DECEMBER 1974.
- \*AUTHOR, NATIONAL SCIENCE FOUNDATION.
- \*SOURCE, NSF-RA-N-75-079, RANN DOCUMENT CENTER, NATIONAL SCI FOUNDATION, WASHINGTON D C, MAY 1975, 319 PP.
- \*KEYWORDS, BIBLIOGRAPHY, SOLAR, GEOTHERMAL, CONVERSION, STORAGE, ENERGY SOURCES, TRANSPORTATION.
- \*NOTES, FILED.
- \*DATE, 750500

## ABSTRACT 419

- \*TITLE, WORLD ENERGY RESOURCES - AN ANNOTATED BIBLIOGRAPHY OF SELECTED MATERIAL ON THE AVAILABILITY AND DEVELOPMENT OF WORLD ENERGY RESOURCES.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, ERDA-53, ENERGY RESEARCH AND DEV ADMINISTRATION, US GOVT PRINTING OFFICE, WASHINGTON DC 20405, 1975, 18 PP.
- \*KEYWORDS, BIBLIOGRAPHY, INTERNATIONAL.
- \*NOTES, FILED. LISTED ARE 173 REFERENCES OF RECENT ENGLISH LANGUAGE PUBLICATIONS ON THE AVAILABILITY AND DEVELOPMENT OF WORLD ENERGY RESOURCES. CITATIONS WHICH DEAL EXCLUSIVELY WITH ENERGY RESOURCES IN THE US ARE OMITTED.
- \*DATE, 750900

## ABSTRACT 420

\*TITLE, ENERGY AND PESTICIDE USE - NEW SIGNALS FOR AGRICULTURE.  
\*AUTHOR, EDENS T C.  
\*SOURCE, ASAE PAPER 78-1501, 1978, 10 PP.  
\*KEYWORDS, CHEMICAL, AGRICULTURE, SOCIAL IMPLICATIONS.  
\*NOTES, FILED.  
\*DATE, 780000

## ABSTRACT 421

\*TITLE, HERBICIDES IN THE ENERGY EQUATION.  
\*AUTHOR, ALDER E F, KLINGMAN G C, WRIGHT W L.  
\*SOURCE, WEED SCIENCE, 24/99-106, JAN 1976.  
\*KEYWORDS, CHEMICALS.  
\*NOTES, FILED.  
\*DATE, 760100

## ABSTRACT 422

\*TITLE, THE PESTICIDE REVIEW - 1974.  
\*AUTHOR, FOWLER D L, MAHAN J N.  
\*SOURCE, USDA, AGR STABILIZATION AND CONSERVATION SERVICE, SEPT 1975, 58 PP.  
\*KEYWORDS, CHEMICALS, CROP PROTECTION, PRODUCTION, USA, CANADA.  
\*NOTES, FILED.  
\*DATE, 750900

## ABSTRACT 423

\*TITLE, ENERGY CONSIDERATIONS IN THE USE OF HERBICIDES.  
\*AUTHOR, GREEN M B, MCCULLOCH A.  
\*SOURCE, J OF SCI FOOD AND AGR, 27/95-100, 1976.  
\*KEYWORDS, CHEMICALS.  
\*NOTES, FILED.  
\*DATE, 760000

## ABSTRACT 424

\*TITLE, USING PESTICIDES EFFICIENTLY.  
\*AUTHOR, JOHNSON F A.  
\*SOURCE, ENERGY CONSERVATION FACT SHEET EC-5, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 1976, 2 PP.  
\*KEYWORDS, CHEMICALS, CROP PROTECTION.  
\*NOTES, FILED.  
\*DATE, 760000

## ABSTRACT 425

\*TITLE, THE ENERGY RELATIONS OF PESTICIDES.  
\*AUTHOR, JONES D P.  
\*SOURCE, SPAN, 18(1)/20-22, 1975.  
\*KEYWORDS, CHEMICALS, UNITED KINGDOM.  
\*NOTES, FILED.  
\*DATE, 750000

## ABSTRACT 426

\*TITLE, ENERGY REQUIREMENTS OF VARIOUS WEED CONTROL PRACTICES.  
\*AUTHOR, NALEWAJA J D.  
\*SOURCE, PROC OF THE NORTH CENTRAL WEED CONTROL CONF, 29/19-23, 1974.  
\*KEYWORDS, CHEMICALS, ENERGY CONSUMPTION, AGRICULTURE.  
\*NOTES, FILED.  
\*DATE, 740000



\*TITLE, HERBICIDAL WEED CONTROL USES ENERGY EFFICIENTLY.  
 \*AUTHOR, NALEWAJA J D.  
 \*SOURCE, WEEDS TODAY, FALL 1975, PP 10-12.  
 \*KEYWORDS, CHEMICALS, EFFICIENCY, ENERGY CONSUMPTION, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 428

\*TITLE, CONSERVING ENERGY WITH HERBICIDE USE IN ROW CROPS.  
 \*AUTHOR, NILSON E B, SCHROCK M D.  
 \*SOURCE, ENERGY EFFICIENCY 3, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, KS, DEC 1973, 2 PP.  
 \*KEYWORDS, CHEMICALS, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 731200

## ABSTRACT 429

\*TITLE, CONSERVING ENERGY WITH HERBICIDE USE IN SORGHUMS.  
 \*AUTHOR, NILSON E B, SCHROCK M D.  
 \*SOURCE, ENERGY EFFICIENCY 4, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, KS, DEC 1973, 2 PP.  
 \*KEYWORDS, CHEMICALS, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 731200

## ABSTRACT 430

\*TITLE, WORLD FOOD CRISIS - ENERGY AND PESTS.  
 \*AUTHOR, PIMENTEL D.  
 \*SOURCE, REPRINTED FROM BULLETIN OF THE ENTOMOLOGICAL SOC OF AMERICA, 22(1)/20-26, MARCH 1976.  
 \*KEYWORDS, CHEMICALS, WORLD WIDE, FOSSIL FUELS.  
 \*NOTES, FILED.  
 \*DATE, 760300

## ABSTRACT 431

\*TITLE, FAO PRELIMINARY REPORT ON THE PESTICIDE SUPPLY/DEMAND SITUATION.  
 \*AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.  
 \*SOURCE, FAO, AGP-PEST/PH/75/B42, APRIL 1975, 7 PP.  
 \*KEYWORDS, CHEMICALS, SUPPLY DEMAND, WORLD WIDE, CROP PROTECTION.  
 \*NOTES, FILED. AD HOC GOVERNMENT CONSULTATION ON PESTICIDES IN AGR AND PUBLIC HEALTH, ROME, 7-11 APRIL 1975.  
 \*DATE, 750400

## ABSTRACT 432

\*TITLE, INFORMATION SYSTEM ON PESTICIDE SUPPLY AND DEMAND.  
 \*AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.  
 \*SOURCE, FAO, AGP-PEST/PH/75/W5, APRIL 1975, 3 PP.  
 \*KEYWORDS, CHEMICALS, SUPPLY DEMAND, CROP PROTECTION, WORLD WIDE.  
 \*NOTES, FILED. AD HOC GOVERNMENT CONSULTATION ON PESTICIDES IN AGR AND PUBLIC HEALTH, ROME, 7-11 APRIL 1975.  
 \*DATE, 750000

## ABSTRACT 433

\*TITLE, PESTICIDE REQUIREMENTS IN DEVELOPING COUNTRIES - SUMMARY OF REPLIES TO FAO, QUESTIONNAIRE.  
 \*AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.  
 \*SOURCE, FAO, AGP - PEST/PH/75/B44, APRIL 1975, 14 PP.  
 \*KEYWORDS, CHEMICALS, DEVELOPING COUNTRIES, CROP PROTECTION.  
 \*NOTES, FILED. AD HOC GOVERNMENT CONSULTATION ON PESTICIDES IN AGR AND PUBLIC HEALTH, ROME, 7-11 APRIL 1975.  
 \*DATE, 750400

## ABSTRACT 434

\*TITLE, REPORT OF THE AD HOC GOVERNMENT CONSULTATION ON PESTICIDES IN AGRICULTURE AND PUBLIC HEALTH.  
 \*AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.  
 \*SOURCE, FAO, AGP - 1975/M/3, ROME, ITALY, 7-11 APRIL 1975, 19 PP.  
 \*KEYWORDS, CHEMICALS, CROP PROTECTION, ENVIRONMENT, SUPPLY DEMAND, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 750407

## ABSTRACT 435

\*TITLE, CONTROL OF SULFUR DIOXIDE EMISSIONS FROM COAL.  
 \*AUTHOR, ABELSON P H.  
 \*SOURCE, SCIENCE, 189(4199)/253, 25 JULY 1975.  
 \*KEYWORDS, COAL, POLLUTION.  
 \*NOTES, FILED.  
 \*DATE, 750725

## ABSTRACT 436

\*TITLE, THE COAL ALTERNATIVE.  
 \*AUTHOR, ANON.  
 \*SOURCE, ENERGY MEMO, 11(4)/1-4, OCT 1975, PETROLEUM DEPT,  
 FIRST NATIONAL CITY BANK, 399 PARK AVE, NEW YORK, NY.  
 \*KEYWORDS, COAL.  
 \*NOTES, FILED.  
 \*DATE, 751000

## ABSTRACT 437

\*TITLE, THE ECONOMIC VIABILITY OF SYNTHETIC FUELS FROM COAL.  
 \*AUTHOR, BAGGE C E.  
 \*SOURCE, AN ADDRESS TO THE WORLD COAL CONF, 11 SEPT 1975, LONDON, 20 PP.  
 \*KEYWORDS, COAL, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 750911

## ABSTRACT 438

\*TITLE, THE EMERGING PARTNERSHIP OF COAL AND AGRICULTURE.  
 \*AUTHOR, BAGGE C E.  
 \*SOURCE, AN ADDRESS TO THE NATIONAL FOOD AND ENERGY SYMPOSIUM, 20 AUG 1975,  
 WASHINGTON D C, 19 PP.  
 \*KEYWORDS, COAL, AGRICULTURE, USA.  
 \*NOTES, FILED.  
 \*DATE, 750820

## ABSTRACT 439

\*TITLE, COAL, WHATS THAT.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES 1, BATTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH, AUG 1973, PP 1-3.  
 \*KEYWORDS, COAL.  
 \*NOTES, FILED.  
 \*DATE, 730800

## ABSTRACT 440

\*TITLE, COKE.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES 16-17, BATTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH NOV-DEC 1974, PP 1-5.  
 \*KEYWORDS, COAL, DISTILLATION.  
 \*NOTES, FILED.  
 \*DATE, 741100

## ABSTRACT 441

\*TITLE, THE SURFACE MINING OF COAL.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES 8, BATTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH, MARCH 1974, 6 PP.  
 \*KEYWORDS, COAL, PRODUCTION.  
 \*NOTES, FILED.  
 \*DATE, 740300

- \*TITLE, SYNTHETIC LIQUID FUEL FROM COAL.
- \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.
- \*SOURCE, ENERGY PERSPECTIVES 10, BATELLE EMEORIAL INST, 505 KING AVE, COLUMBUS, OH, MAY 1974, PP 1-2.
- \*KEYWORDS, COAL, ENERGY SOURCES, LIQUEFACTION.
- \*NOTES, FILED.
- \*DATE, 740500

## ABSTRACT 443

- \*TITLE, THE UNDERGROUND MINING OF COAL.
- \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.
- \*SOURCE, ENERGY PERSPECTIVES 6, BATTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS, OH, JAN 1974, 6 PP.
- \*KEYWORDS, COAL, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 740100

## ABSTRACT 444

- \*TITLE, OIL AND GAS FROM COAL.
- \*AUTHOR, COCHRAN N P.
- \*SOURCE, SCIENTIFIC AMER, 234(5)/24-29, MAY 1976.
- \*KEYWORDS, COAL, PETROLEUM, FOSSIL FUELS, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 445

- \*TITLE, GAS FROM COAL.
- \*AUTHOR, CONNER J G.
- \*SOURCE, ENERGY PERSPECTIVES 7, BATTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS, OH, FEB 1974, 4 PP.
- \*KEYWORDS, COAL, SNG.
- \*NOTES, FILED.
- \*DATE, 740200

## ABSTRACT 446

- \*TITLE, A SELECTED BIBLIOGRAPHY ON COAL-ENERGY DEVELOPMENT OF PARTICULAR INTEREST TO THE WESTERN STATES.
- \*AUTHOR, DALSTED N L, LEISTRITZ F L.
- \*SOURCE, AGR ECON REPORT 16, DEPT OF AGR ECON, NORTH DAKOTA AGR EXPT STA, NORTH DAKOTA STATE UNIV, FARGO, APRIL 1974, 82 PP.
- \*KEYWORDS, COAL, BIBLIOGRAPHY.
- \*NOTES, FILED.
- \*DATE, 740400

## ABSTRACT 447

- \*TITLE, ENERGY FROM COAL - A RESEARCH PROGRAM.
- \*AUTHOR, FUMICH G.
- \*SOURCE, MECHANICAL ENGR, 97(6)/14-21, JUNE 1975.
- \*KEYWORDS, COAL, TECHNOLOGY ASSESSMENT, INDUSTRY, LIQUEFACTION.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 448

- \*TITLE, CLEANING UP COAL - A NEW ENTRY IN THE ENERGY SWEEPSTAKES.
- \*AUTHOR, HAMMOND A L.
- \*SOURCE, SCIENCE, 189/128-130, 11 JULY 1975.
- \*KEYWORDS, COAL, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 750711

\*TITLE, COAL RESEARCH (I)--IS THE PROGRAM MOVING AHEAD.  
\*AUTHOR, HAMMOND A L.  
\*SOURCE, SCIENCE, 193(4254)/665-667, 704, 20 AUG 1976.  
\*KEYWORDS, COAL, USA, COAL GASIFICATION, POLICY.  
\*NOTES, FILED.  
\*DATE, 760820

## ABSTRACT 450

\*TITLE, COAL GASIFICATION (II)--GASIFICATION FACES AN UNCERTAIN FUTURE.  
\*AUTHOR, HAMMOND A L.  
\*SOURCE, SCIENCE, 193(4255)/750-753, 27 AUG 1976.  
\*KEYWORDS, COAL, COAL GASIFICATION, EFFICIENCY.  
\*NOTES, FILED.  
\*DATE, 760827

## ABSTRACT 451

\*TITLE, COAL RESEARCH (III)--LIQUEFACTION HAS FAR TO GO.  
\*AUTHOR, HAMMOND A L.  
\*SOURCE, SCIENCE, 193(4256)/873-875, 3 SEPT 1976.  
\*KEYWORDS, COAL, LIQUEFACTION, AFRICA, USA, ECONOMICS.  
\*NOTES, FILED.  
\*DATE, 760903

## ABSTRACT 452

\*TITLE, COAL RESEARCH (IV)--DIRECT COMBUSTION LAGS ITS POTENTIAL  
\*AUTHOR, HAMMOND A L.  
\*SOURCE, SCIENCE, 194(4261)/172-173, 218-220, 8 OCT 1976.  
\*KEYWORDS, COAL, ELECTRICAL.  
\*NOTES, FILED.  
\*DATE, 761008

## ABSTRACT 453

\*TITLE, GASIFICATION - A REDISCOVERED SOURCE OF CLEAN FUEL.  
\*AUTHOR, HAUGH T H.  
\*SOURCE, SCIENCE, 178/44-45, 6 OCT 1972.  
\*KEYWORDS, COAL, COAL GASIFICATION, NATURAL GAS, SNG.  
\*NOTES, FILED.  
\*DATE, 721006

## ABSTRACT 454

\*TITLE, NEW COAL TECHNOLOGY - THE CINDERELLA FUEL COMES OUT OF THE CELLAR.  
\*AUTHOR, METZGER N.  
\*SOURCE, POPULAR SCI, MARCH 1974, PP82-85, 162.  
\*KEYWORDS, COAL, COAL GASIFICATION, LIQUEFACTION.  
\*NOTES, FILED.  
\*DATE, 740300

## ABSTRACT 455

\*TITLE, METHANOL - THE NEW FUEL FROM COAL.  
\*AUTHOR, MILLS G A, HARNEY B M.  
\*SOURCE, CHEMTECH, JAN 1974, PP 26-31.  
\*KEYWORDS, COAL, METHANOL, ECONOMICS, COAL GASIFICATION.  
\*NOTES, FILED.  
\*DATE, 740100

## ABSTRACT 456

\*TITLE, COAL AND THE PRESENT ENERGY SITUATION.  
\*AUTHOR, OSBORN E F.  
\*SOURCE, SCIENCE, 183(4124)/477-481, 8 FEB 1974.  
\*KEYWORDS, COAL, ENERGY SOURCES, USA.  
\*NOTES, FILED.  
\*DATE, 740208



## ABSTRACT 457

- \*TITLE, THE GASIFICATION OF COAL.
- \*AUTHOR, PERRY H.
- \*SOURCE, SCIENTIFIC AMER, 230(3)/19-25, MARCH 1974.
- \*KEYWORDS, COAL, COAL GASIFICATION.
- \*NOTES, FILED, NAS.
- \*DATE, 740300

## ABSTRACT 458

- \*TITLE, COAL IN TENNESSEE.
- \*AUTHOR, TENNESSEE ENERGY OFFICE.
- \*SOURCE, TENN ENERGY OFFICE, 250 CAPITOL HILL BLDG, NASHVILLE, TN, JUNE 1975, 127 PP.
- \*KEYWORDS, COAL, TENNESSEE.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 459

- \*TITLE, SHAPING COALS FUTURE THROUGH TECHNOLOGY 1974-1975.
- \*AUTHOR, US-DEPARTMENT OF INTERIOR.
- \*SOURCE, US DEPT OF THE INTERIOR, OFFICE OF THE SECRETARY, WASHINGTON D C, 243 PP.
- \*KEYWORDS, COAL, LIQUEFACTION, GENERAL.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 460

- \*TITLE, CLEAN ENERGY FROM COAL.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, ERDA, PITTSBURGH ENERGY RESEARCH CENTER, OAK RIDGE, TN, MARCH 1975, 89 PP.
- \*KEYWORDS, COAL, LIQUEFACTION, PYROLYSIS, POLLUTION.
- \*NOTES, FILED.
- \*DATE, 750300

## ABSTRACT 461

- \*TITLE, CLEANING COAL AND CUTTING WASTE - AN ANNUAL REPORT FOR YOUNG PEOPLE.
- \*AUTHOR, WHEELABRATOR FRYE INC.
- \*SOURCE, WHEELABRATOR-FRYE INC, HAMPTON, N H, 1974, 16 PP.
- \*KEYWORDS, COAL, GENERAL.
- \*NOTES, FILED.
- \*DATE, 740000

## CONSERVATION 462 -- 590

## ABSTRACT 462

- \*TITLE, SAVING ENERGY IN THE BUILT ENVIRONMENT - THE AIA POLICY.
- \*AUTHOR, AMERICAN INSTITUTE OF ARCHITECTS.
- \*SOURCE, AMER INST OF ARCHITECTS, 1735 NY AVE NW, WASHINGTON DC, 6 PP.
- \*KEYWORDS, CONSERVATION, HOME, BUILDINGS.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 463

- \*TITLE, THE SQUEEZE ON NEXT YEARS ECONOMY.
- \*AUTHOR, ANON.
- \*SOURCE, TIME, 26 NOV 1973, PP 24-31.
- \*KEYWORDS, CONSERVATION, PETROLEUM, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 731126

## ABSTRACT 464

- \*TITLE, IN ENERGY IMPASSE, CONSERVATION KEEPS POPPING UP.
- \*AUTHOR, ANON.
- \*SOURCE, SCIENCE, 187/42-43, 10 JAN 1975.
- \*KEYWORDS, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 750110

## ABSTRACT 465

- \*TITLE, SEVEN WAYS TO REDUCE FUEL CONSUMPTION IN HOUSEHOLD HEATING. . . THROUGH ENERGY CONSERVATION.
- \*AUTHOR, ANON.
- \*SOURCE, SUPERINTENDANT OF DOCUMENTS, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, DEC 1972, 9 PP.
- \*KEYWORDS, CONSERVATION, INSULATION, HEAT, HOME.
- \*NOTES, FILED.
- \*DATE, 721200

## ABSTRACT 466

- \*TITLE, ELEVEN WAYS TO REDUCE ENERGY CONSUMPTION AND INCREASE COMFORT IN HOUSEHOLD COOLING.
- \*AUTHOR, ANON.
- \*SOURCE, STOCK NO 030-0876, SUPERINTENDANT OF DOCUMENTS, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 20 PP.
- \*KEYWORDS, CONSERVATION, HOME, AWARENESS, INSULATION, MAINTENANCE, AIR CONDITIONING.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 467

- \*TITLE, ECONOMIE DENERGIE EN HORTICULTURE.
- \*AUTHOR, ANON.
- \*SOURCE, PROCEEDINGS OF THE JOURNEES NATIONALES SUR LES ECONOMIES DENERGIE EN SERRE, ORGANIZED BY LINVUFLEC, AND LE SERVICE TECHNIQUE DE LA FNPHP, AT ORLEANS, FRANCE, 10-11 JUNE 1975, 171 PP.
- \*KEYWORDS, CONSERVATION, FRANCE, GREENHOUSE.
- \*NOTES, FILED.
- \*DATE, 750611

## ABSTRACT 468

- \*TITLE, POTENTIAL FOR ENERGY CONSERVATION IN AGRICULTURAL PRODUCTION.
- \*AUTHOR, BARNES K K, ET AL.
- \*SOURCE, REPORT 40, COUNCIL FOR AGR SCI AND TECH, DEPT OF AGRON, IOWA STATE UNIV, AMES, IA, 6 FEB 1975, 26 PP.
- \*KEYWORDS, CONSERVATION, AGRICULTURE, ECONOMICS, ANIMAL, DRYING, TILLAGE, FERTILIZER, IRRIGATION, SOLAR, WIND, MANURE, GREENHOUSE.
- \*NOTES, FILED.
- \*DATE, 750206

## ABSTRACT 469

- \*TITLE, PASSIVE FREEZE PROTECTION SUGGESTIONS FOR YOUR ORCHARD.
- \*AUTHOR, BARTHOLIC J.
- \*SOURCE, FACT SHEET EC-23, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL 32611, 1977, 3 PP.
- \*KEYWORDS, CONSERVATION, CROP PROTECTION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 470

- \*TITLE, ENERGY CONSERVATION THROUGH EFFECTIVE UTILIZATION.
- \*AUTHOR, BERG C A.
- \*SOURCE, SCIENCE, 181/128-138, 13 JULY 1973.
- \*KEYWORDS, CONSERVATION, HEAT, INDUSTRY, SOLAR, AIR CONDITIONING.
- \*NOTES, FILED.
- \*DATE, 730713

- \*TITLE, A TECHNICAL BASIS FOR ENERGY CONSERVATION.
- \*AUTHOR, BERG C A.
- \*SOURCE, TECHNOLOGY REVIEW, FEB 1974, PP 15-24.
- \*KEYWORDS, CONSERVATION, NET ENERGY, EFFICIENCY.
- \*NOTES, FILED. THE ENERGY LOSS DUE TO THE THERMODYNAMIC INEFFICIENCY OF MANY SYSTEMS IS DISCUSSED.
- \*DATE, 746290

## ABSTRACT 472

- \*TITLE, TIPS ON ENERGY SAVING FOR WISCONSIN FARMERS.
- \*AUTHOR, BERGE O I, BREVIX T J, BROOKS L A.
- \*SOURCE, COOPERATIVE EXTENSION PROGRAMS, UNIV OF WISC, MADISON, DEC 1973, 12 PP.
- \*KEYWORDS, CONSERVATION, WISCONSIN, HOME, HEAT, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 731200

## ABSTRACT 473

- \*TITLE, ECONOMICS D'ENERGIE EN AGRICULTURE - SITUATION ACTUELLE ET PERSPECTIVES.
- \*AUTHOR, BUBLLOT G.
- \*SOURCE, REVUE DE L'AGRICULTURE, 4/761-775, JULY-AUG 1975.
- \*KEYWORDS, CONSERVATION, AGRICULTURE, FUEL CONSUMPTION, BELGIUM.
- \*NOTES, FILED.
- \*DATE, 750700

## ABSTRACT 474

- \*TITLE, CONSERVATION OF ENERGY IN COOLING/HEATING RESIDENTIAL BUILDINGS.
- \*AUTHOR, BUFFINGTON D E.
- \*SOURCE, ASAE PAPER 75-4503, 23 PP.
- \*KEYWORDS, CONSERVATION, AIR CONDITIONING, HEAT.
- \*NOTES, FILED.
- \*DATE, 750800

## ABSTRACT 475

- \*TITLE, COMMENT ECONOMISER LE CARBURANT ET LE COMBUSTIBLE DANS LES TRAVAUX AGRICOLES (CONSOMMATION DIRECTE).
- \*AUTHOR, CARILLON M R.
- \*SOURCE, CONFEDERATION EUROPEENNE DE L'AGRICULTURE, GROUPE DE TRAVAIL SUR MECANISATION ET PROBLEMES TECHNIQUES, 74/220-5.01.11, APRIL 1975, 15 PP.
- \*KEYWORDS, CONSERVATION, FUEL CONSUMPTION, AGRICULTURE, FRANCE.
- \*NOTES, FILED.
- \*DATE, 750400

## ABSTRACT 476

- \*TITLE, MATCH TRACTORS OR TRACTOR WEIGHT TO JOB FOR FUEL ECONOMY.
- \*AUTHOR, CARMAHAN, MCDAVID.
- \*SOURCE, NEWS, USDA, 10 FEB 1975, 2 PP.
- \*KEYWORDS, CONSERVATION, TRACTOR.
- \*NOTES, FILED.
- \*DATE, 750210

## ABSTRACT 477

- \*TITLE, ENERGY CONSERVATION IN THE CHEMICAL INDUSTRY.
- \*AUTHOR, CAUDLE P.
- \*SOURCE, CHEMISTRY AND INDUSTRY, 6 SEPT 1975, PP 717-722.
- \*KEYWORDS, CONSERVATION, UNITED KINGDOM, CHEMICALS, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 478

\*TITLE, CONSERVE.  
 \*AUTHOR, COLORADO STATE UNIVERSITY.  
 \*SOURCE, COOPERATIVE EXTENSION SERVICE, COLORADO STATE UNIV,  
 FORT COLLINS, CO. MARCH 1977, 3 PP.  
 \*KEYWORDS, CONSERVATION, HOME.  
 \*NOTES, FILED.  
 \*DATE, 770300

## ABSTRACT 479

\*TITLE, REDUCING FARM ENERGY COSTS.  
 \*AUTHOR, CONSTEIN E J, FRISBY J C, BROOKER D B, STEICHEN J E, CRAWFORD F M.  
 \*SOURCE, SCI AND TECH GUIDE 124D, UNIV OF MISSOURI, COLUMBIA, AUG 1975, 2 PP.  
 \*KEYWORDS, CONSERVATION, TILLAGE, DRYING, ELECTRICAL, IRRIGATION,  
 TRANSPORTATION.  
 \*NOTES, FILED.  
 \*DATE, 750800

## ABSTRACT 480

\*TITLE, SAVING ENERGY WITH AIR COMPRESSORS.  
 \*AUTHOR, CONSUMERS POWER CO.  
 \*SOURCE, ENERGY NEWSLETTER, CONSUMERS POWER CO, JACKSON, MI, 2(5)/4PP, 1975.  
 \*KEYWORDS, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 481

\*TITLE, IT MAKES SENSE TO SAVE ENERGY.  
 \*AUTHOR, CONSUMERS POWER CO.  
 \*SOURCE, CONSUMERS POWER CO, JACKSON, MI, 1975, 22 PP.  
 \*KEYWORDS, CONSERVATION, HOME, HEAT, APPLIANCES, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 482

\*TITLE, USING ENERGY WISELY.  
 \*AUTHOR, CONSUMERS POWER CO.  
 \*SOURCE, CONSUMERS POWER CO, 212 W MICH AVE, JACKSON, MI, 1974.  
 \*KEYWORDS, CONSERVATION, HISTORICAL, HOME, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 483

\*TITLE, TRACTOR BALLASTING TO CONSERVE FUEL.  
 \*AUTHOR, CROMWELL R P.  
 \*SOURCE, ENERGY CONSERVATION FACT SHEET EC-19, INST OF FOOD AND AGR SCI, UNIV  
 OF FLORIDA, GAINESVILLE, 1976, 2 PP.  
 \*KEYWORDS, CONSERVATION, TRACTOR.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 484

\*TITLE, THE WORD IS SAVE.  
 \*AUTHOR, DOW CHEMICAL CO.  
 \*SOURCE, DOW CHEMICAL CO, MIDLAND, MI, 1974, 17 PP.  
 \*KEYWORDS, CONSERVATION, HOME, GENERAL.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 485

\*TITLE, ENERGY CONSERVATION-GUIDELINES FOR ACTION.  
 \*AUTHOR, DOYLE J H.  
 \*SOURCE, MICH ASSOC OF SCHOOL ADMINISTRATORS, REGION 9, ENERGY CONSERVATION  
 CURRICULUM COMMITTEE, 421 WEST KALAMAZOO, LANSING, APRIL 1974, 58 PP.  
 \*KEYWORDS, CONSERVATION, ELEMENTARY SCHOOL, POPULAR ARTICLE, AWARENESS.  
 \*NOTES, FILED.  
 \*DATE, 740400



- \*TITLE, ANALYSIS OF ENERGY USAGE ON LONG ISLAND FROM 1975 TO 1995 - THE OPPORTUNITIES TO REDUCE PEAK ELECTRICAL DEMANDS AND ENERGY CONSUMPTION BY ENERGY CONSERVATION, SOLAR ENERGY, WIND ENERGY AND TOTAL ENERGY SYSTEMS.
- \*AUTHOR, DUBIN F S.
- \*SOURCE, DUBIN-MINDELL-BLOOME ASSOCIATES, 42 W 39TH ST, NEW YORK, NY 10018, 1975, 78PP.
- \*KEYWORDS, CONSERVATION, ELECTRICAL, SUPPLY DEMAND.
- \*NOTES, FILED. LONG ISLAND LIGHTING CO PLANS TO BUILD 2 NUCLEAR POWER PLANTS IN ORDER TO MEET THEIR PREDICTED ENERGY DEMANDS FOR THE YEARS 1975-1995. THEIR METHOD OF FORECASTING IS ANALYZED AND AN ALTERNATIVE METHOD, THAT PREDICTS LOWER DEMANDS, IS PRESENTED.
- \*DATE, 750000

## ABSTRACT 487

- \*TITLE, NEW DEVELOPMENTS FOR ENERGY CONSERVATION AND SUBSTITUTION.
- \*AUTHOR, DUNNING R.
- \*SOURCE, FOOD AND ENERGY SYMPOSIUM, FARM ELECTRIFICATION COUNCIL, WASHINGTON D C, 20 AUG 1975, 8 PP.
- \*KEYWORDS, CONSERVATION, DEVELOPMENT.
- \*NOTES, FILED.
- \*DATE, 750820

## ABSTRACT 488

- \*TITLE, SAFE LIVING WITH LESS ENERGY.
- \*AUTHOR, ENERGY CONSERVATION RESEARCH.
- \*SOURCE, ENERGY CONSERVATION RESEARCH, 9 BIRCH RD, HALVERN, PA 19355, 1974, 29 PP.
- \*KEYWORDS, CONSERVATION, TRANSPORTATION, AWARENESS, HOME.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 489

- \*TITLE, THE ENERGY CRISIS - WHAT CAN WE DO.
- \*AUTHOR, ENERGY CONSERVATION RESEARCH.
- \*SOURCE, ENERGY CONSERVATION RESEARCH, 9 BIRCH RD, HALVERN, PA 19355, 1974, 29 PP.
- \*KEYWORDS, CONSERVATION, HEAT, COOLING, FOOD ENERGY, HOME.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 490

- \*TITLE, A REPORT ON AUTOMOTIVE FUEL ECONOMY.
- \*AUTHOR, US ENVIRONMENTAL PROTECTION AGENCY.
- \*SOURCE, US EPA, WASHINGTON DC, 1974, 13 PP.
- \*KEYWORDS, CONSERVATION, AUTOMOBILE, PETROLEUM, DESIGN, ENVIRONMENT.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 491

- \*TITLE, SAVE YOUR DOLLAR LEAKS, SAVE ENERGY.
- \*AUTHOR, FORTENBERRY F.
- \*SOURCE, PUBLICATION 887, EXTENSION SERVICE OF MISSISSIPPI STATE UNIV, 1975.
- \*KEYWORDS, CONSERVATION, AWARENESS, HOME, HEAT.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 492

- \*TITLE, ENERGY CONSERVATION PROGRAM GUIDE FOR INDUSTRY AND COMMERCE.
- \*AUTHOR, GATTS R R, MASSEY R G, ROBERTSON J C.
- \*SOURCE, NATIONAL BUREAU OF STANDARDS HANDBOOK 115, USGPO, 1974.
- \*KEYWORDS, CONSERVATION, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 493

\*TITLE, WATTS GOING ON WHERE YOU LIVE.  
 \*AUTHOR, GENERAL ELECTRIC CO.  
 \*SOURCE, GENERAL ELECTRIC CO. MAJOR BUSINESS GROUP, LOUISVILLE, KY.  
 \*KEYWORDS, CONSERVATION, POPULAR ARTICLE, ELECTRICAL, HOME, APPLIANCES.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 494

\*TITLE, A TEACHERS GUIDE FOR ENERGY CONSERVATION.  
 \*AUTHOR, GIBBONS J H. ET AL.  
 \*SOURCE, ENVIR CENTER, UNIV OF TENN, KNOXVILLE, TN, 1975, 147 PP.  
 \*KEYWORDS, CONSERVATION, PETROLEUM, AWARENESS, HISTORICAL, ELEMENTARY SCHOOL, BIBLIOGRAPHY.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 495

\*TITLE, ENERGY - THE MIDDLE AT THE TOP.  
 \*AUTHOR, GILLETTE R.  
 \*SOURCE, SCIENCE, 182/1319-1321, 28 DEC 1973.  
 \*KEYWORDS, CONSERVATION.  
 \*DATE, 731228

## ABSTRACT 496

\*TITLE, ENERGY CONSERVATION RIGHT NOW.  
 \*AUTHOR, GRUMMAN AEROSPACE CORP.  
 \*SOURCE, GRUMMAN AEROSPACE CORP. ENERGY PROGRAMS, BETHPAGE, NY, 1975, 5 PP.  
 \*KEYWORDS, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 497

\*TITLE, HOW TO SAVE POWER ON YOUR FARM AND GET MORE ACRES PER TANKFUL.  
 \*AUTHOR, HALPERN F.  
 \*SOURCE, MOBIL NEWS RELEASE, MOBIL OIL CORP, 150 EAST 42ND STREET, N Y, 3 MARCH 1975, 8 PP.  
 \*KEYWORDS, CONSERVATION, AGRICULTURE, TRACTOR, ENGINE, PETROLEUM, LOAD SPEED, MINIMUM TILLAGE, LUBRICATION, DIESEL.  
 \*NOTES, FILED.  
 \*DATE, 750303

## ABSTRACT 498

\*TITLE, ENERGY - FORD FOUNDATION STUDY URGES ACTION ON CONSERVATION.  
 \*AUTHOR, HAMMOND A L.  
 \*SOURCE, SCIENCE, 186/426,428, 1 NOV 1974.  
 \*KEYWORDS, CONSERVATION, USA, ECONOMICS, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 741101

## ABSTRACT 499

\*TITLE, ENERGY CONSERVATION AND THE CONSUMER.  
 \*AUTHOR, HANNON B M.  
 \*SOURCE, SCIENCE, 189(4197)/95-102, 11 JULY 1975.  
 \*KEYWORDS, CONSERVATION, LABOR, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 750711

## ABSTRACT 500

\*TITLE, OPTIONS FOR ENERGY CONSERVATION.  
 \*AUTHOR, HANNON B M.  
 \*SOURCE, TECHNOLOGY REVIEW, FEB 1974, PP 25-31.  
 \*KEYWORDS, CONSERVATION, ECONOMICS, ENERGY ACCOUNTING.  
 \*NOTES, FILED. DISCUSSED IS PRODUCTION EFFICIENCY, PRODUCT USE EFFICIENCY, RATE OF ENERGY USE AND A METHOD FOR DETERMINING THE ENERGY COST OF ONE UNIT OF AN ITEM.  
 \*DATE, 740200

- \*TITLE, ENERGY - THE CASE FOR CONSERVATION.
- \*AUTHOR, HAYES D.
- \*SOURCE, WORLDWATCH PAPER 4, WORLDWATCH INST,  
1776 MASS AVE NW, WASHINGTON, D C, JAN 1976, 77 PP.
- \*KEYWORDS, CONSERVATION, TRANSPORTATION, FOOD ENERGY, WASTES.
- \*NOTES, FILED.
- \*DATE, 760100

## ABSTRACT 502

- \*TITLE, PUBLIC ATTITUDES TOWARD ENERGY AND ITS CONSERVATION - A STATEWIDE SURVEY OF PUBLIC OPINION.
- \*AUTHOR, MEDLUNO R D, HAMM K E, STEIN R M.
- \*SOURCE, URBAN RESEARCH CENTER, UNIV OF WISC,  
MILWAUKEE, WI 53201, 30 JUNE 1977, 124 PP.
- \*KEYWORDS, CONSERVATION, WISCONSIN.
- \*NOTES, FILED.
- \*DATE, 770630

## ABSTRACT 503

- \*TITLE, EFFICIENCY OF ENERGY USE IN THE UNITED STATES.
- \*AUTHOR, HIRST E, MOYERS J C.
- \*SOURCE, SCIENCE, 179/1299-1304, 30 MARCH 1973.
- \*KEYWORDS, CONSERVATION, TRANSPORTATION, AIR CONDITIONING, HEAT, USA.
- \*NOTES, FILED.
- \*DATE, 730330

## ABSTRACT 504

- \*TITLE, TEN FUEL AND MONEY SAVING GRAIN DRYING IDEAS.
- \*AUTHOR, HOOD H.
- \*SOURCE, SUCCESSFUL FARMING, SEPT 1975, PP 25, 27.
- \*KEYWORDS, CONSERVATION, AWARENESS, DRYING.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 505

- \*TITLE, ENERGY SAVINGS IN AN INSULATED-FAN VENTILATED BROILER HOUSE.
- \*AUTHOR, HUGHES M A, WEAVER M D.
- \*SOURCE, ASAE PAPER 75-4533, 9 PP.
- \*KEYWORDS, CONSERVATION, ANIMAL, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 506

- \*TITLE, EIGHT TIPS FOR OLD-FASHIONED FUEL ECONOMY.
- \*AUTHOR, INTERNATIONAL HARVESTER.
- \*SOURCE, IN FARM-PLANNING ISSUE, 57(1)/3-5, 1973.
- \*KEYWORDS, CONSERVATION, AWARENESS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 730000

## ABSTRACT 507

- \*TITLE, ENERGY CONSERVATION TASK FORCE AND GUIDE TO PUBLIC MEETINGS.
- \*AUTHOR, JAYCEES.
- \*SOURCE, PROJECT INFO KIT, US JAYCEES, PO BOX 7, TULSA, OK, 15 PP.
- \*KEYWORDS, CONSERVATION, AWARENESS, HOME, INDUSTRY.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 508

- \*TITLE, AUTO EFFICIENCY CHECK LANES.
- \*AUTHOR, JAYCEES.
- \*SOURCE, US JAYCEES, PO BOX 7, TULSA, OK.
- \*KEYWORDS, CONSERVATION, AUTOMOBILE.
- \*NOTES, FILED.
- \*DATE,

- \*TITLE, I WANT YOU TO HELP SAVE ENERGY.
- \*AUTHOR, JAYCEES.
- \*SOURCE, ENERGY, US JAYCEES, PO BOX 7, TULSA, OK, 8 PP.
- \*KEYWORDS, CONSERVATION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 510

- \*TITLE, YOUTH PROGRAM FOR ENERGY EDUCATION AND TEACHER KIT.
- \*AUTHOR, JAYCEES.
- \*SOURCE, US JAYCEES, PO BOX 7, TULSA, OK, 5 PP.
- \*KEYWORDS, CONSERVATION, ELEMENTARY SCHOOL.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 511

- \*TITLE, A GUIDE TO MASS MEDIA INFLUENCE IN ENERGY CONSERVATION.
- \*AUTHOR, JAYCEES.
- \*SOURCE, ENERGY AND THE ENVIR, US JAYCEES, PO BOX 7, TULSA, OK, 7 PP.
- \*KEYWORDS, CONSERVATION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 512

- \*TITLE, OPPORTUNITIES TO CONSERVE ENERGY IN DRYER DESIGN.
- \*AUTHOR, JOHNSON H K.
- \*SOURCE, FOR PRESENTATION AT ENERGY FOR AGR CONF, PURDUE UNIV AND CORN REFINERS ASSOC INC, 18-19 SEPT 1973, 10 PP.
- \*KEYWORDS, CONSERVATION, DRYING.
- \*NOTES, FILED.
- \*DATE, 730918

## ABSTRACT 513

- \*TITLE, ENERGY CONSERVATION IS IMPORTANT.
- \*AUTHOR, JONES K.
- \*SOURCE, ENERGY MANAGEMENT LEAFLET 1, OKLAHOMA STATE UNIV, STILLWATER, OK, 2 PP.
- \*KEYWORDS, CONSERVATION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 514

- \*TITLE, ENERGY AND CONSERVATION OF RENEWABLE RESOURCES.
- \*AUTHOR, JOURNAL OF SOIL AND WATER CONSERVATION.
- \*SOURCE, J OF SOIL AND WATER CONSERVATION, 33(2)/15 PP, MARCH-APRIL 1978.
- \*KEYWORDS, CONSERVATION, ENERGY SOURCES, LAND USE, ENVIRONMENT.
- \*NOTES, THE SOIL CONSERVATION SOCIETY OF AMERICA IS CONCERNED ABOUT OUR INCREASING DEPENDENCE ON DVINDLING FINITE SUPPLIES OF ENERGY AND THE NEED TO CONTROL ENVIRONMENTAL DEGRADATION. A DISCUSSION OF ENERGY SOURCES AND USES EMPHASIZES PROBLEMS ASSOCIATED WITH FOSSIL FUELS. NUCLEAR ENERGY, SOLAR ENERGY AND OTHER SOURCES. A NEEDED INTEGRATED APPROACH TOWARD THE USE OF VARIOUS ENERGY SOURCES IS OUTLINED. THREATS TO WILDLIFE FROM ENERGY DEVELOPMENT ARE LISTED, AND THE NEED TO MINIMIZE IMPACTS IS EMPHASIZED. ENERGY CONSERVATION EDUCATION SHOULD RECEIVE MORE ATTENTION.
- \*DATE, 780300

## ABSTRACT 515

- \*TITLE, ENERGY CONSERVATION TECHNOLOGIES - OPTIMAL SYSTEMS FOR DAIRY PARLORS.
- \*AUTHOR, KAH G F, PRICE K R.
- \*SOURCE, ASAE PAPER 76-3570, 1976, 19 PP.
- \*KEYWORDS, CONSERVATION, DAIRY, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 760000



\*TITLE, THE POTENTIAL FOR ENERGY CONSERVATION.  
\*AUTHOR, KUPPERMAN R.  
\*SOURCE, STOCK NO 4102-00009, SUPERINTENDENT OF DOCUMENTS, US GOVT  
PRINTING OFFICE, WASHINGTON DC 20402, 15 PP.  
\*KEYWORDS, CONSERVATION, INSULATION, HOME, AIR CONDITIONING, TRANSPORTATION.  
\*NOTES, FILED.  
\*DATE,

## ABSTRACT 517

\*TITLE, HIDDEN WASTE - POTENTIAL FOR ENERGY CONSERVATION.  
\*AUTHOR, LARGE D B.  
\*SOURCE, CONSERVATION FOUNDATION, WASHINGTON D C, 1973.  
\*KEYWORDS, CONSERVATION.  
\*NOTES,  
\*DATE, 730000

## ABSTRACT 518

\*TITLE, PLANNING AHEAD TO SAVE ENERGY.  
\*AUTHOR, LAWLER F K.  
\*SOURCE, FOOD ENGINEERING, JAN 1974, PP 67-69.  
\*KEYWORDS, CONSERVATION, TRANSPORTATION.  
\*NOTES, FILED.  
\*DATE, 740100

## ABSTRACT 519

\*TITLE, ENERGY CONSERVATION.  
\*AUTHOR, LINCOLN G A.  
\*SOURCE, SCIENCE, 180/155-162, 13 APRIL 1973.  
\*KEYWORDS, CONSERVATION, SUPPLY DEMAND, TRANSPORTATION, INDUSTRY, ELECTRICAL,  
POLLUTION.  
\*NOTES, FILED.  
\*DATE, 730413

## ABSTRACT 520

\*TITLE, HOME HEATING ENERGY CONSERVATION PRACTICES AND THEIR EFFECTIVENESS.  
\*AUTHOR, LORENZER R T.  
\*SOURCE, ASAE PAPER 75-4501, 3 PP.  
\*KEYWORDS, CONSERVATION, INSULATION, HEAT, HOME.  
\*NOTES, FILED.  
\*DATE, 750000

## ABSTRACT 521

\*TITLE, ENERGY CONSERVATION IN THE POULTRY PROCESSING INDUSTRY.  
\*AUTHOR, LOWRY J F, COMBES R S.  
\*SOURCE, PROCEEDINGS OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD,  
BOSTON, 9-13 AUG 1976, P 139.  
\*KEYWORDS, CONSERVATION, ANIMAL, INDUSTRY.  
\*NOTES, FILED.  
\*DATE, 760809

## ABSTRACT 522

\*TITLE, HOW TO SAVE ON YOUR ELECTRIC BILL.  
\*AUTHOR, MICHIGAN STATE UNIVERSITY.  
\*SOURCE, EXTENSION BULLETIN E-776, MICH STATE UNIV,  
EAST LANSING, MI 48824, NOV 1973, 20PP.  
\*KEYWORDS, CONSERVATION, HOME, REFRIGERATION, APPLIANCES, HEAT.  
\*NOTES, FILED.  
\*DATE, 731100

ABSTRACT 523

74

- \*TITLE, LES ECONOMIES DENERGIE.
- \*AUTHOR, MINISTRE DE LINDUSTRIE ET DE LA RECHERCHE.
- \*SOURCE, LES DOSSIERS DE LENERGIE 11, MINISTRE DE LINDUSTRIE ET DE LA RECHERCHE, LA DOCUMENTATION FRANCAISE, 29-31 QUAI VOLTAIRE, 75340 PARIS CEDEX 07, 1976, 94 PP.
- \*KEYWORDS, CONSERVATION, FRANCE, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760000

ABSTRACT 524

- \*TITLE, ECONOMICS DENERGIE - LES INDUSTRIES ALIMENTAIRES RELEVANT LE DEFI.
- \*AUTHOR, MINISTRE DE LINDUSTRIE ET DE LA RECHERCHE.
- \*SOURCE, MINISTRE DE LINDUSTRIE ET DE LA RECHERCHE, INDUSTRIES ALIMENTAIRES, FRANCE, 1975, 32 PP.
- \*KEYWORDS, CONSERVATION, FOOD PROCESSING, INDUSTRY, FRANCE.
- \*NOTES, FILED.
- \*DATE, 750000

ABSTRACT 525

- \*TITLE, HOW TO DRIVE FOR MAXIMUM ECONOMY.
- \*AUTHOR, MOBIL OIL CORP.
- \*SOURCE, MOBIL OIL CORP, PRODUCTS DEPT, 150 E 42ND ST, NEW YORK, NY, 1974.
- \*KEYWORDS, CONSERVATION, AUTOMOBILE, PETROLEUM, OPERATING PROCEDURE, LOAD SPEED.
- \*NOTES, FILED.
- \*DATE, 740000

ABSTRACT 526

- \*TITLE, CONSERVATION AND THE NEW REALITIES OF ENERGY.
- \*AUTHOR, MORTON R C B.
- \*SOURCE, AGRI/INDUSTRY NEWS, CORN REFINERS ASSOC, 8(1)/1-3, JAN 1976.
- \*KEYWORDS, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760100

ABSTRACT 527

- \*TITLE, ENERGY CONSERVATION AND THE SHORTAGE OF DISTILLATE FUEL OIL.
- \*AUTHOR, MULLER J.
- \*SOURCE, PRESENTED AT THE ENERGY CONF, 20 SEPT 1973, CHICAGO, ILL, SPONSORED BY THE CHICAGO FEDERAL EXECUTIVE BOARD, THE FEDERAL REGIONAL COUNCIL, AND THE ASSOCIATION OF COMMERCE AND INDUSTRY, 23 PP.
- \*KEYWORDS, CONSERVATION, PETROLEUM, INDUSTRY, TRANSPORTATION, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 730920

ABSTRACT 528

- \*TITLE, A GUIDE TO REDUCING - ENERGY USE, BUDGET COSTS.
- \*AUTHOR, NATIONAL ASSOCIATION OF COUNTIES, NATIONAL LEAGUE OF CITIES, US-CONFERENCE OF MAYORS.
- \*SOURCE, REPORT TO THE FEA CONDUCTED BY THE NAT ASSOC OF COUNTIES, NAT LEAGUE OF CITIES, AND THE US CONF OF MAYORS, 1977, 93 PP.
- \*KEYWORDS, CONSERVATION, BUILDINGS, TRANSPORTATION.
- \*NOTES, FILED.
- \*DATE, 770000

ABSTRACT 529

- \*TITLE, SAVING ENERGY SAVING MONEY - IT MAKES SENSE.
- \*AUTHOR, OREGON DEPARTMENT OF ENERGY.
- \*SOURCE, OREGON DEPT OF ENERGY, 528 COTTAGE ST NE, SALEM, OR 97310, 11 PP.
- \*KEYWORDS, CONSERVATION, HOME.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 530

- \*TITLE, ENERGY CONSERVATION IN BEEF CATTLE PRODUCTION.
- \*AUTHOR, PACE J E.
- \*SOURCE, FACT SHEET EC-36, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL 32611, 1976, 3 PP.
- \*KEYWORDS, CONSERVATION, ANIMAL PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 531

- \*TITLE, THE METER-MINDERS GUIDEBOOK - 67 WAYS TO CONSERVE ENERGY.
- \*AUTHOR, PACIFIC GAS AND ELECTRIC CO.
- \*SOURCE, PACIFIC GAS AND ELECTRIC CO, JUNE 1975, 11 PP.
- \*KEYWORDS, CONSERVATION, HOME, HEAT, REFRIGERATION, APPLIANCES.
- \*NOTES, FIELD.
- \*DATE, 750600

## ABSTRACT 532

- \*TITLE, EVALUATING ENERGY-SAVING PRACTICES BY SIMULATION.
- \*AUTHOR, PEART R M, DOERING D C.
- \*SOURCE, MSF/RA 770127, ENERGY IN AGR, AGR EXPT STA, PURDUE UNIV, WEST LAFAYETTE, IN 47907, JUNE 1977, 5 PP.
- \*KEYWORDS, CONSERVATION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760600

## ABSTRACT 533

- \*TITLE, DRYING THE CROP WITH LESS FUEL.
- \*AUTHOR, PETERSON W H.
- \*SOURCE, FACT SHEET 607, COOPERATIVE EXTENSION SERVICE, SOUTH DAKOTA STATE UNIV, BROOKINGS, 5 PP, UNDATED.
- \*KEYWORDS, CONSERVATION, DRYING, ELECTRICAL, SOLAR.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 534

- \*TITLE, HOW TO HAVE A CARFUL OF ENERGY.
- \*AUTHOR, PRESCOTT J A, ET AL.
- \*SOURCE, MACOMB COUNTY COOPERATIVE EXTENSION SERVICE, NINTH FLOOR, COUNTY BUILDING, MOUNT CLEMANS, MI 48043, 1P.
- \*KEYWORDS, CONSERVATION, AUTOMOBILE.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 535

- \*TITLE, REDUCTION OF ENERGY AND DETERGENT USE FOR CLEANING MILK HANDLING EQUIPMENT.
- \*AUTHOR, PRICE D R, WEEKS S A, SOBEL A T, ZALL R R, BROWN D P.
- \*SOURCE, ASAE PAPER 75-3522, 12 PP.
- \*KEYWORDS, CONSERVATION, DAIRY, CHEMICALS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 536

- \*TITLE, ENERGY CONSERVATION AT THE DAIRY MILKING CENTER.
- \*AUTHOR, PRICE D R, ZALL R R, BROWN D P, SOBEL A T, WEEKS S A.
- \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL ED, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975, PP 211-217.
- \*KEYWORDS, CONSERVATION, DAIRY.
- \*NOTES, FILED.
- \*DATE, 750000

- \*TITLE, SOME WAYS TO CONSERVE TRACTOR FUEL.
- \*AUTHOR, RENOLL E.
- \*SOURCE, HIGHLIGHTS OF AGRICULTURAL RESEARCH, AUBURN UNIV, 22(2)/1P, 1975.
- \*KEYWORDS, CONSERVATION, TRACTOR, DIESEL, OPERATING PROCEDURE, MINIMUM TILLAGE, LOAD SPEED, MAINTENANCE.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 538

- \*TITLE, ENERGY EFFICIENCY--OUR MOST UNDERRATED ENERGY RESOURCE.
- \*AUTHOR, ROSS M H, WILLIAMS R H.
- \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(9)/30-38, NOV 1976.
- \*KEYWORDS, CONSERVATION, HEAT, COOLING, INDUSTRY, HOME, ELECTRICAL.
- \*NOTES, FILED. AGGRESSIVE PURSUIT OF ENERGY CONSERVATION IS A PROMISING ROAD TO ENVIRONMENTAL PROTECTION, NATIONAL ECONOMIC WELL-BEING AND REDUCED DEPENDENCE ON FOREIGN SOURCES. WE CAN HAVE ENERGY ABUNDANCE WITHOUT ENERGY GROWTH.
- \*DATE, 761100

## ABSTRACT 539

- \*TITLE, ENERGY CONSERVATION HANDBOOK FOR LIGHT INDUSTRIES AND COMMERCIAL BUILDINGS.
- \*AUTHOR, RUDOLPH W.
- \*SOURCE, OFFICE OF ENERGY PROGRAMS, US DEPT OF COMMERCE, WASHINGTON DC, MAY 1975, 17PP.
- \*KEYWORDS, CONSERVATION, INDUSTRY, BUILDINGS.
- \*NOTES, FILED.
- \*DATE, 740500

## ABSTRACT 540

- \*TITLE, ENERGY CONSERVATION - ITS NATURE, HIDDEN BENEFITS AND HIDDEN BARRIERS.
- \*AUTHOR, SCHIPPER L.
- \*SOURCE, ENERGY COMMUNICATIONS, 2(4)/333-414, 1976.
- \*KEYWORDS, CONSERVATION, EFFICIENCY, ECONOMICS, ACCOUNTING.
- \*NOTES, FILED. THIS REPORT DISCUSSES VARIOUS DEFINITIONS OF ENERGY CONSERVATION AND EFFICIENCY OF ENERGY UTILIZATION. THE ROLES OF PHYSICAL ANALYSIS AS WELL AS ECONOMIC AND TECHNICAL PROCEDURE OF OPTIMIZING ENERGY-USING SYSTEMS BASED ON PRESENT AND FUTURE COSTS TO PROVIDE GREATER OUTPUT FOR LOWER ENERGY INPUTS. MANY CONSERVATION STUDIES OF INDIVIDUAL SYSTEMS ARE REFERRED TO, AND ECONOMIC EXAMPLES ARE GIVEN AS WELL.
- \*DATE, 760000

## ABSTRACT 541

- \*TITLE, SAVING FUEL IN YOUR DAILY FARM OPERATIONS.
- \*AUTHOR, SCHROCK M D.
- \*SOURCE, ENERGY EFFICIENCY IN KANSAS AGR 7, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, KS, DEC 1973, 2 PP.
- \*KEYWORDS, CONSERVATION, TRACTOR.
- \*NOTES, FILED.
- \*DATE, 731200

## ABSTRACT 542

- \*TITLE, SAVING FUEL THROUGH PROPER ENGINE MAINTENANCE.
- \*AUTHOR, SCHROCK M D.
- \*SOURCE, ENERGY EFFICIENCY IN KANSAS AGR 6, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, KS, DEC 1973, 2 PP.
- \*KEYWORDS, CONSERVATION, MAINTENANCE.
- \*NOTES, FILED.
- \*DATE, 731200



## ABSTRACT 543

\*TITLE, CONSERVATION OF ELECTRICITY IN DAIRY BARNS.  
 \*AUTHOR, SHEA P.  
 \*SOURCE, ASAE PAPER 76-3539, 1976, 13 PP.  
 \*KEYWORDS, CONSERVATION, DAIRY, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 544

\*TITLE, THE NATIONAL ENERGY PROBLEM - POTENTIAL ENERGY SAVINGS.  
 \*AUTHOR, SHELL OIL CO.  
 \*SOURCE, SHELL OIL CO, PUBLIC AFFAIRS, PO BOX 2463, HOUSTON, TX, OCT 1973, 28 PP.  
 \*KEYWORDS, CONSERVATION, TRANSPORTATION, INDUSTRY, HOME.  
 \*NOTES, FILED.  
 \*DATE, 731000

## ABSTRACT 545

\*TITLE, FUEL ECONOMIES IN AGRICULTURE AND HORTICULTURE.  
 \*AUTHOR, SHIPWAY G P.  
 \*SOURCE, ECE COMMITTEE ON AGRICULTURAL PROBLEMS, WOODTHORNE, WOLVERHAMPTON, UNITED KINGDOM, 17 JULY 1974, 3 PP.  
 \*KEYWORDS, CONSERVATION, TRACTOR, AGRICULTURE, MAINTENANCE, LOAD SPEED, DRYING, MECHANIZATION, TRANSPORTATION, HEAT, GREENHOUSE.  
 \*NOTES, FILED.  
 \*DATE, 740710

## ABSTRACT 546

\*TITLE, 350 WAYS TO SAVE ENERGY AND MONEY.  
 \*AUTHOR, SPIES H R, KONSLO S, CALVIN J, THOMAS W.  
 \*SOURCE, NEW YORK/CROWN PUBLISHERS, 1974, 198 PP.  
 \*KEYWORDS, CONSERVATION, HOME, HEAT, INSULATION, REFRIGERATION, APPLIANCES, AUTOMOBILE, OPERATING PROCEDURE, MAINTENANCE.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 547

\*TITLE, RECOMMENDATIONS FOR GREATER ENERGY EFFICIENCY IN LARGE BUILDINGS.  
 \*AUTHOR, TENNESSEE ENERGY OFFICE.  
 \*SOURCE, TENN ENERGY OFFICE, 250 CAPITOL HILL BLDG, NASHVILLE, TN, 7PP, UNDATED.  
 \*KEYWORDS, CONSERVATION, BUILDINGS.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 548

\*TITLE, ENERGY CONSERVATION.  
 \*AUTHOR, TRAIN R E.  
 \*SOURCE, ECO-TIPS NO 5, CONCERN INC, 2233 WISCONSIN AVE N W, WASHINGTON D C.  
 \*KEYWORDS, CONSERVATION, GENERAL, INDUSTRY, HOME.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 549

\*TITLE, ALTERNATIVES AND ASSOCIATED FUEL-ENERGY REQUIREMENTS FOR CORN HARVESTING.  
 \*AUTHOR, TURNQUIST P K, DURLAND G R.  
 \*SOURCE, FACT SHEET 605, COOPERATIVE EXTENSION SERVICE, SOUTH DAKOTA STATE UNIV, BROOKINGS, 5 PP.  
 \*KEYWORDS, CONSERVATION, DRYING, HARVESTING.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 550

\*TITLE, ENERGY CONSERVATION-COOLING.  
\*AUTHOR, UNIVERSITY OF FLORIDA.  
\*SOURCE, EXTENSION INFO SHEET 1, INST OF FOOD AND AGR SCI,  
UNIV OF FLORIDA, GAINESVILLE, FL, NOV 1973, 2PP.  
\*KEYWORDS, CONSERVATION, AIR CONOITIONING.  
\*NOTES, FILEO.  
\*DATE, 731100

## ABSTRACT 551

\*TITLE, ENERGY CONSERVATION-HEATING.  
\*AUTHOR, UNIVERSITY OF FLORIDA.  
\*SOURCE, EXTENSION INFO SHEET 2, INST OF FOOD AND AGR SCI,  
UNIV OF FLORIDA, GAINESVILLE, FL, NOV 1973, 2PP.  
\*KEYWORDS, CONSERVATION, HOME, HEAT, AWARENESS.  
\*NOTES, FILEO.  
\*DATE, 731100

## ABSTRACT 552

\*TITLE, ENERGY CONSERVATION IN THE HOME.  
\*AUTHOR, UNIVERSITY OF FLORIDA.  
\*SOURCE, EXTENSION INFO SHEET 3, INST OF FOOD AND AGR SCI,  
UNIV OF FLORIDA, GAINESVILLE, FL, NOV 1973, 2PP.  
\*KEYWORDS, CONSERVATION, HOME.  
\*NOTES, FILEO.  
\*DATE, 731100

## ABSTRACT 553

\*TITLE, ENERGY CONSERVATION-CONSUMER CHECKLIST.  
\*AUTHOR, UNIVERSITY OF FLORIDA.  
\*SOURCE, EXTENSION INFO SHEET 4, INST OF FOOD AND AGR SCI,  
UNIV OF FLORIDA, GAINESVILLE, FL, NOV 1973, 2PP.  
\*KEYWORDS, CONSERVATION.  
\*NOTES, FILEO.  
\*DATE, 731100

## ABSTRACT 554

\*TITLE, ENERGY CONSERVATION OUTSIDE THE HOME.  
\*AUTHOR, UNIVERSITY OF FLORIDA.  
\*SOURCE, EXTENSION INFO SHEET 5, INST OF FOOD AND AGR SCI,  
UNIV OF FLORIDA, GAINESVILLE, FL, NOV 1973, 2PP.  
\*KEYWORDS, CONSERVATION, AWARENESS.  
\*NOTES, FILEO.  
\*DATE, 731100

## ABSTRACT 555

\*TITLE, ENERGY CONSERVATION-THERE IS AN ENERGY CRISIS.  
\*AUTHOR, UNIVERSITY OF FLORIDA.  
\*SOURCE, EXTENSION INFO SHEET 6, INST OF FOOD AND AGR SCI,  
UNIV OF FLORIDA, GAINESVILLE, FL, NOV 1973, 2PP.  
\*KEYWORDS, CONSERVATION, AWARENESS.  
\*NOTES, FILEO.  
\*DATE, 731100

## ABSTRACT 556

\*TITLE, ENERGY CONSERVATION-BUILDING AND REMODELING.  
\*AUTHOR, UNIVERSITY OF FLORIDA.  
\*SOURCE, EXTENSION INFO SHEET 7, INST OF FOOD AND AGR SCI,  
UNIV OF FLORIDA, GAINESVILLE, FL, NOV 1973, 2PP.  
\*KEYWORDS, CONSERVATION, AWARENESS.  
\*NOTES, FILEO.  
\*DATE, 731100

## ABSTRACT 557

\*TITLE, ENERGY CONSERVATION IN THE KITCHEN.  
\*AUTHOR, UNIVERSITY OF FLORIDA.  
\*SOURCE, EXTENSION INFO SHEET 8, INST OF FOOD AND AGR SCI,  
UNIV OF FLORIDA, GAINESVILLE, FL, NOV 1973, 2PP.  
\*KEYWORDS, CONSERVATION, HOME, AWARENESS.  
\*NOTES, FILEO.  
\*DATE, 731100

- TITLE, ENERGY CONSERVATION-IRRIGATE EFFICIENCY TO CONSERVE ENERGY.
- AUTHOR, UNIVERSITY OF FLORIDA.
- SOURCE, EXTENSION INFO SHEET 11, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, FL, DEC 1973, 2PP.
- KEYWORDS, CONSERVATION, IRRIGATION, EFFICIENCY.
- NOTES, FILED.
- DATE, 731200

## ABSTRACT 559

- TITLE, ENERGY CONSERVATION-INSULATION.
- AUTHOR, UNIVERSITY OF FLORIDA.
- SOURCE, EXTENSION INFO SHEET 13, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL, DEC 1973, 2PP.
- KEYWORDS, CONSERVATION, INSULATION.
- NOTES, FILED.
- DATE, 731200

## ABSTRACT 560

- TITLE, ENERGY CONSERVATION-WEATHERSTRIPPING.
- AUTHOR, UNIVERSITY OF FLORIDA.
- SOURCE, EXTENSION INFO SHEET 14, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL, DEC 1973, 2PP.
- KEYWORDS, CONSERVATION, HOME.
- NOTES, FILED.
- DATE, 731200

## ABSTRACT 561

- TITLE, ENERGY CONSERVATION-DRYING AND STORING SOYBEANS.
- AUTHOR, UNIVERSITY OF FLORIDA.
- SOURCE, EXTENSION INFO SHEET 15, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL, DEC 1973, 2PP.
- KEYWORDS, CONSERVATION, DRYING, STORAGE.
- NOTES, FILED.
- DATE, 731200

## ABSTRACT 562

- TITLE, ENERGY CONSERVATION-KEEPING WARM IN A CRISIS.
- AUTHOR, UNIVERSITY OF FLORIDA.
- SOURCE, EXTENSION INFO SHEET 16, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL, DEC 1973, 2PP.
- KEYWORDS, CONSERVATION, HEAT.
- NOTES, FILED.
- DATE, 731200

## ABSTRACT 563

- TITLE, ENERGY CONSERVATION-HOME FURNISHINGS.
- AUTHOR, UNIVERSITY OF FLORIDA.
- SOURCE, EXTENSION INFO SHEET 17, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL, JAN 1974, 2PP.
- KEYWORDS, CONSERVATION, HOME.
- NOTES, FILED.
- DATE, 740100

## ABSTRACT 564

- TITLE, ENERGY CONSERVATION ECDNO-POT COOKERY.
- AUTHOR, UNIVERSITY OF FLORIDA.
- SOURCE, EXTENSION INFO SHEET 18, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL, JAN 1974, 2PP.
- KEYWORDS, CONSERVATION, COOKING, HOME.
- NOTES, FILED.
- DATE, 740100

## ABSTRACT 565

- TITLE, ENERGY CONSERVATION-AUTOMOBILE.
- AUTHOR, UNIVERSITY OF FLORIDA.
- SOURCE, EXTENSION INFO SHEET 17, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL, DEC 1943, 2PP.
- KEYWORDS, CONSERVATION, AUTOMOBILE, MAINTENANCE.
- NOTES, FILED.
- DATE, 731200

\*TITLE, IDEAS AND ACTIVITIES FOR TEACHING ENERGY CONSERVATION GRADES 7-12.  
\*AUTHOR, UNIVERSITY OF TENNESSEE.  
\*SOURCE, PREPARED BY THE ENVIR CENTER, UNIV OF TENN,  
KNOXVILLE, TN 37916, 1977, 225 PP.  
\*KEYWORDS, CONSERVATION, ENERGY SOURCES, GENERAL.  
\*NOTES, FILED.  
\*DATE, 770000

## ABSTRACT 567

\*TITLE, ENERGY MANAGEMENT ON THE FARM.  
\*AUTHOR, US-DEPARTMENT OF AGRICULTURE.  
\*SOURCE, OFFICE OF COMMUNICATION, USDA, MARCH 1974, 8 PP.  
\*KEYWORDS, CONSERVATION, TILLAGE, HARVESTING, PRODUCTION, IRRIGATION,  
FERTILIZER.  
\*NOTES, FILED.  
\*DATE, 740300

## ABSTRACT 568

\*TITLE, ENERGY MANAGEMENT FOR THE RURAL FAMILY.  
\*AUTHOR, US-DEPARTMENT OF AGRICULTURE.  
\*SOURCE, OFFICE OF COMMUNICATIONS, USDA, WASHINGTON D C, MARCH 1974, 7 PP.  
\*KEYWORDS, CONSERVATION, HOME, HEAT, AIR CONDITIONING.  
\*NOTES, FILED.  
\*DATE, 740300

## ABSTRACT 569

\*TITLE, FUEL ALLOCATIONS FOR FARMERS.  
\*AUTHOR, US-DEPARTMENT OF AGRICULTURE.  
\*SOURCE, USDA, WASHINGTON D C, MARCH 1974, 6 PP.  
\*KEYWORDS, CONSERVATION, PETROLEUM.  
\*NOTES, FILED.  
\*DATE, 740300

## ABSTRACT 570

\*TITLE, 33 MONEY SAVING WAYS TO CONSERVE ENERGY IN YOUR BUSINESS.  
\*AUTHOR, US-DEPARTMENT OF COMMERCE.  
\*SOURCE, OFFICE OF ENERGY PROGRAMS, US DEPT OF COMMERCE, WASHINGTON D C, APRIL  
1974, 6 PP.  
\*KEYWORDS, CONSERVATION, HEAT, INDUSTRY, MAINTENANCE.  
\*NOTES, FILED.  
\*DATE, 740400

## ABSTRACT 571

\*TITLE, GUIDE TO ENERGY CONSERVATION FOR FOOD SERVICE.  
\*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
\*SOURCE, ENERGY CONSERVATION AND ENVIRONMENT, OFFICE OF INDUSTRIAL PROGRAMS,  
FEA, WASHINGTON D C, OCT 1975, 69 PP.  
\*KEYWORDS, CONSERVATION, APPLIANCES, OPERATING PROCEDURE.  
\*NOTES, FILED.  
\*DATE, 751000

## ABSTRACT 572

\*TITLE, MEASURES FOR REDUCING ENERGY CONSUMPTION FOR HOMEOWNERS AND RENTERS.  
\*AUTHOR, US-FEDERAL POWER COMMISSION.  
\*SOURCE, STAFF REPORT, OFFICE OF ENERGY SYSTEMS, FEDERAL POWER COMMISSION,  
MARCH 1975, 22 PP.  
\*KEYWORDS, CONSERVATION, HOME, AWARENESS.  
\*NOTES, FILED.  
\*DATE, 750300

## ABSTRACT 573

\*TITLE, A TECHNICAL BASIS FOR ENERGY CONSERVATION.  
\*AUTHOR, US-FEDERAL POWER COMMISSION.  
\*SOURCE, STAFF REPORT, OFFICE OF THE CHIEF ENGINEER, FEDERAL POWER COMMISSION,  
WASHINGTON D C, APRIL 1974, 33 PP.  
\*KEYWORDS, CONSERVATION.  
\*NOTES, FILED.  
\*DATE, 740400



\*TITLE, GUIDELINES FOR ENERGY CONSERVATION FOR IMMEDIATE IMPLEMENTATION - SMALL BUSINESS AND LIGHT INDUSTRIES.  
 \*AUTHOR, US-FEDERAL POWER COMMISSION.  
 \*SOURCE, STAFF REPORT, OFFICE OF THE CHIEF ENGINEER, FEDERAL POWER COMMISSION, WASHINGTON D C, FEB 1974, 22 PP.  
 \*KEYWORDS, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 740200

## ABSTRACT 575

\*TITLE, LIGHTING AND THERMAL OPERATIONS GUIDELINES.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, OFFICE OF CONSERVATION AND ENVIR, FEA, WASHINGTON DC, 1974, 10PP.  
 \*KEYWORDS, CONSERVATION, HEAT, COOLING.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 576

\*TITLE, INDUSTRIAL ENERGY CONSERVATION REPORT.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, FACT SHEET INDUSTRIAL PROGRAMS, CONSERVATION AND ENVIR, FEA, WASHINGTON DC, NOV 1975, 16 PP.  
 \*KEYWORDS, CONSERVATION, INDUSTRY, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 751100

## ABSTRACT 577

\*TITLE, COMPARISON OF ENERGY CONSUMPTION BETWEEN WEST GERMANY AND THE UNITED STATES.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, ENERGY CONSERVATION PAPER 33, OFFICE OF MARKETING AND EDUCATION, FEA, WASHINGTON DC, 1975, 13 PP.  
 \*KEYWORDS, CONSERVATION, GERMANY, USA, TRANSPORTATION, INDUSTRY, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 578

\*TITLE, ENERGY CONSERVATION - UNDERSTANDING AND ACTIVITIES FOR YOUNG PEOPLE.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, OFFICE OF CONSERVATION EDUCATION, FEA, WASHINGTON D C, 1975, 20 PP.  
 \*KEYWORDS, CONSERVATION, GENERAL.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 579

\*TITLE, ENERGY MANAGEMENT CASE HISTORIES.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, ENERGY CONSERVATION PAPER 1A, OFFICE OF INDUSTRIAL PROGRAMS, FEA WASHINGTON D C, 15 PP.  
 \*KEYWORDS, CONSERVATION, INDUSTRY.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 580

\*TITLE, LIGHTING AND THERMAL OPERATIONS - ENERGY CONSERVATION PRINCIPLES APPLIED TO OFFICE LIGHTING.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, ENERGY CONSERVATION PAPER 18, FEA, WASHINGTON DC, APRIL 1975, 150 PP.  
 \*KEYWORDS, CONSERVATION, HEAT, BUILDINGS, EFFICIENCY.  
 \*NOTES, FILED.  
 \*DATE, 750400

## ABSTRACT 581

\*TITLE, TIPS FOR ENERGY SAVERS.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, CONSERVATION AND ENVIR, FEA, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1975, 30 PP.  
 \*KEYWORDS, CONSERVATION, HOME, AWARENESS.  
 \*NOTES, FILED.  
 \*DATE, 750000

\*TITLE, 1975 GAS MILEAGE GUIDE FOR NEW CAR BUYERS.  
\*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
\*SOURCE, CONSERVATION AND ENVIR, FEA, WASHINGTON DC, 1975, 30 PP.  
\*KEYWORDS, CONSERVATION, AUTOMOBILE.  
\*NOTES, FILED.  
\*DATE, 750000

## ABSTRACT 583

\*TITLE, CONSERVATION AND EFFICIENT USE OF ENERGY.  
\*AUTHOR, US-HOUSE.  
\*SOURCE, US HOUSE OF REP REPORT 93-1635, BY THE COMMITTEE  
ON GOVT OPERATIONS, 18 DEC 1974, 133 PP, US GOVT PRINTING OFFICE.  
WASHINGTON DC 20402.  
\*KEYWORDS, CONSERVATION, ECONOMICS, WASTE HEAT.  
\*NOTES, FILED.  
\*DATE, 740000

## ABSTRACT 584

\*TITLE, CONSERVATION AND EFFICIENT USE OF ENERGY.  
\*AUTHOR, US-HOUSE.  
\*SOURCE, REPORT 93-790 OF THE COMMITTEE ON SCI AND ASTRONAUTICS, US HOUSE  
OF REP, NINETY-THIRD CONGRESS, SECOND SESSION, 1974, 272 PP.  
\*KEYWORDS, CONSERVATION, ECONOMICS, INDUSTRY, HOME, WASTE HEAT.  
\*NOTES, FILED.  
\*DATE, 740000

## ABSTRACT 585

\*TITLE, ENERGY CONSERVATION AND CONVERSION ACT OF 1975.  
\*AUTHOR, US-SENATE.  
\*SOURCE, HEARINGS BEFORE THE COMMITTEE OF FINANCE, US SENATE, JULY 1975.  
\*KEYWORDS, CONSERVATION.  
\*NOTES, FILED.  
\*DATE, 750700

## ABSTRACT 586

\*TITLE, INDUSTRY EFFORTS IN ENERGY CONSERVATION.  
\*AUTHOR, US-SENATE.  
\*SOURCE, COMMITTEE ON COMMERCE, US SENATE, 1974.  
\*KEYWORDS, CONSERVATION.  
\*NOTES, FILED. 100 LARGEST CORP IN THE US LISTED, RESPONSES TO LETTER FROM  
SENATOR MAGNUSON.  
\*DATE, 740000

## ABSTRACT 587

\*TITLE, PROTEIN AND ENERGY CONSERVATION OF POULTRY AND FRACTIONATED  
ANIMAL WASTE.  
\*AUTHOR, WARD G M, SECKLER D.  
\*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT,  
W J JEWELL ED, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975,  
PP 467-474.  
\*KEYWORDS, CONSERVATION, POULTRY, ANIMAL WASTE.  
\*NOTES, FILED.  
\*DATE, 750000

## ABSTRACT 588

\*TITLE, THE ENERGY CRUNCH - HOW TO COPE WITH IT.  
\*AUTHOR, WHITE R G, ROBERTSON L S.  
\*SOURCE, AEIS 287, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING,  
MI 48824, JAN 1974, 3 PP.  
\*KEYWORDS, CONSERVATION.  
\*NOTES, FILED.  
\*DATE, 740100

## ABSTRACT 589

\*TITLE, HOW TO SAVE GASOLINE.  
\*AUTHOR, WILDHORN S, BURRIGHT B K, ENNS J H, KIRKWOOD T F.  
\*SOURCE, R-1560-NSF, RAND CORP, SANTA MONICA, CALIF, 1974, 168 PP.  
\*KEYWORDS, CONSERVATION, PETROLEUM, POLICY, DESIGN, ECONOMICS.  
\*NOTES, FILED.  
\*DATE, 740000

\*TITLE, THE ENERGY CONSERVATION PAPERS.  
 \*AUTHOR, WILLIAMS R H.  
 \*SOURCE, CAMBRIDGE, MASS/BALLINGER PUB CO, 1975, 377 PP.  
 \*KEYWORDS, CONSERVATION, TRANSPORTATION, ECONOMICS, ALTERNATIVES.  
 \*NOTES, FILED.  
 \*DATE, 750000

## DRYING 591 -- 661

### ABSTRACT 591

\*TITLE, RADIANT ENERGY AND ITS RELATION TO FORAGE DRYING.  
 \*AUTHOR, AJIBLOA O, KOEGEL R, BRUHN M D.  
 \*SOURCE, ASAE PAPER 78-3551, 1978, 12 PP.  
 \*KEYWORDS, DRYING, RADIATION.  
 \*NOTES, FILED. THE SOLAR SPECTRAL ABSORPTIVITIES WERE DETERMINED FOR CHOPPED ALFALFA, CHOPPED AND MACERATED ALFALFA, CHOPPED, MACERATED AND DEWATERED ALFALFA. THE EFFECTS ON THE SPECTRAL ABSORPTIVITY OF SUCH FACTORS AS MOISTURE REDUCTION, SHREDDING AND THE RELATED COLOR CHANGE DURING DRYING WAS DETERMINED. THIN SAMPLES OF THE DIFFERENTLY PROCESSED ALFALFA WERE DRIED USING AN INFRARED LAMP AND THE EFFECT OF THE INFRARED ABSORPTIVITY OF THE MATERIAL ON THEIR DRYING RATES WAS OBSERVED.  
 \*DATE, 780000

### ABSTRACT 592

\*TITLE, EVALUATION OF SOLAR REGENERATION OF SILICA GEL AND USE IN GRAIN DRYING.  
 \*AUTHOR, ALDIS D F, BURROUGHS R, HUGHES J W.  
 \*SOURCE, ASAE PAPER 78-3527, 1978, 27 PP.  
 \*KEYWORDS, DRYING, SOLAR, EFFICIENCY.  
 \*NOTES, FILED. SILICA GEL WAS USED TO STORE SOLAR ENERGY FOR DRYING CORN AND MILO.  
 \*DATE, 780000

### ABSTRACT 593

\*TITLE, MAKE THE MOST OF COSTLY CORN DRYING FUEL.  
 \*AUTHOR, ANON.  
 \*SOURCE, MICHIGAN FARMER, 15 NOV 1975, PP 12-13.  
 \*KEYWORDS, DRYING, MICHIGAN, LPGAS.  
 \*NOTES, FILED.  
 \*DATE, 751115

### ABSTRACT 594

\*TITLE, USE OF A HEAT PUMP TO CONSERVE ENERGY IN GRAIN DRYING.  
 \*AUTHOR, AYERS D L, HOGAN M R, OKOS M R, PEART R M.  
 \*SOURCE, PROC OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, 9-13 AUG 1976, P 143.  
 \*KEYWORDS, DRYING, HEAT PUMPS, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 760809

- \*TITLE, SOLAR GRAIN DRYING IN ILLINOIS
- \*AUTHOR, BAKER J L, SHOVE G C.
- \*SOURCE, ASAE PAPER 77-3009, 1977, 10PP.
- \*KEYWORDS, DRYING, SOLAR, HEAT, DESIGN, BUILDINGS.
- \*NOTES, FILED. SOLAR ENERGY COLLECTORS ARE BEING INCORPORATED INTO FARM BUILDINGS TO PROVIDE HEAT ENERGY FOR DRYING CORN. SOME ALSO PROVIDE HEAT FOR SHOPS AND LIVESTOCK SHELTERS.
- \*DATE, 770000

## ABSTRACT 596

- \*TITLE, FEASIBILITY STUDY OF IN-BIN CORN DRYING IN THE MIDWESTERN UNITED STATES USING SOLAR ENERGY.
- \*AUTHOR, BAKKER-ARKEMA F W.
- \*SOURCE, DEPT OF AGR ENGR, MICH STATE UNIV, EAST LANSING, MICH 48824, DEC 1976, 17 PP.
- \*KEYWORDS, DRYING, SOLAR, MODELS, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED.
- \*DATE, 761200

## ABSTRACT 597

- \*TITLE, HIGH TEMPERATURE WHEAT DRYING.
- \*AUTHOR, BAKKER-ARKEMA F W, AHMADNIA-SOKHANSANJ A, GREEN R.
- \*SOURCE, ASAE PAPER 77-3527, 1977, 19 PP.
- \*KEYWORDS, DRYING.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 598

- \*TITLE, SIMULATION OF LOW TEMPERATURE DRYING OF SHELLED CORN LEADING TO OPTIMIZATION.
- \*AUTHOR, BLOOME P D, SHOVE G C.
- \*SOURCE, TRANSACTIONS OF THE ASAE, 15(2)/310-316, 1972.
- \*KEYWORDS, DRYING, MODELS.
- \*NOTES, FILED.
- \*DATE, 720000

## ABSTRACT 599

- \*TITLE, SOLAR ENERGY DRYING AND PROCESS CONTROL WITH MICROCOMPUTER.
- \*AUTHOR, BOWERS C G, HUANG B K, NASSAR A H.
- \*SOURCE, ASAE PAPER 78-3537, 1978, 30 PP.
- \*KEYWORDS, DRYING, GREENHOUSE, SOLAR, MODELS.
- \*NOTES, FILED. A MICROCOMPUTER CONTROL SYSTEM OPERATED CURING AND SOLAR ENERGY UTILIZATION OF THE GREENHOUSE SOLAR CURING SYSTEM. TWO CONTROL PROGRAMS, INVOLVING ROUTINES FOR REAL TIME MAINTENANCE, DATA ACQUISITION/PROCESSING AND SOLAR CURING CONTROL, ACTIVATED APPROPRIATE AIR FLOW PATTERNS TO REGULATE SOLAR ENERGY UTILIZATION.
- \*DATE, 760000

## ABSTRACT 600

- \*TITLE, FOOD DRYING WITH DIRECT SOLAR AUGMENTED WITH FOSSIL ENERGY.
- \*AUTHOR, BRYAN W L, WAGNER C J, BERRY R E.
- \*SOURCE, ASAE PAPER 77-6520, 1977, 6 PP.
- \*KEYWORDS, DRYING, SOLAR.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 601

- \*TITLE, UNIVERSITY STUDIES OF SOLAR GRAIN DRYING.
- \*AUTHOR, BUCKINGHAM F.
- \*SOURCE, IMPLEMENT AND TRACTOR, 7 JAN 1978, PP 26-30.
- \*KEYWORDS, DRYING, SOLAR.
- \*NOTES, FILED.
- \*DATE, 780107



ABSTRACT 602

- \*TITLE, USE OF SOLAR ENERGY TO CURE PEANUTS.
- \*AUTHOR, BUTLER J L, TROEGER J M.
- \*SOURCE, ASAE PAPER 77-3033, 1977, 9PP.
- \*KEYWORDS, DRYING, SOLAR.
- \*NOTES, FILED. TESTS WERE DONE ON THE ANGLE NEED ON A COLLECTOR IN THE PEANUT PRODUCING AREA TO COLLECT SOLAR ENERGY FOR PEANUT DRYING. ALSO INCLUDED IS THE PERCENT OF HEAT ENERGY THAT WAS SUPPLIED BY SOLAR ENERGY.
- \*DATE, 770000

ABSTRACT 603

- \*TITLE, RICE DRYING WITH SOLAR HEAT.
- \*AUTHOR, CALDERWOOD D L.
- \*SOURCE, ASAE PAPER 77-3003, 1977, 11PP.
- \*KEYWORDS, DRYING, SOLAR, HEAT.
- \*NOTES, FILED. SOLAR HEAT AIDED DEEP-BED RICE DRYING BY REDUCING DRYING TIME AND ELECTRICAL ENERGY CONSUMPTION FOR FAN OPERATION COMPARED WITH UNHEATED AIR DRYING. THIS USE OF SOLAR HEAT CAUSED A SMALL REDUCTION IN MILLING YIELD OF RICE SAMPLES COMPARED TO UNHEATED AIR-DRIED SAMPLES.
- \*DATE, 770000.

ABSTRACT 604

- \*TITLE, SAVE ENERGY - DRY RICE IN THE FIELD.
- \*AUTHOR, CHAU N N, KUNZE O R.
- \*SOURCE, ASAE PAPER 78-3530, 1978, 11 PP.
- \*KEYWORDS, DRYING, RICE.
- \*NOTES, FILED.
- \*DATE, 780000
- CHAU

ABSTRACT 605

- \*TITLE, OPTIMAL MANAGEMENT PROCEDURES FOR SOLAR GRAIN DRYING.
- \*AUTHOR, COLLIVER D G, BROOK R C, REART R M.
- \*SOURCE, ASAE PAPER 78-3512, 1978, 13 PP.
- \*KEYWORDS, DRYING, SOLAR, MODELS.
- \*NOTES, FILED. THE DEVELOPMENT OF A MATHEMATICAL MODEL TO DYNAMICALLY DETERMINE THE LOCAL OPTIMAL MANAGEMENT PROCEDURES TO MINIMIZE THE ENERGY COST IN LOW-TEMPERATURE GRAIN DRYING SYSTEMS IS DEVELOPED. USING THE CRITICAL PATH METHOD OF OPTIMIZATION, THE OPTIMAL MANAGEMENT PROCEDURES THROUGHOUT THE DRYING PERIOD ARE DETERMINED.
- \*DATE, 780000

ABSTRACT 606

- \*TITLE, IN-BIN GRAIN DRYING ENERGY SAVINGS FROM SOLAR HEAT.
- \*AUTHOR, CONVERSE H H, LAI F S, SAUER D B.
- \*SOURCE, ASAE PAPER 78-3529, 1978, 11 PP.
- \*KEYWORDS, DRYING, SOLAR, CONSERVATION.
- \*NOTES, FILED. BATCH IN-BIN GRAIN DRYING TESTS WERE USED TO EVALUATE THE DIFFERENCE IN ENERGY INPUT REQUIRED BY SYSTEMS EMPLOYING SOLAR HEAT AND NATURAL AIR TO DRY COMPARABLE LOTS OF CORN AND SORGHUM.
- \*DATE, 780000

ABSTRACT 607

- \*TITLE, AN ENERGY MODEL FOR A MULTI-BARN BULK CURING SYSTEM.
- \*AUTHOR, CUNDIFF J S, THREADGILL E D.
- \*SOURCE, ASAE PAPER 78-3538, 1978, 27 PP.
- \*KEYWORDS, DRYING, MODELS.
- \*NOTES, FILED.
- \*DATE, 780000

ABSTRACT 608

- \*TITLE, THE USE OF SOLAR ENERGY IN CURING TOBACCO.
- \*AUTHOR, DREWES P L, HEATH D B.
- \*SOURCE, PRESENTED AT THE 4TH ANNUAL MEETING OF THE SOLAR ENERGY SOC OF CANADA, UNIV OF WESTERN ONTARIO, LONDON, ONTARIO, CANADA, 20-24 AUG 1978, 10 PP.
- \*KEYWORDS, DRYING, CANADA.
- \*NOTES, FILED.
- \*DATE, 780820

- \*TITLE, THIN-BED DRYING OF POULTRY MANURE.
- \*AUTHOR, FAIRBANK W C, PRICE F C.
- \*SOURCE, AGR SANITATION AND WASTE MANAGEMENT SERIES, COOPERATIVE EXTENSION SERVICE, UNIV OF CALIF, JUNE 1973, 6 PP.
- \*KEYWORDS, DRYING, MANURE.
- \*NOTES, FILED.
- \*DATE, 700600

## ABSTRACT 610

- \*TITLE, UNDER-CAGE DRYING AND WINDROW COMPOSTING OF MANURE.
- \*AUTHOR, FAIRBANK W C, ADOLPH R H.
- \*SOURCE, AGR SANITATION AND WASTE MANAGEMENT SERIES, COOPERATIVE EXTENSION SERVICE, UNIV OF CALIF, MAY 1972, 7 PP.
- \*KEYWORDS, DRYING, MANURE, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE, 720500

## ABSTRACT 611

- \*TITLE, TECHNIQUES FOR DRYING PAUNCH CONTENTS WITH SOLAR ENERGY.
- \*AUTHOR, FARMER D H, BRUSEWITZ G H, MOUSTAFA S M A.
- \*SOURCE, ASAE PAPER 77-6523, 1977, 18 PP.
- \*KEYWORDS, DRYING, SOLAR, WASTES.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 612

- \*TITLE, GRAIN DRYING - REFLECTIONS AND PERSPECTIVES.
- \*AUTHOR, FOSTER G H, PEART R M.
- \*SOURCE, ASAE PAPER 76-3005, 9 PP.
- \*KEYWORDS, DRYING, HISTORICAL.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 613

- \*TITLE, SOLAR GRAIN DRYING - PROGRESS AND POTENTIAL.
- \*AUTHOR, FOSTER G H, PEART R M.
- \*SOURCE, AGR INFG BULLETIN 401, US GOVERNMENT PRINTING OFFICE, WASHINGTON, D C 20402, NOV 1976, 13 PP.
- \*KEYWORDS, DRYING, SOLAR.
- \*NOTES, FILED.
- \*DATE, 761100

## ABSTRACT 614

- \*TITLE, SOLAR DRYING OF AGRICULTURAL PRODUCTS.
- \*AUTHOR, GARG H P, KRISHNAN A.
- \*SOURCE, ANNALS OF ARID ZONE, 13(4)/285-292, DEC 1974.
- \*KEYWORDS, DRYING, SOLAR, INDIA, AGRICULTURE, DESIGN.
- \*NOTES, FILED. REPORTS THE DESIGN DETAILS OF A SIMPLE SOLAR CABINET DRYER DEVELOPED AT THE CENTRAL ARID ZONE RESEARCH INSTITUTE, JODHPUR.
- \*DATE, 741200

## ABSTRACT 615

- \*TITLE, ENERGY COSTS AND CROP DRYING.
- \*AUTHOR, GIBB J A C.
- \*SOURCE, SPAN, 18(1)/31, 1975.
- \*KEYWORDS, DRYING, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 616

- \*TITLE, SOLAR GRAIN DRYING AT TWO LOCATIONS IN GEORGIA.
- \*AUTHOR, HAMMOND W C, WINSETT I L.
- \*SOURCE, ASAE PAPER 76-3516, 1976, 12 PP.
- \*KEYWORDS, DRYING, SOLAR, GEORGIA.
- \*NOTES, FILED.
- \*DATE, 760000

- \*TITLE, SOLAR GRAIN DRYING CONFERENCE PROCEEDINGS.
- \*AUTHOR, HARTSOCK J G. ED.
- \*SOURCE, DOE, OFFICE OF SOLAR APPLICATIONS, AGR AND INDUSTRIAL PROCESS HEAT BRANCH, 20 MASS AVE, NW WASHINGTON DC, 20545, 2-3 MAY 1978, 150 PP.
- \*NOTES, FILED.
- \*KEYWORDS, DRYING, SOLAR, STORAGE, OHIO.
- \*DATE, 780502

## ABSTRACT 618

- \*TITLE, THE PERFORMANCE AND ECONOMIC FEASIBILITY OF SOLAR GRAIN DRYING SYSTEMS.
- \*AUTHOR, HEIO W G.
- \*SOURCE, REPORT 396, USOA, WASHINGTON DC 20250, FEB 1978, 33 PP.
- \*KEYWORDS, DRYING, ECONOMICS, SOLAR.
- \*NOTES, FILED.
- \*DATE, 780200

## ABSTRACT 619

- \*TITLE, DRYING OF LARGE HAY PACKAGES WITH SOLAR HEATED AIR.
- \*AUTHOR, HENERY Z A, BLEDSOE B L, ELLER O D.
- \*SOURCE, ASAE 77-3001, 1977, 17PP.
- \*KEYWORDS, DRYING, SOLAR, EFFICIENCY, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 620

- \*TITLE, ENERGY USE AND CONSERVATION IN THE POULTRY INDUSTRIES.
- \*AUTHOR, ROGERS G B.
- \*SOURCE, PRESENTED AT NORTH CENTRAL STATES POULTRY EXTENSION WORKSHOP, LINCOLN, NE, 5 MAY 1976, 23 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, POULTRY, POULTRY AND EGG PRODUCTS, FOOD PROCESSING, ACCOUNTING, ECONOMICS, CONSERVATION, MARKETING.
- \*NOTES, FILED. ANALYZES ENERGY CONSUMPTION AND COST FOR THE PRODUCTION, PROCESSING AND MARKETING OF VARIOUS POULTRY AND EGG PRODUCTS.
- \*DATE, 760505
- \*TITLE, IMPACT ASSESSMENT OF MICROWAVE - VACUUM GRAIN DRYING CONSERVATION TECHNOLOGY.
- \*AUTHOR, HITTMAN ASSOCIATES.
- \*SOURCE, MIT-678, HITTMAN ASSOCIATES, INC, COLUMBIA, MO 21045, 31 DEC 1976, 62 PP.
- \*KEYWORDS, DRYING, MICROWAVE, MODELS, ALTERNATIVES, ECONOMICS.
- \*NOTES, FILED. TECHNOLOGICAL AND ECONOMIC FEASIBILITY OF SUBSTITUTING MICROWAVE-VACUUM GRAIN DRYING FOR EXISTING HIGH CAPACITY LPG, NATURAL GAS, OR OIL-FIRED HOT AIR DRYERS. HIGH COSTS ARE A BARRIER TO PRACTICAL IMPLEMENTATION, BASED ON COMPUTER SIMULATION.
- \*DATE, 761231

## ABSTRACT 621

- \*TITLE, LOW TEMPERATURE GRAIN DRYING.
- \*AUTHOR, HOLMES E S, LIPPER R I.
- \*SOURCE, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, SEPT 1974, 10 PP.
- \*KEYWORDS, DRYING, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE, 740900

## ABSTRACT 622

- \*TITLE, SAVING FUEL IN GRAIN DRYING.
- \*AUTHOR, HOLMES E S.
- \*SOURCE, MF-344, 8, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, KS, FEB 1974, 2 PP.
- \*KEYWORDS, DRYING, AWARENESS.
- \*NOTES, FILED.
- \*DATE, 740200

## ABSTRACT 623

- \*TITLE, ENERGY CONSERVATION FOR KANSAS AGRICULTURE - GUIDE TO LOW TEMPERATURE AND AIR DRYING GRAIN.
- \*AUTHOR, HOLMES E S, KUHLMAN D K.
- \*SOURCE, DEPT OF AGR ENGR, KANSAS STATE UNIV, MANHATTAN, KS, SEPT 1976, 4 PP.
- \*KEYWORDS, DRYING, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760900

\*TITLE, CIRCUIT SIMULATION ANALYSIS OF HEAT TRANSFER EFFECT IN SOLAR DRYING.  
\*AUTHOR, HUANG B K, CHANG-H-S.  
\*SOURCE, ASAE PAPER 76-3019, 30 PP.  
\*KEYWORDS, DRYING, SOLAR, THERMOELECTRIC.  
\*NOTES, FILED.  
\*DATE, 760000

## ABSTRACT 625

\*TITLE, DRYING CORN WITH A CROP RESIDUE FIRED FURNACE.  
\*AUTHOR, KAJEWSKI A H, MARLEY S J, BUCHELE W F.  
\*SOURCE, ASAE PAPER 77-3525, 1977, 10 PP.  
\*KEYWORDS, DRYING, DESIGN.  
\*NOTES, FILED.  
\*DATE, 770000

## ABSTRACT 626

\*TITLE, ENERGY MANAGEMENT IN CORN DRYING.  
\*AUTHOR, KEENER H M.  
\*SOURCE, THE OHIO FARMER, 260(4)/12-13, 3 SEPT 1977.  
\*KEYWORDS, DRYING.  
\*NOTES, FILED.  
\*DATE, 770903

## ABSTRACT 627

\*TITLE, SOLAR COLLECTOR COSTS FOR LOW-TEMPERATURE GRAIN DRYING.  
\*AUTHOR, KLINE G L, ODEKIRK W L.  
\*SOURCE, ASAE PAPER 78-3508, 1978, 30 PP.  
\*KEYWORDS, DRYING, SOLAR, ECONOMICS, ELECTRICAL.  
\*NOTES, FILED. SIX PROTOTYPE SOLAR COLLECTORS SUITABLE FOR LOW-TEMPERATURE GRAIN DRYING WERE SELECTED FOR COST ANALYSIS. THE COST OF SOLAR GRAIN DRYING IS COMPARED WITH CONVENTIONAL ELECTRIC AND SOLAR-ELECTRIC FOR A REPRESENTATIVE GRAIN DRYING SITUATION.  
\*DATE, 780000

## ABSTRACT 628

\*TITLE, GRAIN DRYING WITH SUPPLEMENTAL SOLAR HEAT.  
\*AUTHOR, KRANZLER G A, BERN C J, KLINE G L.  
\*SOURCE, ASAE PAPER 75-3001, 16 PP.  
\*KEYWORDS, DRYING, SOLAR, REQUIREMENTS, ELECTRICAL.  
\*NOTES, FILED.  
\*DATE, 750622

## ABSTRACT 629

\*TITLE, IMPROVEMENT IN GRAIN-DRYER FUEL EFFICIENCY THROUGH HEAT RECOVERY.  
\*AUTHOR, LAI F S, FOSTER G H.  
\*SOURCE, ASAE PAPER 75-3517, 25 PP.  
\*KEYWORDS, DRYING, EFFICIENCY, REQUIREMENTS, WASTE HEAT, RECYCLING, DESIGN.  
\*NOTES, FILED.  
\*DATE, 750300

## ABSTRACT 630

\*TITLE, EFFICIENCY OF ENERGY USE - NEW THEME IN GRAIN DRYING.  
\*AUTHOR, LEHNERT D.  
\*SOURCE, MICHIGAN FARMER, JULY 1976, PP 28-30.  
\*KEYWORDS, DRYING.  
\*NOTES, FILED.  
\*DATE, 760700



- \*TITLE, DRYING AND STORING SHELLED CORN.
- \*AUTHOR, MADDEX R L.
- \*SOURCE, EXTENSION BULLETIN E-799 NO 8, COOPERATIVE EXTENSION SERVICE, MICH STATE UNIV, EAST LANSING, OCT 1974, 4 PP.
- \*KEYWORDS, DRYING, STORAGE.
- \*NOTES, FILED.
- \*DATE, 741000

## ABSTRACT 632

- \*TITLE, PRACTICES FOR THE EFFICIENT UTILIZATION OF ENERGY FOR DRYING CORN.
- \*AUTHOR, MOREY R V, CLOUD H A, LUESCHEN W E.
- \*SOURCE, TRANSACTIONS ASAE, 19(1)/151-155, 1976.
- \*KEYWORDS, DRYING.
- \*NOTES,
- \*DATE, 760000

## ABSTRACT 633

- \*TITLE, EVALUATION OF THE FEASIBILITY OF SOLAR ENERGY GRAIN DRYING
- \*AUTHOR, MOREY R V, CLOUD H A, GUSTAFSON R J, PETERSEN P W.
- \*SOURCE, ASAE PAPER 77-3013, 1977, 21PP.
- \*KEYWORDS, DRYING, SOLAR, ECONOMICS, EFFICIENCY.
- \*NOTES, FILED. A MODEL FOR SIMULATING MOISTURE CONTENT CHANGES AND GRAIN QUALITY DETERIORATION IN LOW-TEMPERATURE DRYING SYSTEMS IS PRESENTED. IT IS USED TO SIMULATE SOLAR-SUPPLEMENTED AND AMBIENT-AIR DRYING.
- \*DATE, 770000

## ABSTRACT 634

- \*TITLE, THE PROSPECT OF IMPROVING SOLAR DEHYDRATION OF FOODS.
- \*AUTHOR, MOY J H.
- \*SOURCE, ASAE PAPER 77-6522, 1977, 13 PP.
- \*KEYWORDS, DRYING, SOLAR.
- \*NOTES, FILED.
- \*DATE 770000

## ABSTRACT 635

- \*TITLE, EFFECTIVE ENERGY UTILIZATION IN GRAIN DRYING.
- \*AUTHOR, PATTERSON R J, MADDEX R L.
- \*SOURCE, AEIS 292, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, MARCH 1974, 5 PP.
- \*KEYWORDS, DRYING, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 740300

## ABSTRACT 636

- \*TITLE, EVALUATION OF SOLAR GRAIN DRYING BY SIMULATION.
- \*AUTHOR, PEART R M, OKOS M R, JUDSON R J.
- \*SOURCE, PROCEEDINGS OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, 9-13 AUG 1976, P 47.
- \*KEYWORDS, DRYING, SOLAR.
- \*NOTES, FILED.
- \*DATE, 760809

## ABSTRACT 637

- \*TITLE, SOLAR-ELECTRIC DRYING OF CORN IN SOUTH DAKOTA.
- \*AUTHOR, PETERSON W H, HELICKSON M A.
- \*SOURCE, TRANSACTIONS OF THE ASAE, 19(2)/349-353, 1976.
- \*KEYWORDS, DRYING, SOLAR.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 638

- \*TITLE, FAN MANAGEMENT SYSTEMS FOR NATURAL AIR DRYERS.
- \*AUTHOR, PFOST H B, MAUER S G, GROSH L E, CHUNG D S, FOSTER G H.
- \*SOURCE, ASAE PAPER 77-3526, 1977, 16 PP.
- \*KEYWORDS, DRYING.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 639

- \*TITLE, ENERGY UTILIZATION AND EFFICIENCY OF CROSSFLOW GRAIN DRYERS.
- \*AUTHOR, PIERCE R O, THOMPSON T L.
- \*SOURCE, ASAE PAPER 75-3020, 12 PP.
- \*KEYWORDS, DRYING, ENERGY CONSUMPTION, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 640

- \*TITLE, MANAGEMENT OF SOLAR AND LOW-TEMPERATURE GRAIN DRYING SYSTEMS PART 1  
STRATEGIES WITH FULL BIN.
- \*AUTHOR, PIERCE R O, THOMPSON T L.
- \*SOURCE, ASAE PAPER 78-3513, 1978, 13 PP.
- \*KEYWORDS, DRYING, SOLAR, ECONOMICS.
- \*NOTES, FILED. MINIMUM AIRFLOW REQUIREMENTS ARE PRESENTED FOR MOST OF THE CORN PRODUCING AREAS OF THE UNITED STATES. DRYING PERFORMANCE WAS ALSO SIMULATED FOR SEVERAL FULL BIN MANAGEMENT STRATEGIES. THESE MANAGERMENTS WERE STUDIED FOR A WIDE RANGE OF OPERATING CONDITIONS.
- \*DATE, 780000

## ABSTRACT 641

- \*TITLE, MANAGEMENT OF SOLAR AND LOW-TEMPERATURE GRAIN DRYING SYSTEMS PART 2,
- \*AUTHOR, PIERCE R O, THOMPSON T L.
- \*SOURCE, ASAE PAPER 78-3514, 1978, 18 PP.
- \*KEYWORDS, DRYING, SOLAR, MODELS.
- \*NOTES, FILED.
- \*DATE, 780000

## ABSTRACT 642

- \*TITLE, DRYING OF CARIOCA DRY BEANS WITH SOLAR ENERGY IN A STATIONARY BIN.
- \*AUTHOR, ROA G M, CARVALHO MACEDO J.
- \*SOURCE, ASAE PAPER 76-3021, 9 PP.
- \*KEYWORDS, DRYING, BRAZIL, SOLAR.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 643

- \*TITLE, DRYING OF CASSAVA.
- \*AUTHOR, ROA G M, BAKKER-ARKEMA F W, JOHNSON L, BECK J V.
- \*SOURCE, ASAE PAPER 74-3037, 1974.
- \*KEYWORDS, DRYING.
- \*NOTES,
- \*DATE, 740000

## ABSTRACT 644

- \*TITLE, ENERGY USE AND CONSERVATION IN THE POULTRY INDUSTRIES.
- \*AUTHOR, ROGERS G B.
- \*SOURCE, PRESENTED AT NORTH CENTRAL STATES POULTRY EXTENSION WORKSHOP, LINCOLN, NE, 5 MAY 1976, 23 PP.
- \*KEYWORDS, ANIMAL PRODUCTION, POULTRY, POULTRY AND EGG PRODUCTS, FOOD PROCESSING, ACCOUNTING, ECONOMICS, CONSERVATION, MARKETING.
- \*NOTES, FILED. ANALYZES ENERGY CONSUMPTION AND COST FOR THE PRODUCTION, PROCESSING AND MARKETING OF VARIOUS POULTRY AND EGG PRODUCTS.
- \*DATE, 760505
- \*TITLE, IMPACT ASSESSMENT OF MICROWAVE - VACUUM GRAIN DRYING CONSERVATION TECHNOLOGY.
- \*AUTHOR, HITTMAN ASSOCIATES.
- \*SOURCE, HIT-678, HITTMAN ASSOCIATES, INC, COLUMBIA, MD 21045, 31 DEC 1976, 62 PP.
- \*KEYWORDS, DRYING, MICROWAVE, MODELS, ALTERNATIVES, ECONOMICS.
- \*NOTES, FILED. TECHNOLOGICAL AND ECONOMIC FEASIBILITY OF SUBSTITUTING MICROWAVE-VACUUM GRAIN DRYING FOR EXISTING HIGH CAPACITY LPG, NATURAL GAS, OR OIL-FIRED HOT AIR DRYERS. HIGH COSTS ARE A BARRIER TO PRACTICAL IMPLEMENTATION, BASED ON COMPUTER SIMULATION.
- \*DATE, 761231

## ABSTRACT 645

- \*TITLE, CONCEPT OF A SOLAR DRYING SYSTEM FOR FORAGE.
- \*AUTHOR, ROWE R J.
- \*SOURCE, ASAE PAPER NA76-106, 15 AUG 1976, 8 PP.
- \*KEYWORDS, DRYING, SOLAR.
- \*NOTES, FILED.
- \*DATE, 760815

\*TITLE, SIMULATION OF SOLAR GRAIN DRYING USING THE LOGARITHMIC MODEL.  
 \*AUTHOR, SABBAH M A, KEENER M M, MEYER G E.  
 \*SOURCE, ASAE PAPER 77-3012, 1977, 26PP.  
 \*KEYWORDS, DRYING, MODELS, SOLAR.  
 \*NOTES, FILED. THE ACCURACY OF USING THE LOG MODEL OF DRYING FOR SIMULATING SOLAR AND NATURAL GRAIN DRYING WAS EXAMINED.  
 \*DATE, 770000

## ABSTRACT 647

\*TITLE, LOW TEMPERATURE DRYING OF SHELLED CORN WITH ELECTRIC HEAT.  
 \*AUTHOR, SHOVE G C.  
 \*SOURCE, ILLINOIS FARM ELECTRIFICATION COUNCIL, MAY 1973, 5 PP.  
 \*KEYWORDS, DRYING, ELECTRICAL, OPERATING PROCEDURE.  
 \*NOTES, FILED.  
 \*DATE, 730500

## ABSTRACT 648

\*TITLE, MANAGEMENT OF LOW TEMPERATURE CORN DRYING SYSTEMS.  
 \*AUTHOR, SHOVE G C.  
 \*SOURCE, DEPT OF AGR ENGR, UNIV OF ILLINOIS, URBANA-CHAMPAIGN, 4 PP, UNDATED.  
 \*KEYWORDS, DRYING.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 649

\*TITLE, DRYING GRAIN WITH SOLAR ENERGY.  
 \*AUTHOR, SHOVE G C.  
 \*SOURCE, ILLINOIS RESEARCH, SPRING 1977, PP 5-6.  
 \*KEYWORDS, DRYING, SOLAR, DESIGN.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 650

\*TITLE, PROCEEDINGS OF THE SOLAR GRAIN DRYING CONFERENCE.  
 \*AUTHOR, SHOVE G C. ED.  
 \*SOURCE, SOLAR GRAIN DRYING CONF SPONSORED BY UNIV OF ILL, ILL FARM ELECTRIFICATION COUNCIL AND THE ASAE, 11-12 JAN 1977, URBANA-CHAMPAIGN, IL, 282PP.  
 \*KEYWORDS, DRYING, SOLAR, DESIGN.  
 \*NOTES, FILED.  
 \*DATE, 770111

## ABSTRACT 651

\*TITLE, DRYING AND STORAGE OF CORN.  
 \*AUTHOR, SKINNER T C.  
 \*SOURCE, EC-4, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 1976, 2 PP.  
 \*KEYWORDS, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 652

\*TITLE, DRYING AND STORING PEANUTS.  
 \*AUTHOR, SKINNER T C.  
 \*SOURCE, EC-2, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 1976, 2 PP.  
 \*KEYWORDS, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 653

\*TITLE, DRYING AND STORAGE OF SOYBEANS.  
 \*AUTHOR, SKINNER T C.  
 \*SOURCE, EC-3, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 1976, 2 PP.  
 \*KEYWORDS, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 654

\*TITLE, SOLAR CELL POWERED GRAIN DRYING.  
 \*AUTHOR, THOMPSON T L, PIERCE R O.  
 \*SOURCE, ASAE PAPER 78-3509, 1978, 8 PP.  
 \*KEYWORDS, DRYING, SOLAR, PHOTOVOLTAIC.  
 \*NOTES, FILED. THIS PAPER GIVES THE CONCLUSION OF DRYING TESTS CONDUCTED TO STUDY THE PERFORMANCE OF A NATURAL AIR SYSTEM WHERE THE FAN WAS POWERED BY A PHOTOVOLTAIC ARRAY.  
 \*DATE, 780000

## ABSTRACT 655

\*TITLE, SIMULATION OF SOLAR PEANUT DRYING.  
 \*AUTHOR, TROEGER J M, BUTLER J L.  
 \*SOURCE, ASAE PAPER 77-3537, 1977, 15 PP.  
 \*KEYWORDS, DRYING, SOLAR, MODELS.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 656

\*TITLE, SOLAR CURING FACILITIES FOR BURLEY TOBACCO.  
 \*AUTHOR, WALTON L R, HENSON W H, MCNEILL S G, PARKER B F, BUNN J M.  
 \*SOURCE, ASAE PAPER 77-3002, 1977, 8PP.  
 \*KEYWORDS, DRYING, SOLAR, STORAGE, TECHNOLOGY ASSESSMENT.  
 \*NOTES, FILED. A SOLAR-COLLECTOR-ROCKBED-STORAGE SYSTEM FOR CURING BURLEY TOBACCO PROVIDED HEAT TO MODIFY THE ENVIRONMENT DURING CRITICAL PERIODS OF HIGH HUMIDITY.  
 \*DATE, 770000

## ABSTRACT 657

\*TITLE, ESTIMATED MONTHLY FUEL REQUIREMENTS FOR AGRICULTURAL PRODUCTION INCLUDING ON-FARM AND COMMERCIAL CROP DRYING.  
 \*AUTHOR, WHITE R G, MADDEX R L, PATTERSON R J.  
 \*SOURCE, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, 31 JULY 1973, 1 P.  
 \*KEYWORDS, DRYING, REQUIREMENTS.  
 \*NOTES, FILED.  
 \*DATE, 730731

## ABSTRACT 658

\*TITLE, SOLAR GRAIN DRYING AND COLLECTOR EVALUATION.  
 \*AUTHOR, WILLIAMS E E, CKOS M R, PEART R M, BADENHOP A F.  
 \*SOURCE, ASAE PAPER 76-3512, 1976, 16 PP.  
 \*KEYWORDS, DRYING, SOLAR, HEAT, DESIGN.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 659

\*TITLE, ELECTRIC ENERGY SUBSTITUTION ELECTRICITY FOR CROP DRYING.  
 \*AUTHOR, WILSON G E.  
 \*SOURCE, FARM ELECTRIFICATION COUNCIL, FOOD AND ENERGY SYMPOSIUM, 20 AUG 1975, WASHINGTON D C, 3 PP.  
 \*KEYWORDS, DRYING, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 750820

## ABSTRACT 660

\*TITLE, FEASIBILITY OF USING SOLAR ENERGY FOR LUMBER DRYING IN NORTHWESTERN ONTARIO.  
 \*AUTHOR, YANG K C.  
 \*SOURCE, PRESENTED AT THE 4TH ANNUAL MEETING OF THE SOLAR ENERGY SOC OF CANADA, UNIV OF WESTERN ONTARIO, LONDON, ONTARIO, CANADA, 20-24 AUG 1978, 18 PP.  
 \*KEYWORDS, DRYING, SOLAR, DESIGN, TECHNOLOGY ASSESSMENT, CANADA.  
 \*NOTES, FILED.  
 \*DATE, 780820

## ABSTRACT 661

\*TITLE, ENGINEERING ANALYSIS OF ENERGY SOURCES FOR LOW TEMPERATURE DRYING.  
 \*AUTHOR, ZINK H, BROOK R C, PEART R M.  
 \*SOURCE, ASAE PAPER 78-3517, 1978, 12 PP.  
 \*KEYWORDS, DRYING, ENERGY SOURCE, ECONOMICS.  
 \*NOTES, FILED. VARIOUS HEAT ENERGY OPTIONS FOR LOW-TEMPERATURE DRYING ARE EVALUATED. PROJECTIONS ARE MADE FOR FEASIBILITY OF THESE OPTIONS, PARTICULARLY AS COMPARED TO GASIFICATION PROCESS. ECONOMIC ANALYSIS USED PRESENT VALUE TECHNIQUES.  
 \*DATE, 780000



## ABSTRACT 662

- \*TITLE, TWO DIGIT INFLATION.
- \*AUTHOR, ABELSON P H.
- \*SOURCE, SCIENCE 185(4156)/1 P, 20 SEPT 1974.
- \*KEYWORDS, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 740920

## ABSTRACT 663

- \*TITLE, ECONOMIC EFFECT ON AGRICULTURAL PRODUCTION OF ALTERNATIVE ENERGY INPUT PRICES - TEXAS HIGH PLAINS.
- \*AUTHOR, ADAMS B M, LOCEWELL R D, CONDRA G D.
- \*SOURCE, TECH REPORT 73, TEXAS WATER RESOURCES INST, TEXAS A AND M UNIV, COLLEGE STATION, TX, JUNE 1978, 138 PP.
- \*KEYWORDS, ECONOMICS, AGRICULTURE, PRODUCTION, ALTERNATIVES, TEXAS.
- \*NOTES, FILED.
- \*DATE, 760600

## ABSTRACT 664

- \*TITLE, ECONOMISTS AND INFLATION - WHICH WAY OUT OF THE WILDERNESS.
- \*AUTHOR, ANON.
- \*SOURCE, SCIENCE, 186/122-124, 11 OCT 1974.
- \*KEYWORDS, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 741011

## ABSTRACT 665

- \*TITLE, A GIANT STEP IN POWER PRICING.
- \*AUTHOR, ANON.
- \*SOURCE, SCIENCE, 185/1031, 20 SEPT 1974.
- \*KEYWORDS, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 740920

## ABSTRACT 666

- \*TITLE, ECONOMIC IMPACTS OF RAPID DEVELOPMENT OF ENERGY RESOURCES - METHODOLOGY AND ISSUES.
- \*AUTHOR, ANON.
- \*SOURCE, REPORT NO 5, HUMAN RESOURCES AND NATURAL RESOURCES COMMITTEES OF THE WESTERN AGR ECON RESEARCH COUNCIL, 1974, 261 PP.
- \*KEYWORDS, ECONOMICS, PETROLEUM, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 667

- \*TITLE, THE ECONOMY CAN GROW WITH LESS USE OF ENERGY.
- \*AUTHOR, ANON.
- \*SOURCE, CONSERVATION FOUNDATION, MARCH 1978, 8 PP.
- \*KEYWORDS, ECONOMICS, ENERGY CONSUMPTION, USA.
- \*NOTES, FILED. IN THIS ISSUE THE COMPLEX RELATIONSHIP BETWEEN ENERGY CONSUMPTION AND ECON GROWTH IS APPRAISED. HISTORY, ECON THEORY, AND ENGR PRACTICE ALL INDICATE THAT THE US ECONOMY HAS GREAT FLEXIBILITY AND THAT WE NEED NOT FEAR DIRE ECON CONSEQUENCES FROM CUTS ON ENERGY USAGE.
- \*DATE, 780300

## ABSTRACT 668

- \*TITLE, ENERGY ECONOMICS IN DRAIN TUBE AND DRAIN TILE PRODUCTION.
- \*AUTHOR, BIRNBAUM A.
- \*SOURCE, ASAE PAPER 75-2551, 10 PP.
- \*KEYWORDS, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750000

- \*TITLE, NATIONS GREATEST NEED - ECONOMIC LITERACY.
- \*AUTHOR, BUTZ E L.
- \*SOURCE, FARM AND POWER EQUIPMENT, JUNE 1974, PP 44-47.
- \*KEYWORDS, ECONOMICS, AWARENESS.
- \*NOTES, FILED.
- \*DATE, 740600

## ABSTRACT 670

- \*TITLE, SOME IMPACTS OF THE CHANGING ENERGY SITUATION ON US AGRICULTURE.
- \*AUTHOR, CARTER H O, YOUDE J G.
- \*SOURCE, DEPT OF AGR ECON, UNIV OF CALIF, DAVIS, 1974, 28 PP.
- \*KEYWORDS, ECONOMICS, AGRICULTURE, USA.
- \*NOTES, FILED. PRESENTED AT THE 1974 AAEA ANNUAL MEETINGS, COLLEGE STATION, TEXAS, 18-21 AUG 1974.
- \*DATE, 740000

## ABSTRACT 671

- \*TITLE, INCREASING ENERGY PRICES - THE IMPACT ON TRANSPORTATION COSTS AND THE REGIONAL LOCATION OF AGRICULTURAL PRODUCTION.
- \*AUTHOR, CASAVANT K, WHITTLESEY N K.
- \*SOURCE, FOR PRESENTATION AT THE WESTERN AGR ECON ASSOC MEETINGS, MOSCOW, IDAHO, JULY 1974, 19 PP.
- \*KEYWORDS, ECONOMICS, TRANSPORTATION.
- \*NOTES, FILED.
- \*DATE, 740700

## ABSTRACT 672

- \*TITLE, IMPACT OF LIMITED FUEL SUPPLIES ON AGRICULTURAL OUTPUT AND NET RETURNS - SOUTHERN HIGH PLAINS OF TEXAS.
- \*AUTHOR, CASEY J E, LACEWELL R D, JONES L L.
- \*SOURCE, TEXAS AGR EXPT STA, TEXAS A AND M UNIV SYSTEM, COLLEGE STATION, JAN 1975, 45 PP.
- \*KEYWORDS, ECONOMICS, AGRICULTURE, TEXAS.
- \*NOTES, FILED.
- \*DATE, 750100

## ABSTRACT 673

- \*TITLE, RECENT RESOURCE PROBLEMS OF LESS DEVELOPED COUNTRIES.
- \*AUTHOR, CASTLE E N.
- \*SOURCE, AMER JOURNAL OF AGR ECON, 57(5)/246-248, 1975.
- \*KEYWORDS, ECONOMICS, DEVELOPING COUNTRIES, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 674

- \*TITLE, ECONOMICS AND ENERGETICS - SIGATOKA VALLEY, FIJI.
- \*AUTHOR, CHANDRO S, DEBOER A J, EVENSON J P.
- \*SOURCE, WORLD CROPS, 26(1)/34-37, 1974.
- \*KEYWORDS, ECONOMICS, FIJI.
- \*NOTES,
- \*DATE, 740000

## ABSTRACT 675

- \*TITLE, AN ECONOMIC ANALYSIS OF THE UTILIZATION OF MUNICIPAL WASTE WATER FOR CROP PRODUCTION.
- \*AUTHOR, CHRISTENSEN L A, CONNOR L J, LIBBY L W.
- \*SOURCE, AGR ECON REPORT 292, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, MI 48824, NOV 1975, 40 PP.
- \*KEYWORDS, ECONOMICS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 751100

- \*TITLE, THE ECONOMIC BACKGROUND OF THE OIL CRISIS.
- \*AUTHOR, DARMSTADTER J, LANDSBERG H H.
- \*SOURCE, RESOURCES FOR THE FUTURE INC, 1755 MASSACHUSETTS AVE N W, WASHINGTON D C, NOV 1975, PP 15-37.
- \*KEYWORDS, ECONOMICS, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 751100

## ABSTRACT 677

- \*TITLE, MICHIGAN FARM BUSINESS ANALYSIS SUMMARY - 1973 DATA.
- \*AUTHOR, DEXTER W A, SWANSON K A.
- \*SOURCE, AGE ECON REPORT 275, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, MI 48824, AUG 1974, 15 PP.
- \*KEYWORDS, ECONOMICS, AGRICULTURE, ANIMAL, LABOR.
- \*NOTES, FILED.
- \*DATE, 740800

## ABSTRACT 678

- \*TITLE, MICHIGAN FARM BUSINESS ANALYSIS SUMMARY - ALL TYPES OF FARMS - 1974 DATA.
- \*AUTHOR, DEXTER W A, SWANSON K A.
- \*SOURCE, AGR ECON REPORT 298, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, MI 48824, JULY 1975, 15 PP.
- \*KEYWORDS, ECONOMICS, AGRICULTURE, ANIMAL.
- \*NOTES, FILED.
- \*DATE, 750700

## ABSTRACT 679

- \*TITLE, ECONOMIC AND ENVIRONMENTAL IMPACTS OF THE ENERGY CRISIS ON AGRICULTURAL PRODUCTION.
- \*AUTHOR, DVOSKIN D, HEADY E O.
- \*SOURCE, THE CENTER FOR AGR AND RURAL DEV, IOWA STATE UNIV, AMES, MAY 1976, 22 PP.
- \*KEYWORDS, ECONOMICS, ENVIRONMENT, AGRICULTURE, PRODUCTION, TILLAGE, FERTILIZER, NITROGEN.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 680

- \*TITLE, US AGRICULTURAL PRODUCTION UNDER LIMITED ENERGY SUPPLIES, HIGH ENERGY PRICES, AND EXPANDING AGRICULTURAL EXPORTS.
- \*AUTHOR, DVOSKIN D, HEADY E O.
- \*SOURCE, CARD REPORT 69, CENTER FOR AGR AND RURAL DEV, IOWA STATE UNIV, AMES, NOV 1976, 163 PP.
- \*KEYWORDS, ECONOMICS, USA, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 761100

## ABSTRACT 681

- \*TITLE, HIGHER OIL PRICES AND THE WORLD ECONOMY.
- \*AUTHOR, FRIED E R, SCHULTZE C L.
- \*SOURCE, WASHINGTON D C/THE BROOKINGS INST, 1975, 284 PP.
- \*KEYWORDS, ECONOMICS, PETROLEUM, INTERNATIONAL.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 682

- \*TITLE, ENERGY AND ECONOMIC MYTH.
- \*AUTHOR, GEORGESCU-ROEGEN N.
- \*SOURCE, SOUTHERN ECONOMIC J, 41(3)/347-381, JAN 1975.
- \*KEYWORDS, ECONOMICS, GENERAL.
- \*NOTES, FILED.
- \*DATE, 750100

## ABSTRACT 683

- \*TITLE, EQUIVALENT ENERGY COSTS FOR PUMPING IRRIGATION WATER - NATURAL GAS VERSUS ALTERNATIVE ENERGY SOURCES.
- \*AUTHOR, HALDERMAN A D.
- \*SOURCE, COLLEGE OF AGR, UNIV OF ARIZONA, TUSCON, AZ 85721, JAN 1976, 2PP.
- \*KEYWORDS, ECONOMICS, IRRIGATION, PUMPS.
- \*NOTES, FILED.
- \*DATE, 760100

## ABSTRACT 684

- \*TITLE, WORLD ENERGY PRICES AND THEIR IMPACTS ON NEW TECHNOLOGY.
- \*AUTHOR, HENRY J P.
- \*SOURCE, STANFORD RESEARCH INST, MENLO PARK, CALIF, 31 MARCH 1976, 14 PP.
- \*KEYWORDS, ECONOMICS, SUPPLY DEMAND, ENERGY CONSUMPTION, WORLD WIDE.
- \*NOTES, FILED. PREPARED FOR PRESENTATION AT THE 3RD ENERGY TECH CONF/EXPO, WASHINGTON D C, 31 MARCH 1976.
- \*DATE, 76C331

## ABSTRACT 685

- \*TITLE, ECONOMIC RESTRAINTS ON THE REALLOCATION OF ENERGY FOR AGRICULTURE.
- \*AUTHOR, HILL L D, ERICKSON S.
- \*SOURCE, FROM BOOK ENTITLED ENERGY, AGRICULTURE AND WASTE MANAGEMENT, ANN ARBOR, MICH/ANN ARBOR SCI PUB, 1975, PP 105-122.
- \*KEYWORDS, ECONOMICS, EFFICIENCY, MARKETING, FOSSIL FUELS, PRODUCTION, ENERGY RATIO, WORLD WIDE.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 686

- \*TITLE, THE DILEMMA OF ECONOMICS AND ENERGY IN WORLD FOOD PRODUCTION.
- \*AUTHOR, HILL L D.
- \*SOURCE, PRESENTED AT ENGINEERING FOUNDATIONS CONFERENCE ON ENERGYS ROLE IN FOOD PRODUCTION, PACIFIC GROVE, CALIF, 9 FEB 1977, 22 PP.
- \*KEYWORDS, ECONOMICS, FOSSIL FUELS, WORLD WIDE.
- \*NOTES, FILED.
- \*DATE, 770209

## ABSTRACT 687

- \*TITLE, ENERGY, GOVERNMENT POLICIES, AND THE STRUCTURE OF THE FOOD AND FIBER SYSTEM.
- \*AUTHOR, IRWIN G D, PENN J B.
- \*SOURCE, AMER JOURNAL OF AGR ECON, 57(5)/829-835, 1975.
- \*KEYWORDS, ECONOMICS, POLICY, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 688

- \*TITLE, IMPACT OF INCREASING ENERGY COSTS ON IRRIGATION AND AGRICULTURAL PRODUCTION.
- \*AUTHOR, LEPORI W A, LACEWELL R D.
- \*SOURCE, FOR PRESENTATION AT CONFLICTS AND ISSUES IN WATER QUALITY AND USE, DENVER, COLORADO, 7-8 APRIL 1976, 14 PP.
- \*KEYWORDS, ECONOMICS, IRRIGATION, AGRICULTURE, PRODUCTION, TEXAS.
- \*NOTES, FILED.
- \*DATE, 760407

## ABSTRACT 689

- \*TITLE, ENERGY AND ECONOMIC GROWTH - 1974.
- \*AUTHOR, MANDERSCHIED L V.
- \*SOURCE, MICH FARM ECON 371, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, MI 48824, DEC 1973, PP 1-2.
- \*KEYWORDS, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 731200



\*TITLE, THE RELATIONSHIP BETWEEN ENERGY CONSUMPTION, GNP AND EMPLOYMENT.  
 \*AUTHOR, MCCORMACK M.  
 \*SOURCE, PAPER PRESENTED AT ENGINEERS PUBLIC AFFAIRS FORUM,  
 7 JUNE 1977, 17 PP.  
 \*KEYWORDS, ECONOMICS, POLICY, CONSERVATION, NUCLEAR.  
 \*NOTES, FILED.  
 \*DATE, 77J607

## ABSTRACT 691

\*TITLE, ENERGY ECONOMICS.  
 \*AUTHOR, MERKLEIN H A, HARDY W C.  
 \*SOURCE, HOUSTON, TX/GULF PUBLISHING CO, 1977, 230PP.  
 \*KEYWORDS, ECONOMICS, ALTERNATIVES, POLICY.  
 \*NOTES, FILED. ENERGY TOPICS THAT ARE DEALT WITH INCLUDE ALTERNATIVES,  
 INTERNATIONAL MONEY, POLICIES, INFLATION, OPEC WEALTH, INDEXATION,  
 CRISIS AND ENERGY AS IT PERTAINS TO THE OVERALL ECONOMY.  
 \*DATE, 77C000

## ABSTRACT 692

\*TITLE, IMPLICATIONS OF ENERGY AND ENVIRONMENT UPON GROWTH IN THE FOOD  
 AND FIBER SECTOR.  
 \*AUTHOR, MORIAK T F.  
 \*SOURCE, AMER JOURNAL OF AGR ECON, 57(5)/819-822, 1975.  
 \*KEYWORDS, ECONOMICS, ENVIRONMENT, INDUSTRY.  
 \*NOTES, FILED.  
 \*DATE, 7500C0

## ABSTRACT 693

\*TITLE, VOLUNTARISM AND PRICE RESPONSE - CONSUMER REACTION TO THE  
 ENERGY SHORTAGE.  
 \*AUTHOR, PECK A E, DOERING D C.  
 \*SOURCE, DEPT OF AGR ECON, PURDUE UNIV, WEST LAFAYETTE, INDIANA,  
 AUG 1975, 9 PP.  
 \*KEYWORDS, ECONOMICS, HOME, FUEL CONSUMPTION, SOCIAL IMPLICATIONS.  
 \*NOTES, FILED.  
 \*DATE, 750800

## ABSTRACT 694

\*TITLE, THE REAL AND FICTITIOUS ECONOMICS OF AGRICULTURE AND ENERGY.  
 \*AUTHOR, PERELMAN M J.  
 \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT,  
 W J JEWELL ED, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC,  
 1975, PP 133-139.  
 \*KEYWORDS, ECONOMICS, LABOR.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 695

\*TITLE, THE ECONOMICS OF AMERICA S ENERGY FUTURE.  
 \*AUTHOR, SIMMONS H.  
 \*SOURCE, USERDA, OFFICE OF PUBLIC AFFAIRS, WASHINGTON D C, 1975, 60 PP.  
 \*KEYWORDS, ECONOMICS, USA, ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 696

\*TITLE, HOW TO COMPARE FUEL VALUES.  
 \*AUTHOR, US-DEPARTMENT OF AGRICULTURE.  
 \*SOURCE, NORTH CENTRAL FOREST EXPT STA, FOLWELL AVE, ST PAUL, MN, 1975, 7 PP.  
 \*KEYWORDS, ECONOMICS, FOSSIL FUELS, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 750000

\*TITLE, MOTOR GASOLINE.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, FEA MONTHLY ENERGY REVIEW, JAN 1975, 38 PP.  
 \*KEYWORDS, ECONOMICS, FOSSIL FUELS.  
 \*NOTES, FILED.  
 \*DATE, 750100

## ABSTRACT 698

\*TITLE, HINTON MINNESOTA TRADEOFF MODEL - ENERGY/ECONOMY/ENVIRONMENT.  
 \*AUTHOR, VENEGAS E C, MAKI W R, CARTER J E.  
 \*SOURCE, MINNESOTA ENERGY AGENCY, RESEARCH DIV, 740 AMERICAN CENTER BLDG, 160 E  
 KELLOGG BLVD, ST PAUL, APRIL 1975, 62 PP.  
 \*KEYWORDS, ECONOMICS, MINNESOTA, POLICY, MODELS.  
 \*NOTES, FILED.  
 \*DATE, 750400

## ABSTRACT 699

\*TITLE, ENERGY FACTS AND FIGURES.  
 \*AUTHOR, WASHINGTON STATE UNIVERSITY.  
 \*SOURCE, COLLEGE OF AGR, WASHINGTON STATE UNIV, PULLMAN, WA, AUG 1975, 18 PP.  
 \*KEYWORDS, ECONOMICS, ENERGY CONSUMPTION, USA, WIND.  
 \*NOTES, FILED.  
 \*DATE, 750800

## ABSTRACT 700

\*TITLE, IMPACTS OF ENERGY PRICE CHANGES ON FOOD COSTS.  
 \*AUTHOR, WHITTLESEY N K.  
 \*SOURCE, COLLEGE OF AGR, RESEARCH CENTER, WASHINGTON STATE UNIV, PULLMAN,  
 APRIL 1976, 18 PP.  
 \*KEYWORDS, ECONOMICS, FOOD PROCESSING.  
 \*NOTES, FILED.  
 \*DATE, 760400

## ABSTRACT 701

\*TITLE, ENERGY - THE ECONOMY AND JOBS.  
 \*AUTHOR, WINGER J G, NIELSEN C A.  
 \*SOURCE, ENERGY REPORT FROM CHASE, ENERGY ECON DIV OF THE CHASE  
 MANHATTAN BANK NA, NEW YORK, NY 10015, SEPT 1976, 8 PP.  
 \*KEYWORDS, ECONOMICS, WORLD WIDE, ENERGY CONSUMPTION, LABOR.  
 \*NOTES, FILED.  
 \*DATE, 760900

## ELECTRICAL 702 -- 746

## ABSTRACT 702

\*TITLE, RURAL ELECTRIFICATION IV.  
 \*AUTHOR, AGENCY FOR INTERNATIONAL DEVELOPMENT.  
 \*SOURCE, AID, MANILA, 1976.  
 \*KEYWORDS, ELECTRICAL, PHILIPPINES.  
 \*NOTES, AID. DOCUMENT ABOUT 1 INCH THICK.  
 \*DATE, 760000

## ABSTRACT 703

\*TITLE, RURAL ELECTRIFICATION.  
 \*AUTHOR, ANON.  
 \*SOURCE, A WORLD BANK PAPER, OCT 1975, 79 PP.  
 \*KEYWORDS, ELECTRICAL, AGRICULTURE, INTERNATIONAL.  
 \*NOTES, FILED.  
 \*DATE, 751000

\*TITLE, SMALL SCALE POWER GENERATION.  
 \*AUTHOR, ANON.  
 \*SOURCE, UNITED NATIONS, DEPT OF ECON AND SOCIAL AFFAIRS, NEW YORK, 1967,  
 215 PP.  
 \*KEYWORDS, ELECTRICAL.  
 \*NDTES, FILED.  
 \*DATE, 670000

## ABSTRACT 705

\*TITLE, ELECTRICITY FROM COAL.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES 4, BATTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH, NOV 1973, 4 PP.  
 \*KEYWORDS, ELECTRICAL, COAL.  
 \*NDTES, FILED.  
 \*DATE, 731100

## ABSTRACT 706

\*TITLE, PERSPECTIVE ON POWER.  
 \*AUTHOR, BERLIN E, CICCHETTI C, GILLEN W J.  
 \*SOURCE, CAMBRIDGE, MASS/BALLINGER PUB CO, 1975, 174 PP.  
 \*KEYWORDS, ELECTRICAL, LEGISLATION, USA.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 707

\*TITLE, ENERGY AND AGRICULTURE - ELECTRICITY.  
 \*AUTHOR, BICKERT W G, BAKKER-ARKEMA F W.  
 \*SOURCE, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824,  
 22 FEB 1974, 5 PP.  
 \*KEYWORDS, ELECTRICAL, AGRICULTURE, ENERGY SOURCES.  
 \*NDTES, FILED.  
 \*DATE, 740222

## ABSTRACT 708

\*TITLE, POWER AND ENERGY REQUIREMENTS OF ELECTRICAL APPLIANCES.  
 \*AUTHOR, CHARLSON A R.  
 \*SOURCE, HSC 3, BUILDING IN ALASKA, UNIV OF ALASKA EXTENSION SERVICE, DEC 1971,  
 3 PP.  
 \*KEYWORDS, ELECTRICAL, ALASKA, HOME, APPLIANCES.  
 \*NOTES, FILED.  
 \*DATE, 711200

## ABSTRACT 709

\*TITLE, ELECTRICITY DEMAND GROWTH AND THE ENERGY CRISIS.  
 \*AUTHOR, CHAPMAN D, TYRRELL T, MOUNT T.  
 \*SOURCE, SCIENCE, 178(4062)/703-708, 17 NOV 1972.  
 \*KEYWORDS, ELECTRICAL.  
 \*NDTES, NAS.  
 \*DATE, 721117

## ABSTRACT 710

\*TITLE, FARM APPLICATION OF RIPPLE CONTROL IN NEW ZEALAND, AUSTRALIA AND THE  
 UNITED STATES.  
 \*AUTHOR, CHARLESWORTH D A.  
 \*SOURCE, ASAE PAPER 77-3042, 1977, 9PP.  
 \*KEYWORDS, ELECTRICAL, EFFICIENCY, NEW ZEALAND, AUSTRALIA, AGRICULTURE.  
 \*NOTES, FILED. MANAGEMENT OF ELECTRICAL POWER LOAD IN FARMING HAS SHOWN  
 THAT RIPPLE CONTROL CAN PROVIDE SAVINGS FOR THE FARMER AND THE UTILITY  
 BY IMPROVING THE EFFICIENCY OF ELECTRICAL DISTRIBUTION.  
 \*DATE, 770000

## ABSTRACT 711

\*TITLE, DIRECT CONVERSION OF ENERGY.  
 \*AUTHOR, CORLISS L R.  
 \*SOURCE, U S ATOMIC ENERGY COMMISSION, TECH INFO CENTER, PO BOX 62, OAK RIDGE,  
 TENN, 1964, 34 PP.  
 \*KEYWORDS, ELECTRICAL, CONVERSION, NUCLEAR, GENERAL, FUEL CELL.  
 \*NOTES, FILED.  
 \*DATE, 640000

## ABSTRACT 712

- \*TITLE, COMPARISON OF COW POWER ELECTRICAL GENERATING SYSTEMS FOR REMOTE APPLICATION.
- \*AUTHOR, DAVIS J, MORGAN D, SMITH A.
- \*SOURCE, THERMO ELECTRON CORP, 85 FIRST AVE, WALTHAM, MASS, MARCH 1973, 35 PP.
- \*KEYWORDS, ELECTRICAL, INTERNATIONAL, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 730300

## ABSTRACT 713

- \*TITLE, GENERATORS, LINES, AND PEOPLE.
- \*AUTHOR, DETROIT EDISON CO.
- \*SOURCE, DETROIT EDISON CO, JAN 1974, 20 PP.
- \*KEYWORDS, ELECTRICAL, GENERAL, NUCLEAR, MICHIGAN.
- \*NOTES, FILED.
- \*DATE, 740100

## ABSTRACT 714

- \*TITLE, A SUMMARY OF PROGRAM EMPHASIS FOR 1975.
- \*AUTHOR, ELECTRIC POWER RESEARCH INSTITUTE.
- \*SOURCE, ELECTRIC POWER RESEARCH INST, 3412 HILLVIEW AVE, PO BOX 10412, PALO ALTO, CA, 1975, 48 PP.
- \*KEYWORDS, ELECTRICAL, DEVELOPMENT, NUCLEAR, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 750300

## ABSTRACT 715

- \*TITLE, ELECTRIC LOAD DIVERSIFICATION.
- \*AUTHOR, ENDAHL L J.
- \*SOURCE, ASAE PAPER 78-3532, 1978, 11 PP.
- \*KEYWORDS, ELECTRICAL, HOME, EFFICIENCY.
- \*NOTES, FILED. THIS PAPER DESCRIBES A RESEARCH PROGRAM AIMED AT ATTEMPTING TO EVALUATE AND QUANTIFY THE EFFECT OF CONTROLLING CERTAIN MAJOR LOADS REDUCE DEMAND AT THE RESIDENTIAL LEVEL, AND THE RESULTING IMPACT OF THIS POSSIBLE LOAD MANAGEMENT APPROACH ON TOTAL UTILITY LOADS.
- \*DATE, 780000

## ABSTRACT 716

- \*TITLE, RADIO CONTROL - A METHOD OF LOAD MANAGEMENT.
- \*AUTHOR, EVAN J G.
- \*SOURCE, ASAE PAPER 78-3022, 1978, 13 PP.
- \*KEYWORDS, ELECTRICAL.
- \*NOTES, FILED. LOAD MANAGEMENT MAY BE A WAY TO MEET PEAK DEMANDS FOR ELECTRICAL ENERGY. CENTRAL ILL LIGHT CO RADIO CONTROL TEST OF RESIDENTIAL AIR CONDITIONERS AND WATER HEATERS HAS SHOWN THAT CUSTOMERS WILL ACCEPT CONTROL AND THAT FURTHER TESTING MUST BE DONE TO QUALIFY HOW MUCH LOAD REDUCTION CAN BE ACCOMPLISHED.
- \*DATE, 780000

## ABSTRACT 717

- \*TITLE, POLICY OPTIONS TO REDUCE CONSUMPTION OF ELECTRICITY.
- \*AUTHOR, FAVERO P.
- \*SOURCE, SPECIAL PAPER NO 29, CENTER FOR RURAL MANPOWER AND PUBLIC AFFAIRS, AGR ECON DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, FEB 1978, 10 PP.
- \*KEYWORDS, ELECTRICAL, POLICY, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 780200

## ABSTRACT 718

- \*TITLE, RESEARCH STRATEGY FOR ELECTRIC POWER NEEDS OF THE FUTURE - CONFERENCE SUMMARY.
- \*AUTHOR, HALL C W.
- \*SOURCE, RESEARCH DIV, COLLEGE OF ENGR, WASHINGTON STATE UNIV, PULLMAN, 18 OCT 1972, 12 PP.
- \*KEYWORDS, ELECTRICAL, REQUIREMENTS.
- \*NOTES, FILED. ENGR FOUNDATION CONF, HENNIKER, NEW HAMPSHIRE, 20-24 AUG 1972.
- \*DATE, 721018



- \*TITLE, STATEMENT BY JOHN R. HAMANN BEFORE THE GOVERNORS ADVISORY COMMISSION ON ELECTRIC POWER ALTERNATIVES.
- \*AUTHOR, HAMANN J R.
- \*SOURCE, PRESIDENT AND CHIEF OPERATING OFFICER, DETROIT EDISON, DETROIT, MICH. 29 SEPT 1975, 36 PP.
- \*KEYWORDS, ELECTRICAL, SUPPLY DEMAND.
- \*NOTES, FILED.
- \*DATE, 750929

## ABSTRACT 720

- \*TITLE, ELECTRICITY'S ROLE IN THE FUTURE FOOD-ENERGY EQUATION.
- \*AUTHOR, HAUSER L G.
- \*SOURCE, ASAE PAPER 77-3038, 1977, 13PP.
- \*KEYWORDS, ELECTRICAL, FOSSIL FUELS, FUEL CONSUMPTION, POPULATION.
- \*NOTES, FILED. THE PROPER APPLICATION OF ELECTRICITY TO THE FOOD SYSTEM CAN CONSERVE THE PETROLEUM FUELS AND INCREASE WORLD FOOD PRODUCTION.
- \*DATE, 773000

## ABSTRACT 721

- \*TITLE, RADIO CONTROL OF APPLIANCES
- \*AUTHOR, MINSON D J.
- \*SOURCE, ASAE PAPER 77-3050, 1977, 7PP.
- \*KEYWORDS, ELECTRICAL, APPLIANCES.
- \*NOTES, FILED. THIS PAPER SHOWS HOW A RELATIVELY SMALL ELECTRIC UTILITY CAN EFFECTIVELY REDUCE ITS WHOLESALE POWER COSTS, LOWER PEAK DEMANDS FOR ELECTRICITY WITHOUT SIGNIFICANTLY ALTERING LIFESTYLES, AND CONSERVE ENERGY RESOURCES.
- \*DATE, 770000

## ABSTRACT 722

- \*TITLE, DEBUNKING MADISON AVENUE.
- \*AUTHOR, HIRST E.
- \*SOURCE, ENVIRONMENTAL ACTION, 25 JAN 1974, 2 PP.
- \*KEYWORDS, ELECTRICAL, AGRICULTURE, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 740125

## ABSTRACT 723

- \*TITLE, COSTS AND BENEFITS OF RURAL ELECTRIFICATION - A CASE STUDY IN EL SALVADOR.
- \*AUTHOR, INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT.
- \*SOURCE, IBRD, PU REPORT RES 5, 28 FEB 1975, 124 PP.
- \*KEYWORDS, ELECTRICAL, ECONOMICS, INTERNATIONAL.
- \*NOTES, AID.
- \*DATE, 750228

## ABSTRACT 724

- \*TITLE, PEAK SHAVINGS - A WEAPON TO FIGHT PEAK LOADS.
- \*AUTHOR, JACK C F.
- \*SOURCE, ASAE PAPER PRESENTED AT GOSHEN, IN, 26 APRIL 1975, 8 PP.
- \*KEYWORDS, ELECTRICAL, ECONOMICS, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 750426

## ABSTRACT 725

- \*TITLE, THE DESIGN AND APPLICATION OF INDUCTION MOTORS FOR EFFICIENT ENERGY UTILIZATION.
- \*AUTHOR, LINDHORST P K.
- \*SOURCE, ASAE PAPER 76-3538, 1976, 7 PP.
- \*KEYWORDS, ELECTRICAL, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760000

- \*TITLE, FUEL CELLS - DISPERSED GENERATION OF ELECTRICITY.
- \*AUTHOR, MAUGH T H.
- \*SOURCE, SCIENCE, 178/1273-1274, 22 DEC 1972.
- \*KEYWORDS, ELECTRICAL, FUEL CELL.
- \*NOTES, NAS.
- \*DATE, 721222

## ABSTRACT 727

- \*TITLE, MAJOR CONCERNS OF THE ELECTRIC ENERGY INDUSTRY AND IMPLICATIONS FOR AGRICULTURAL ENGINEERS.
- \*AUTHOR, MCFATE K L, PRICE D R, HANSEN M J, WINSETT I L.
- \*SOURCE, ASAE PAPER 75-3524, 8 PP.
- \*KEYWORDS, ELECTRICAL, INDUSTRY, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 728

- \*TITLE, IMPLEMENTATION OF LOAD MANAGEMENT IN THE MINNKOTA POWER COOPERATIVE SYSTEM.
- \*AUTHOR, NELSON M D.
- \*SOURCE, ASAE PAPER 77-3043, 1977, 9PP.
- \*KEYWORDS, ELECTRICAL, ECONOMICS.
- \*NOTES, FILED. A BROAD OVERVIEW OF THE MINNKOTA POWER COOPERATIVES SYSTEM-WIDE PROGRAM OF LOAD MANAGEMENT, EMBRACING THE INTERDEPENDENT AREAS OF RATE DESIGN, A CONTROL METHOD AND MANAGEABLE LOADS ARE PRESENTED.
- \*DATE, 770000

## ABSTRACT 729

- \*TITLE, ELECTRIC ENERGY.
- \*AUTHOR, PARADY W H, TURNER J H. ED.
- \*SOURCE, AMER ASSOCIATION FOR VOCATIONAL INSTRUCTIONAL MATERIALS, 120 ENGINEERING CENTER, ATHENS, GEORGIA 30602, 1976, 48 PP.
- \*KEYWORDS, ELECTRICAL, FOSSIL FUELS, NUCLEAR, GEOTHERMAL, ENVIRONMENT.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 730

- \*TITLE, LOAD MANAGEMENT - YOUR SILENT WORKER.
- \*AUTHOR, PASCHEN A J.
- \*SOURCE, ASAE PAPER 78-3026, 1978, 14 PP.
- \*KEYWORDS, ELECTRICAL.
- \*NOTES, FILED. LOAD MANAGEMENT IS VERY IMPORTANT TO MANKIND BECAUSE IT USES EXISTING EQUIPMENT AND UTILITIES DO NOT HAVE TO ADD ADDITIONAL EQUIPMENT TO TRANSMISSION AND DISTRIBUTION SYSTEMS. THE LOAD MANAGEMENT SYSTEM - LEVELOAD - IS ONE ANSWER TO ELECTRIC UTILITIES PROBLEMS IN CONTROLLING PEAK LOADS.
- \*DATE, 780000

## ABSTRACT 731

- \*TITLE, ENERGY FORUM - THE ROLE OF ELECTRIC POWER IN TOTAL ENERGY NEEDS.
- \*AUTHOR, PRICE D R.
- \*SOURCE, COLLEGE TASK FORCE ON ENERGY AND AGR, NEW YORK STATE COLLEGE OF AGR AND LIFE SCI, CORNELL UNIV, ITHACA, NY 14853, 14 JAN 1975, 59 PP.
- \*KEYWORDS, ELECTRICAL, NEW YORK, WORLD WIDE, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750114

## ABSTRACT 732

- \*TITLE, THE IMPENDING SHORTAGE OF ELECTRICITY.
- \*AUTHOR, REICHLER L F C.
- \*SOURCE, ELECTRIC PERSPECTIVES 78/4, EDISON ELECTRIC INST, 1140 CONN AVE, NW, WASHINGTON, DC 20036, 1978, 7 PP.
- \*KEYWORDS, ELECTRICAL, POLICY, COAL, NUCLEAR.
- \*NOTES, FILED.
- \*DATE, 780200

\*TITLE, THE ELECTRIC AUTOMOBILE.  
 \*AUTHOR, REID W T.  
 \*SOURCE, ENERGY PERSPECTIVES 9, BATTTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH, PP 1-5, APRIL 1974.  
 \*KEYWORDS, ELECTRICAL, AUTOMOBILE.  
 \*NOTES, FILED.  
 \*DATE, 740400

## ABSTRACT 734

\*TITLE, AGRICULTURAL RESEARCH NEEDS AS EXPRESSED BY ELECTRIC INDUSTRY.  
 \*AUTHOR, RIDCUT W J.  
 \*SOURCE, ASAE PAPER 77-3037, 1977, 16PP.  
 \*KEYWORDS, ELECTRICAL, AGRICULTURE.  
 \*NOTES, FILED. A REPORT OF AGRICULTURAL RESEARCH NEEDS AS RELATED TO  
 ELECTRIC ENERGY USED AND THE FOOD SYSTEM. AN ASSIMILATION OF RESPONSES  
 FROM POWER SUPPLIERS ACROSS THE NATION.  
 \*DATE, 770000

## ABSTRACT 735

\*TITLE, THE CAPITAL AND ENERGY CRISIS OF KILOWATTS.  
 \*AUTHOR, ROSENBERG W G.  
 \*SOURCE, GRADUATE SCHOOL OF BUSINESS, COLUMBIA UNIV, 17 JAN 1975, 13 PP.  
 \*KEYWORDS, ELECTRICAL, MICHIGAN, LEGISLATION.  
 \*NOTES, FILED.  
 \*DATE, 750117

## ABSTRACT 736

\*TITLE, STANDBY ELECTRIC POWER EQUIPMENT FOR THE FARM.  
 \*AUTHOR, THOMPSON J F, CURLEY R G.  
 \*SOURCE, WESTERN REGIONAL AGR ENGR SERVICE, 72/13-14, NOV 1977.  
 \*KEYWORDS, ELECTRICAL, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 771100

## ABSTRACT 737

\*TITLE, UNDERSTANDING ELECTRICITY AND ELECTRICAL TERMS.  
 \*AUTHOR, TURNER J H. ED.  
 \*SOURCE, INSTRUCTIONAL MATERIALS INST, AMER ASSOC FOR VOCATIONAL  
 INSTRUCTIONAL MATERIALS, ENGR CENTER, ATHENS, GA 30602, 1974, 46PP.  
 \*KEYWORDS, ELECTRICAL, GENERAL.  
 \*NOTES, FILED. FROM THIS BOOK YOU CAN DESCRIBE ELECTRICAL ENERGY AND TELL  
 HOW IT WORKS, DEFINE COMMON ELECTRICAL TERMS AND GIVE THEIR  
 RELATIONSHIPS, DETERMINE THE AMOUNT OF ELECTRICAL ENERGY USED, COMPUTE  
 THE COST OF USING ELECTRICAL ENERGY, AND DETERMINE THE LOAD AND  
 SERVICE-ENTRANCE REQUIREMENTS.  
 \*DATE, 740000

## ABSTRACT 738

\*TITLE, ENERGY NEEDS CAN BE MANAGED TO IMPROVE UTILITY LOAD FACTOR.  
 \*AUTHOR, TURREL J.  
 \*SOURCE, ASAE PAPER 76-3015, 7 PP.  
 \*KEYWORDS, ELECTRICAL, AGRICULTURE, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 739

\*TITLE, ELECTRICITY ECONOMICS.  
 \*AUTHOR, TURVEY R, ANDERSON D.  
 \*SOURCE, BALTIMORE, MD/JOHN HOPKINS UNIV PRESS, 1977, 364PP.  
 \*KEYWORDS, ELECTRICAL, ECONOMICS, DEVELOPING COUNTRIES, THAILAND, TUNISIA,  
 SUDAN, TURKEY.  
 \*NOTES, FILED. THE STUDY OF COST OF ELECTRICAL USE AND DEVELOPMENT.  
 ELECTRICITY TARIFFS. CASE STUDIES GIVEN ON SEVERAL COUNTRIES.  
 \*DATE, 770000

- \*TITLE, AGRICULTURAL IMPLICATIONS FROM THE EPRI RATE DESIGN STUDY
- \*AUTHOR, UHLER R G.
- \*SOURCE, ASAE PAPER 77-3040, 1977, 10PP.
- \*KEYWORDS, ELECTRICAL, ACCOUNTING, EFFICIENCY.
- \*NOTES, FILED. THE AGRICULTURAL ENGINEER HAS MADE, AND STILL DOES MAKE, IMPORTANT CONTRIBUTIONS IN THE AREAS OF MACHINERY, BUILDINGS, IRRIGATION, SOIL CONSERVATION, ELECTRIC POWER AND FOOD PROCESSING.
- \*DATE, 770600

## ABSTRACT 741

- \*TITLE, ELECTRIC POWER IN ASIA AND THE PACIFIC IN 1971 AND 1972.
- \*AUTHOR, UN-ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC.
- \*SCJRS, ESCAP, UN, BANGKOK, 1974, 94 PP.
- \*KEYWORDS, ELECTRICAL, INTERNATIONAL.
- \*NOTES, AID.
- \*DATE, 740900

## ABSTRACT 742

- \*TITLE, ELECTRIC ENERGY IN AFRICA - DEVELOPMENT AND PROSPECTS.
- \*AUTHOR, UN-ECONOMIC AND SOCIAL COUNCIL.
- \*SOURCE, UN ECON AND SOCIAL COUNCIL, ECON COMMISSION FOR AFRICA, SECOND AFRICAN MEETING ON ENERGY, ACCRA, GHANA, 1-12 MARCH 1976, 24 PP.
- \*KEYWORDS, ELECTRICAL, AFRICA, ENERGY CONSUMPTION, PRODUCTION, THERMOELECTRIC.
- \*NOTES, FILED.
- \*DATE, 760301

## ABSTRACT 743

- \*TITLE, THE U.S. ELECTRIC POWER SUPPLY.
- \*AUTHOR, UNION CARBIDE CORP.
- \*SOURCE, UNION CARBIDE CORP, SEPT 1975, 9 PP.
- \*KEYWORDS, ELECTRICAL, USA, GENERAL.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 744

- \*TITLE, PRINCIPAL ELECTRIC FACILITIES - GREAT LAKES REGION, MAP.
- \*AUTHOR, US-FEDERAL POWER COMMISSION.
- \*SOURCE, FEDERAL POWER COMMISSION, BUREAU OF POWER, 1975.
- \*KEYWORDS, ELECTRICAL, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 745

- \*TITLE, PRINCIPAL ELECTRIC FACILITIES - NORTH CENTRAL REGION, MAP.
- \*AUTHOR, US-FEDERAL POWER COMMISSION.
- \*SOURCE, FEDERAL POWER COMMISSION, BUREAU OF POWER, 1975.
- \*KEYWORDS, ELECTRICAL, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 746

- \*TITLE, ELECTRIC ENERGY AND FUTURE FOOD SUPPLIES - INDUSTRY VIEWPOINTS.
- \*AUTHOR, SCHMIDT A D.
- \*SOURCE, PRESENTED AT THE ENERGY FORUM, ASAE CHICAGO MEETING, 19 DEC 1978, 7 PP.
- \*KEYWORDS, ELECTRICITY, SOCIAL IMPLICATIONS, GENERAL.
- \*NOTES, FILED.
- \*DATE, 781219



## ABSTRACT 747

\*TITLE, MATERIALS, ENVIRONMENT, ENERGY - ONE VAST SYSTEM.  
\*AUTHOR, AZAROFF L V.  
\*SOURCE, RESEARCH/DEVELOPMENT, MARCH 1976, PP 32-36.  
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\*AUTHOR, BENDIXEN T W, HUFFMAN G L.  
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\*AUTHOR, BISWAS A K, BISWAS M R.  
\*SOURCE, AGR AND ENVIRONMENT, 2(4)/291-309, 1975.  
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\*AUTHOR, BOWMAN G A.  
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\*AUTHOR, CARTER L J.  
\*SOURCE, SCIENCE 182/1323-1324, 18 DEC 1973.  
\*KEYWORDS, ENVIRONMENT.  
\*NOTES, FILED.  
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\*AUTHOR, CLOUD P, BATES M, CHAPMAN J D, HENDRICKS S B.  
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\*AUTHOR, COOPER W E.  
\*SOURCE, PHI KAPPA PHI JOURNAL, 15(1)/15-21, WINTER 1975.  
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\*TITLE, GLOBAL COOLING.  
\*AUTHOR, DAMON P E, KUNEN S M.  
\*SOURCE, SCIENCE, 193(4252)/447-453, 6 AUG 1976.  
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\*DATE, 760806

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\*TITLE, SYMBIOSIS BETWEEN THE EARTH AND HUMANKIND.  
\*AUTHOR, DUBOS R.  
\*SOURCE, SCIENCE, 193(4252)/459-462, 6 AUG 1976.  
\*KEYWORDS, ENVIRONMENT, LAND USE.  
\*NOTES, FILED.  
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\*TITLE, LOSING GROUND ENVIRONMENTAL STRESS AND WORLD FOOD PROSPECTS.  
\*AUTHOR, ECKHCLM E P.  
\*SOURCE, NEW YORK/W W NORTON CO, 1976, 223 PP.  
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\*NOTES, FILED.  
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\*AUTHOR, ELIASSEN R.  
\*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 27(7)/37-42, SEPT 1971.  
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\*NOTES, FILED.  
\*DATE, 710900

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\*TITLE, HEALTH, ENVIRONMENTAL EFFECTS AND CONTROL TECHNOLOGY OF ENERGY USE.  
\*AUTHOR, US ENVIRONMENTAL PROTECTION AGENCY.  
\*SOURCE, PROC OF THE NATIONAL CONF SPONSORED BY THE OFFICE OF ENERGY, MINERALS AND INDUSTRY, WITHIN THE OFFICE OF RESEARCH AND DEV OF THE US EPA, SHERATON PARK HOTEL, WASHINGTON, D C, 9-11 FEB 1976, 340 PP.  
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\*NOTES, FILED.  
\*DATE, 760211

## ABSTRACT 760

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\*AUTHOR, US ENVIRONMENTAL PROTECTION AGENCY.  
\*SOURCE, EPA, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, JUNE 1975, 25 PP.  
\*KEYWORDS, ENVIRONMENT, AUTOMOBILE.  
\*NOTES, FILED.  
\*DATE, 750600

\*TITLE, EPA S POSITION ON THE ENERGY CRISIS.  
 \*AUTHOR, US ENVIRONMENTAL PROTECTION AGENCY.  
 \*SOURCE, EPA, OFFICE OF PUBLIC AFFAIRS, WASHINGTON D C, MARCH 1974, 16 PP.  
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 \*AUTHOR, HOLDREN J P, EHRLICH P R.  
 \*SOURCE, AMER SCIENTIST, 62/282-291, MAY-JUNE 1974.  
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 \*NOTES, FILED.  
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 \*AUTHOR, MCCALLUM B.  
 \*SOURCE, ADVANCED CONCEPTS CENTER, OFFICE OF SCI ADVISOR, DEPT OF THE ENVIRONMENT, OTTAWA, ONTARIO, CANADA, MAY 1974, 93 PP.  
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 \*AUTHOR, NATIONAL SCIENCE FOUNDATION.  
 \*SOURCE, PROC OF THE 1ST SYMPOSIUM ON RANN, NSF, WASHINGTON D C, 18-20 NOV 1973.  
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 \*AUTHOR, NEYMAN J.  
 \*SOURCE, SCIENCE, 195(4280)/754-758, 25 FEB 1977.  
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 \*NOTES, FILED. THE HAZARDS FROM BOTH CONVENTIONAL AND NUCLEAR PLANTS SHOULD BE COMPARED IN AN EPIDEMIOLOGICAL STUDY.  
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 \*AUTHOR, ODUM H T, ODUM E C.  
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- \*AUTHOR, SMERDON E T, GAITHER R B.
- \*SOURCE, ENGINEERING ISSUES - J OF PROFESSIONAL ACTIVITIES, PROC OF THE AMER SOCIETY OF CIVIL ENGR, 100(EI4)/273-287, OCT 1974.
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- \*NOTES, FILED.
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- \*AUTHOR, THORNDIKE E H.
- \*SOURCE, READING, MASS/ADDISON-WESLEY PUB CO, 1976, 286 PP.
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- \*NOTES, FILED.
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- \*AUTHOR, UN-ECONOMIC AND SOCIAL COUNCIL.
- \*SOURCE, UN ECONOMIC AND SOCIAL COUNCIL, ECON COMMISSION FOR AFRICA, SECOND AFRICAN MEETING ON ENERGY, ACCRA, GHANA, 1-12 MARCH 1976, 27 PP.
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- \*NOTES, FILED.
- \*DATE, 760301

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- \*TITLE, ENVIRONMENTAL IMPACTS OF ENERGY PRODUCTION AND UTILIZATION ON THE AFRICAN CONTINENT.
- \*AUTHOR, UN-ECONOMIC AND SOCIAL COUNCIL.
- \*SOURCE, UN ECON AND SOCIAL COUNCIL, ECON COMMISSION FOR AFRICA, SECOND AFRICAN MEETING ON ENERGY, ACCRA, GHANA, 1-12 MARCH 1976, 23 PP.
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- \*NOTES, FILED.
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- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
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- \*AUTHOR, USMANI I H.
- \*SOURCE, UNITED NATIONS ENVIRONMENT PROGRAMME, 15 JAN 1976, 88 PP.
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- \*DATE, 760115

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- \*TITLE, GLOBAL EFFECTS OF MANS PRODUCTION OF ENERGY.
- \*AUTHOR, WEINBERG A M.
- \*SOURCE, SCIENCE, 186(4160)/205, 18 OCT 1974.
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- \*NOTES, FILED.
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- \*AUTHOR, WHITE D C.
- \*SOURCE, TECH REVIEW, DEC 1973, PP 11-19.
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- \*NOTES, NAS.
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- \*TITLE, ECOLOGIC DILEMMAS.
- \*AUTHOR, WOLMAN A.
- \*SOURCE, SCIENCE, 193(4255)/740-742, 27 AUG 1976.
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- \*NOTES, FILED.
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## FERTILIZER 778 -- 829

## ABSTRACT 778

- \*TITLE, THE EFFECT OF SOILS AND FERTILIZERS ON HUMAN AND ANIMAL NUTRITION.
- \*AUTHOR, ALLAWAY W H.
- \*SOURCE, AGR INFO BULLETIN NO 378, AGR RESEARCH SERVICE AND SOIL CONSERVATION SERVICE, USDA, MARCH 1975, 52 PP.
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- \*NOTES, FILED.
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- \*TITLE, FERTILIZER - HIGHEST RETURN INPUT.
- \*AUTHOR, AMOCO OIL CO.
- \*SOURCE, AGRONOMICS 1, AMOCO OIL CO, 200 E RANDOLPH DR, CHICAGO, IL 60601, 1978, 16 PP.
- \*KEYWORDS, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 780000

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- \*AUTHOR, ANON.
- \*SOURCE, FARM CHEM, 140(6)/98 PP, JUNE 1977.
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- \*NOTES, FILED. MAGAZINE FOCUSES ON INDUSTRY REACTION TO THE ENERGY PROGRAM PROPOSED BY PRESIDENT CARTER, ON ENERGY CONSUMPTION BY THE INDUSTRY, AND WAYS TO SAVE ENERGY.
- \*DATE, 770600

## ABSTRACT 781

- \*TITLE, ECONOMIC IMPACT OF SHORTAGES ON THE FERTILIZER INDUSTRY.
- \*AUTHOR, ARTHUR D LITTLE INC.
- \*SOURCE, REPORT TO FEA, BY ARTHUR D LITTLE INC, JAN, 1975.
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- \*NOTES, FILED.
- \*DATE, 750100

## ABSTRACT 782

- \*TITLE, EFFECTS OF INCREASED ENERGY COSTS ON FERTILIZER PRODUCTION COSTS AND TECHNOLOGY.
- \*AUTHOR, BLGUIN G M.
- \*SOURCE, NATIONAL FERTILIZER DEV CENTER, TVA, MUSCLE SHOALS, ALABAMA, PP 3-30.
- \*KEYWORDS, FERTILIZER, NITROGEN, PHOSPHATE, POTASH, PRODUCTION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE,

\*TITLE, ENERGY REQUIREMENTS FOR THE PRODUCTION AND DISTRIBUTION OF CHEMICAL FERTILIZERS IN THE UNITED STATES.  
\*AUTHOR, BLOUIN G M, DAVIS C M.  
\*SOURCE, DIV OF CHEMICAL DEV, NATIONAL FERTILIZER DEV CENTER, TVA, MUSCLE SHOALS, ALABAMA, PP 51-67, UNDATED.  
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\*NOTES, FILED.  
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\*TITLE, ENERGY CONSUMPTION IN THE U.S. CHEMICAL FERTILIZER SYSTEM FROM THE GROUND TO THE GROUND.  
\*AUTHOR, DAVIS C M, BLOUIN G M.  
\*SOURCE, DIV OF CHEMICAL DEV, TVA, MUSCLE SHOALS, ALABAMA, 16-19 JUNE 1976, 28 PP.  
\*KEYWORDS, FERTILIZER, ENERGY CONSUMPTION, CHEMICALS, USA.  
\*NOTES, FILED.  
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\*AUTHOR, DAVIS J F.  
\*SOURCE, REPORT TO THE MICH STATE UNIV ENERGY TASK FORCE, CROP AND SOIL SCI DEPT, EAST LANSING, 7 AUG 1974, 4PP.  
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\*NOTES, FILED.  
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\*TITLE, THE NITROGEN CYCLE.  
\*AUTHOR, DELWICHE C C.  
\*SOURCE, SCIENTIFIC AMERICAN, SEPT 1970, PP 137-146.  
\*KEYWORDS, FERTILIZER, NITROGEN.  
\*NOTES, FILED.  
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## ABSTRACT 787

\*TITLE, FERTILIZER AND FUEL SUPPLY EFFECTS ON AGRICULTURE.  
\*AUTHOR, DONALDSON G F.  
\*SOURCE, IBRD UNPUBLISHED PAPER, 14 FEB 1974, 26 PP.  
\*KEYWORDS, FERTILIZER, ECONOMICS.  
\*NOTES, FILED.  
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## ABSTRACT 788

\*TITLE, ENHANCING BIOLOGICAL NITROGEN FIXATION.  
\*AUTHOR, EVANS H J.  
\*SOURCE, DIVISION OF BIOLOGICAL AND MEDICAL SCI OF THE NSF, WASHINGTON D C, JUNE 1975, 52 PP.  
\*KEYWORDS, FERTILIZER, NITROGEN.  
\*NOTES, FILED.  
\*DATE, 750600

## ABSTRACT 789

\*TITLE, THE EFFECTS OF ALTERNATIVE NATURAL GAS PRICING POLICIES ON THE MARKET FOR ANHYDROUS AMMONIA FERTILIZER.  
\*AUTHOR, EVERETT H W, DOERING O C.  
\*SOURCE, DEPT OF AGR ECON, PURDUE UNIV, LAFAYETTE, INDIANA, 12 PP.  
\*KEYWORDS, FERTILIZER, NITROGEN, NATURAL GAS, POLICY, ECONOMICS.  
\*NOTES, FILED.  
\*DATE,

## ABSTRACT 790

- \*TITLE, PROPER FERTILIZER MANAGEMENT SAVES ENERGY.
- \*AUTHOR, FOLLETT H.
- \*SOURCE, MF 449, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, KS, AUG 1977, 6 PP.
- \*KEYWORDS, FERTILIZER, EFFICIENCY, WASTES, NITROGEN.
- \*NOTES, FILED.
- \*DATE, 770800

## ABSTRACT 791

- \*TITLE, CHANGES IN FERTILIZER USAGE AND CROP PRODUCTION UNDER SCARCE ENERGY SUPPLIES.
- \*AUTHOR, FORSTER D L, RASK N.
- \*SOURCE, UNPUBLISHED, DEPT OF AGR ECON AND RURAL SOCIOLOGY, THE OHIO STATE UNIV, 14 PP, UNDATED.
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- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 792

- \*TITLE, GENETIC MODIFICATION ON N<sub>2</sub>-FIXING BACTERIA.
- \*AUTHOR, GORDON J K, WACEK T J, MAIER R J, BISHOP P E, BRILL W J.
- \*SOURCE, DEPT OF BACTERIOLOGY AND CENTER FOR STUDIES OF NITROGEN FIXATION, UNIV OF WISC, MADISON, 6 PP, UNDATED.
- \*KEYWORDS, FERTILIZER, NITROGEN.
- \*NOTES, FILED.
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## ABSTRACT 793

- \*TITLE, NITROGEN FIXATION RESEARCH - A KEY TO WORLD FOOD.
- \*AUTHOR, HARDY R W F, HAVELKA U D.
- \*SOURCE, SCIENCE 188/633-643, 9 MAY 1975.
- \*KEYWORDS, FERTILIZER, NITROGEN.
- \*NOTES, FILED.
- \*DATE, 750509

## ABSTRACT 794

- \*TITLE, DO FERTILIZERS WASTE ENERGY.
- \*AUTHOR, HOEFT R G, SIEMENS J C.
- \*SOURCE, CROPS AND SOILS MAGAZINE, NOV 1975, PP 12-14.
- \*KEYWORDS, FERTILIZER, ENERGY CONSUMPTION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 751100

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- \*TITLE, ENERGY CONSUMPTION AND RETURN FROM ADDING NITROGEN TO CORN.
- \*AUTHOR, HOEFT R G, SIEMENS J C.
- \*SOURCE, ILLINOIS RESEARCH, UNIV OF ILL AGR EXPT STA, 17(1)/10-11, WINTER 1975.
- \*KEYWORDS, FERTILIZER, ENERGY CONSUMPTION, NITROGEN.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 796

- \*TITLE, PRINCIPAL ISSUES FACING THE WORLD FERTILIZER ECONOMY.
- \*AUTHOR, HUGHES H, PEARSON S.
- \*SOURCE, A REPORT ON A SEMINAR ON FERTILIZER HELD BY THE AGR DEV COUNCIL AND THE INTERNATIONAL BANK FOR RECONSTRUCTION AND DEV, PRINCETON, N J, 23-25 MAY 1974, 11 PP.
- \*KEYWORDS, FERTILIZER, WORLD WIDE, SUPPLY DEMAND, NITROGEN.
- \*NOTES, FILED.
- \*DATE, 740523

- \*TITLE, LIMITATIONS OF ANIMAL WASTE REPLACEMENT FOR INORGANIC FERTILIZERS.
- \*AUTHOR, LAUER D A.
- \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL ED, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975, PP 409-432.
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- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 798

- \*TITLE, SOIL CARBON DYNAMICS AND CROPPING PRACTICES.
- \*AUTHOR, LUCAS R E, HOLTMAN J B, CONNOR L J.
- \*SOURCE, PROC OF THE ENERGY AND AGR CONF, ACADEMIC PRESS, INC, IN PRESS.
- \*KEYWORDS, FERTILIZER.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 799

- \*TITLE, THE FERTILIZER SUPPLY 1973-74.
- \*AUTHOR, MAHAN J N, STROIKE H L.
- \*SOURCE, AGR STABILIZATION AND CONSERVATION SERVICE, USDA, WASHINGTON D C, JULY 1974, 23 PP.
- \*KEYWORDS, FERTILIZER, SUPPLY DEMAND, NITROGEN, PHOSPHATE, POTASH.
- \*NOTES, FILED.
- \*DATE, 740700

## ABSTRACT 800

- \*TITLE, THE FERTILIZER SUPPLY 1974-75.
- \*AUTHOR, MAHAN J N, STROIKE H L.
- \*SOURCE, AGR STABILIZATION AND CONSERVATION SERVICE, USDA, WASHINGTON D C, APRIL 1975, 22 PP.
- \*KEYWORDS, FERTILIZER, SUPPLY DEMAND, NITROGEN, PHOSPHATE, POTASH.
- \*NOTES, FILED.
- \*DATE, 750400

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- \*TITLE, THE FERTILTZER SUPPLY 1976-77.
- \*AUTHOR, MAHAN J N, STROIKE H L.
- \*SOURCE, AGR STABILIZATION AND CONSERVATION SERVICE, USDA, WASHINGTON, D C 20013, 1977, 23 PP.
- \*KEYWORDS, FERTILIZER, NITROGEN, PHOSPHATE, POTASH, SUPPLY DEMAND, WORLD WIDE.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 802

- \*TITLE, AVOIDING A FERTILIZER SHORTAGE - WHAT ARE THE ALTERNATIVES.
- \*AUTHOR, MARTEN J F, DOWNEY W D.
- \*SOURCE, DEPT OF AGR ECON, PURDUE UNIV, LAFAYETTE, INDIANA, OCT 1973, 10 PP.
- \*KEYWORDS, FERTILIZER, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 731000

## ABSTRACT 803

- \*TITLE, NITROGEN FIXATION - RESEARCH EFFORTS INTENSIFY.
- \*AUTHOR, MARX J L.
- \*SOURCE, SCIENCE, 185/132-136, 12 JULY 1974.
- \*KEYWORDS, FERTILIZER, NITROGEN.
- \*NOTES, FILED.
- \*DATE, 740712



\*TITLE, NITROGEN FIXATION--PROSPECTS FOR GENETIC MANIPULATION.  
 \*AUTHOR, MARX J L.  
 \*SOURCE, SCIENCE, 196(4290)/638-641, 6 MAY 1977.  
 \*KEYWORDS, FERTILIZER, NITROGEN FIXATION.  
 \*NOTES, FILED.  
 \*DATE, 770506

## ABSTRACT 805

\*TITLE, CONSERVING ENERGY WITH NITRIFICATION INHIBITORS.  
 \*AUTHOR, NELSON O W, SOMMERS L E, HUBER D M, WARREN H L.  
 \*SOURCE, INDIANA AGR EXPT STA, PURDUE UNIV, WEST LAFAYETTE, 19 PP, UNDATED.  
 \*KEYWORDS, FERTILIZER, NITROGEN, CONSERVATION.  
 \*NOTES, FILED.  
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## ABSTRACT 806

\*TITLE, THE WASTE PRODUCTS OF AGRICULTURE.  
 \*AUTHOR, OCALLAGHAN J R.  
 \*SOURCE, J OF ROYAL SOCIETY OF ARTS, FEB 1975, PP 139-149.  
 \*KEYWORDS, FERTILIZER, AGRICULTURE, UNITED KINGDOM, NETHERLANDS.  
 \*NOTES, FILED.  
 \*DATE,

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\*TITLE, THE CHANGING US FERTILIZER INDUSTRY.  
 \*AUTHOR, PAUL D A, KILMER RL, ALTABELLO M A, HARRINGTON O N.  
 \*SOURCE, AGR ECON REPORT 378, US DEPT OF AGR, ECON RESEARCH SERVICE,  
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 \*KEYWORDS, FERTILIZER, INDUSTRY, ECONOMICS, NITROGEN, PHOSPHATE,  
 POTASH, NATURAL GAS.  
 \*NOTES, FILED. REPORT IS FOCUSED ON THE MANUFACTURING LEVEL OF NITROGEN,  
 PHOSPHATE, AND POTASH. STRUCTURE AND PRODUCT FLOW IS PRESENTED  
 FOR EACH ALONG WITH COST INFORMATION AND TECHNICAL DATA  
 ON THE NITROGEN.  
 \*DATE, 770800

## ABSTRACT 808

\*TITLE, FOOD, NITROGEN, AND ENERGY.  
 \*AUTHOR, PIMENTEL O.  
 \*SOURCE, NEW YORK STATE COLLEGE OF AGR AND LIFE SCI, CORNELL UNIV,  
 ITHACA, NEW YORK 14850, 18 PP.  
 \*KEYWORDS, FERTILIZER, ENERGY CONSUMPTION, ALTERNATIVES, NITROGEN.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 809

\*TITLE, ALTERNATIVE N SOURCE.  
 \*AUTHOR, ROLOFSON O E, GILBERTSON C B.  
 \*SOURCE, FARM ENERGY TIPS CC276, INST OF AGR AND NAT RESOURCES,  
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 \*KEYWORDS, FERTILIZER, NITROGEN.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 810

\*TITLE, SOIL TESTING.  
 \*AUTHOR, ROLOFSON O E, KNUDSEN O.  
 \*SOURCE, FARM ENERGY TIPS CC274, INST OF AGR AND NAT RESOURCES,  
 UNIV OF NEBR, LINCOLN, NE, 4 PP.  
 \*KEYWORDS, FERTILIZER.  
 \*NOTES, FILED.  
 \*DATE,

\*TITLE, WATER TESTING.  
\*AUTHOR, ROLOFSON D E, KNUDSEN D.  
\*SOURCE, FARM ENERGY TIPS CC275, INST OF AGR AND NAT RESOURCES,  
UNIV OF NEBR, LINCOLN, NE, 2 PP.  
\*KEYWORDS, FERTILIZER.  
\*NOTES, FILED.  
\*DATE,

## ABSTRACT 812

\*TITLE, FERTILIZER MANAGEMENT.  
\*AUTHOR, ROLOFSON D E, WIESE R A.  
\*SOURCE, FARM ENERGY TIPS CC272, INST OF AGR AND NAT RESOURCES,  
UNIV OF NEBR, LINCOLN, NE, 2 PP.  
\*KEYWORDS, FERTILIZER.  
\*NOTES, FILED.  
\*DATE,

## ABSTRACT 813

\*TITLE, INDIAN CORN CULTIVATION.  
\*AUTHOR, RUSSELL H S.  
\*SOURCE, SCIENCE 189/944-946, 19 SEPT 1975.  
\*KEYWORDS, FERTILIZER.  
\*NOTES, FILED.  
\*DATE, 750919

## ABSTRACT 814

\*TITLE, PROPER FERTILIZER MANAGEMENT SAVES ENERGY.  
\*AUTHOR, SARTAIN J B.  
\*SOURCE, ENERGY CONSERVATION FACT SHEET EC-27, INST OF FOOD AND AGR SCI, UNIV  
OF FLORIDA, GAINESVILLE, 1976, 2 PP.  
\*KEYWORDS, FERTILIZER, CONSERVATION.  
\*NOTES, FILED.  
\*DATE, 760000

## ABSTRACT 815

\*TITLE, ENERGY BALANCE IN THE USE OF FERTILIZERS.  
\*AUTHOR, SCHUFFELEN A C.  
\*SOURCE, SPAN, 18(1)/18-20, 1975.  
\*KEYWORDS, FERTILIZER, ENERGY CONSUMPTION.  
\*NOTES, FILED.  
\*DATE, 750000

## ABSTRACT 816

\*TITLE, SOLAR PROTEIN.  
\*AUTHOR, SHANMUGAM K T, VALENTINE R C.  
\*SOURCE, CALIF AGR, UNIV OF CALIF, DIV OF AGR SCI, NOV 1976.  
\*KEYWORDS, FERTILIZER, NITROGEN FIXATION.  
\*NOTES, FILED.  
\*DATE, 761100

## ABSTRACT 817

\*TITLE, ENERGY USE AND ECONOMICS IN THE MANUFACTURE OF FERTILIZERS.  
\*AUTHOR, SHERFF J L.  
\*SOURCE, ARTHUR D LITTLE INC, CAMBRIDGE, MASS, 11 PP.  
\*KEYWORDS, FERTILIZER, ECONOMICS, ENERGY CONSUMPTION, EFFICIENCY.  
\*NOTES, FILED.  
\*DATE,

\*TITLE, NITROGEN FIXATION IN GRASSES INOCULATED WITH SPIRILLUM LIPOFERUM  
 \*AUTHOR, SMITH R L. ET AL.  
 \*SOURCE, SCIENCE, 193(4257)/1003-1005, 10 SEPT 1976.  
 \*KEYWORDS, FERTILIZER, NITROGEN FIXATION.  
 \*NOTES, FILED.  
 \*DATE, 760910

## ABSTRACT 819

\*TITLE, THE ENERGY INPUT TO A BAG OF FERTILIZER.  
 \*AUTHOR, TATCHELL J A.  
 \*SOURCE, IMPERIAL CHEMICAL INDUSTRIES LIMITED, AGR DIV, PO BOX NO 1,  
 BILLINGHAM, CLEVELAND, TS23 1LB ENGLAND, 12 PP, UNDATED.  
 \*KEYWORDS, FERTILIZER, PRODUCTION.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 820

\*TITLE, 1974 ILLINOIS FERTILIZER CONFERENCE.  
 \*AUTHOR, UNIVERSITY OF ILLINOIS.  
 \*SOURCE, CONF SPONSORED BY UNIV OF ILL, URBANA, IL, 23-24 JAN 1974, 68 PP.  
 \*KEYWORDS, FERTILIZER, NITROGEN.  
 \*NOTES, FILED.  
 \*DATE, 740123

## ABSTRACT 821

\*TITLE, UNITED STATES AND WORLD FERTILIZER OUTLOOK, 1974 AND 1980.  
 \*AUTHOR, US-DEPARTMENT OF AGRICULTURE.  
 \*SOURCE, AGR ECON REPORT 257, ECON RESEARCH SERVICE, USQA, WASHINGTON DC,  
 MAY 1974, 65 PP.  
 \*KEYWORDS, FERTILIZER, USA, WORLD WIDE, NITROGEN, PHOSPHATE, POTASH.  
 \*NOTES, FILED.  
 \*DATE, 740500

## ABSTRACT 822

\*TITLE, EFFECT OF NITROGEN FERTILIZER ON CORN YIELD.  
 \*AUTHOR, VITOSH M L, LUCAS R E, BLACK R J.  
 \*SOURCE, EXTENSION BULLETIN E-802, FARM SCI SERIES, MICH STATE UNIV,  
 EAST LANSING, MI 48824, NOV 1974, 6 PP.  
 \*KEYWORDS, FERTILIZER, NITROGEN.  
 \*NOTES, FILED.  
 \*DATE, 741100

## ABSTRACT 823

\*TITLE, LONG TERM EFFECTS OF FERTILIZER, MANURE AND PLOWING DEPTH ON CORN.  
 \*AUTHOR, VITOSH M L, DAVIS J F, KNEZEK B D.  
 \*SOURCE, RESEARCH REPORT 198, FARM SCI, AGR EXPT STA, MICH STATE UNIV,  
 EAST LANSING, MI 48824, NOV 1972, 6 PP.  
 \*KEYWORDS, FERTILIZER, MANURE, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 721100

## ABSTRACT 824

\*TITLE, FERTILIZER - N., P., AND K.  
 \*AUTHOR, WHITE R G.  
 \*SOURCE, PRESENTED AT MEETING OF ASAE ENERGY TASK FORCE SUBCOMMITTEE ON  
 CONSERVATION AND ALTERNATIVES TO CURRENT PRACTICES, 11 DEC 1974, CHICAGO,  
 ILL, 8 PP.  
 \*KEYWORDS, FERTILIZER, NITROGEN, PHOSPHATE, POTASH.  
 \*NOTES, FILED.  
 \*DATE, 741211

## ABSTRACT 825

\*TITLE, FIELD EFFICIENCY GUIDES.  
 \*AUTHOR, WHITE R G.  
 \*SOURCE, INFO SERIES 100, COOPERATIVE EXTENSION SERVICE, MICH STATE UNIV,  
 EAST LANSING, MI 48824, APRIL 1966, 2 PP.  
 \*KEYWORDS, FERTILIZER, EFFICIENCY.  
 \*NOTES, FILED.  
 \*DATE, 660400

- \*TITLE, ENERGY REQUIREMENTS FOR THE PRODUCTION OF PHOSPHATE FERTILIZERS.
- \*AUTHOR, WHITE W C, JOHNSON K T.
- \*SOURCE, THE FERTILIZER INST, 1015 18TH STREET N W, WASHINGTON D C, 16 PP, UNDATED.
- \*KEYWORDS, FERTILIZER, REQUIREMENTS, PRODUCTION, PHOSPHATE, CONSERVATION.
- \*NOTES, FILED.
- \*DATE,

- \*TITLE, ENERGY PROBLEMS AND CHALLENGES IN FERTILIZER PRODUCTION.
- \*AUTHOR, WHITE W C.
- \*SOURCE, FERTILIZER INST, 1015 18TH ST N W, WASHINGTON D C, 9 DEC 1974, 11 PP.
- \*KEYWORDS, FERTILIZER, CONSERVATION, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 741204

- \*TITLE, SELECTING THE TIME AND METHOD OF FERTILIZER APPLICATION.
- \*AUTHOR, WHITNEY D A, MURPHY L S.
- \*SOURCE, ENERGY EFFICIENCY IN KANSAS AGR NO 2, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, DEC 1973, 2 PP.
- \*KEYWORDS, FERTILIZER, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 731200

- \*TITLE, BIOLOGICAL NITROGEN FIXATION.
- \*AUTHOR, WITWER S H.
- \*SOURCE, PAPER PRESENTED AT FERTILIZER INPUTS PROJECT, EAST-WEST FOOD INSTITUTE OF THE EAST-WEST CENTER, HONOLULU, HAWAII, 10 JUNE 1976, 11 PP.
- \*KEYWORDS, FERTILIZER, NITROGEN FIXATION.
- \*NOTES, FILED.
- \*DATE, 760610

## FOOD PROCESSING 830 -- 959

- \*TITLE, AMI DESCRIBES HOW MEAT PLANTS HAVE SAVED ENERGY / MORE SUGGESTIONS HOW TO SAVE ENERGY - FROM AMI TASK FORCE.
- \*AUTHOR, AMERICAN MEAT INSTITUTE.
- \*SOURCE, NATIONAL PROVISIONER, 5 FEB 1977, AND 12 FEB 1977, PP 42-44.
- \*KEYWORDS, FOOD PROCESSING, MEAT PACKING, MEAT PRODUCTS, CONSERVATION, ECONOMICS.
- \*NOTES, FILED. TWELVE CASE STUDIES ON ENERGY CONSERVATION FROM THE AMI ENERGY TASK FORCE, DESCRIBING ACTUAL PLANT EXPERIENCES. EACH STUDY HAS SIX SECTIONS - DESCRIPTION, APPLICABILITY, OPERATIONS PRIOR TO PROJECT, REVISIONS MADE, COMPARISON OF ENERGY USE BEFORE AND AFTER INSTALLATION, AND COMPARISON OF ENERGY AND OTHER SAVINGS TO CAPITAL AND OTHER OPERATING COSTS.
- \*DATE, 770200

- \*TITLE, CONSERVING ENERGY WITHIN THE BAKERY.
- \*AUTHOR, ANDERSON R C.
- \*SOURCE, BAKERS DIGEST, 47(4)/40, 42-46, 74, AUG 1973.
- \*KEYWORDS, FOOD PROCESSING, BAKERY PRODUCTS, MEAT, CONSERVATION.
- \*NOTES, FILED. ENERGY-SAVING TIPS FOR COMMERCIAL BAKERIES, TRADE JOURNAL.
- \*DATE, 730800



- \*TITLE, A STUDY OF ENERGY CONSERVATION POTENTIAL IN THE BAKING INDUSTRY.
- \*AUTHOR, ANON.
- \*SOURCE, STOCK NO 041-018-00117-4, US GOVT PRINTING OFFICE, WASHINGTON DC 20405, NOV 1976, 263 PP.
- \*KEYWORDS, FOOD PROCESSING, BAKERY PRODUCTS, BREAD, COOKIES, CRACKERS, ACCOUNTING, CONSERVATION.
- \*NOTES, DR DAUSON. PILOT ENERGY AUDITS OF FIVE REPRESENTATIVE BAKERIES - ONE LARGE CAKE PLANT, ONE BREAD PLANT, ONE BISCUIT AND CRACKER PLANT, AND TWO SMALL RETAIL BAKERIES. THIS COMPENDIUM ON INCREASING ENERGY EFFICIENCY THROUGH DIFFERENT TIME FRAMES, A SUGGESTED REPORTING AND MONITORING SYSTEM FOR TRACKING ENERGY CONSUMPTION, AND ILLUSTRATIVE APPENDICES.
- \*DATE, 761100

## ABSTRACT 833

- \*TITLE, ENERGY SAVINGS DURING FROZEN FOOD STORAGE.
- \*AUTHOR, ASHBY B H, BENNETT A M, BAILEY W A, MOLEERATANOND W, KRAMER A.
- \*SOURCE, ASAE PAPER 77-6527, DEC 1977, 19 PP.
- \*KEYWORDS, FOOD PROCESSING, FREEZING, FROZEN STORAGE, FRUITS AND VEGETABLES.
- \*NOTES, FILED. PALLET LOTS OF FROZEN OKRA, PEAS AND STRAWBERRIES WERE CONTROLLED AT A CONSTANT TEMPERATURE IN ONE ROOM AND AT DIFFERENT LOW DAYTIME TEMPERATURES AND HIGH NIGHTTIME TEMPERATURES IN THREE OTHER ROOMS FOR A ONE-YEAR PERIOD. WITHIN CERTAIN CONSTRAINTS, A NET ENERGY SAVINGS WAS REALIZED BY CONTROLLING HIGHER OVERNIGHT TEMPERATURES WITHOUT SERIOUS QUALITY DAMAGE.
- \*DATE, 771200

## ABSTRACT 834

- \*TITLE, ENERGY REQUIREMENTS FOR PRODUCTION AND PROCESSING OF SUGARBEETS IN CALIFORNIA.
- \*AUTHOR, AVLANI P K, SINGH R P, CHANCELLOR W J.
- \*SOURCE, PROC OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, MA, 9-13 AUG 1976, 25 PP.
- \*KEYWORDS, FOOD PROCESSING, BEET SUGAR, ENERGY CONSUMPTION, ENERGY ACCOUNTING, CALIFORNIA.
- \*NOTES, FILED.
- \*DATE, 760809

## ABSTRACT 835

- \*TITLE, THERMODYNAMICS OF FOOD FREEZING.
- \*AUTHOR, BAIRD D, GRESSGOTT H.
- \*SOURCE, ASAE PAPER 78-6544, 1978, 9 PP.
- \*KEYWORDS, FOOD PROCESSING, FREEZING, ENERGY FLOW.
- \*NOTES, FILED. A LABORATORY EXERCISE IN FOOD FREEZING, INCLUDING AN INTRODUCTION TO THE THERMODYNAMICS OF FREEZING AND SAMPLE CALCULATIONS FOR FREEZING TIMES.
- \*DATE, 781819

## ABSTRACT 836

- \*TITLE, ENERGY COSTS OF A CONVENTIONAL AND AIR RECYCLING CROSS FLOW RICE DRYER.
- \*AUTHOR, BAKSHI A S, SINGH R P, WANG C Y, STEFFE J F.
- \*SOURCE, ASAE PAPER 78-3011, JUNE 1978, 22 PP.
- \*KEYWORDS, FOOD PROCESSING, DRYING, RICE MILLING, EFFICIENCY.
- \*NOTES, FILED. ENERGY NEEDED FOR DRYING RICE IN A CROSS FLOW DRYER, WITH AND WITHOUT RECYCLING OF EXHAUST AIR, UNDER VARIOUS DRYING CONDITIONS ARE COMPARED. DIFFERENT RECYCLING CONFIGURATIONS ARE CONSIDERED. RECYCLING REDUCES THE ENERGY REQUIREMENT AND RESULTS IN MORE UNIFORM RICE DRYING WITH NO HEAT LOSS IN RICE MILLING QUALITY.
- \*DATE, 780600

## ABSTRACT 837

- \*TITLE, OPTIMIZATION OF SUGAR FACTORY STATIONS WITH REFERENCE TO THE POWER HOUSE ECONOMY.
- \*AUTHOR, BALOH A.
- \*SOURCE, ZUCKER, 29(16)/541-548, 1976.
- \*KEYWORDS, FOOD PROCESSING, BEET SUGAR, ACCOUNTING, CONSERVATION, GERMANY.
- \*NOTES, FILED. DISCUSSES OPTIMIZATION OF EVAPORATOR STATION IN RESPECT TO POWER HOUSE ECONOMY, CONSIDERING ALSO OPERATION AND PLANT COSTS. IN GERMAN, BRIEF ENGLISH SUMMARY.
- \*DATE, 760000

## ABSTRACT 838

- \*TITLE, AN EXPERIMENTAL APPARATUS FOR DIRECT SOLAR DRYING.
- \*AUTHOR, BEACH C D.
- \*SOURCE, FLORIDA SOLAR ENERGY CENTER, 300 STATE RD401, CAPE CANAVERAL, FL 32920, OCT 1978, 7 PP.
- \*KEYWORDS, FOOD PROCESSING, SOLAR, DEHYDRATION.
- \*NOTES, FILED. AN EXPERIMENTAL SOLAR DRYER WAS DESIGNED TO BE USED IN FINDING THE BEST WAY TO USE SOLAR RADIATION IN COMBINATION WITH HEATED AIR FOR DRYING A VARIETY OF FOOD PIECES.
- \*DATE, 781000

## ABSTRACT 839

- \*TITLE, ENERGY THRIFT IN PACKAGING AND MARKETING.
- \*AUTHOR, BERRY S R, MAKINO H.
- \*SOURCE, TECHNOLOGY REVIEW, FEB 1974, PP 32-43.
- \*KEYWORDS, FOOD PROCESSING, ENERGY ACCOUNTING, MARKETING.
- \*NOTES, FILED. ANALYZED ARE THE ENERGY COSTS OF PRODUCTION, USE, AND DISPOSAL OF PACKAGING OF CONSUMER GOODS. ENERGY SAVINGS VIA RECYCLING, REUSING, AND THE INCINERATION OF PACKAGING MATERIALS ARE CONSIDERED.
- \*DATE, 740200

## ABSTRACT 840

- \*TITLE, HEAT RECOVERY IN A CHEESE PLANT.
- \*AUTHOR, BEUZIT P G, CIROTTEAU J.
- \*SOURCE, REVUE LAITIÈRE FRANÇAISE, 352/222-227, APRIL 1977.
- \*KEYWORDS, FOOD PROCESSING, CHEESE, HEAT, CONSERVATION, ACCOUNTING, FRANCE.
- \*NOTES, FILED. DISCUSSES ENERGY USE AND HEAT FLOW WITHIN A CHEESE OPERATION, AND WAYS TO INCREASE HEAT EFFICIENCY. IN FRENCH.
- \*DATE, 770400

## ABSTRACT 841

- \*TITLE, ENERGY - ITS EFFICIENT USE AND CONSERVATION IN THE FOOD AND DAIRY INDUSTRY (A SYMPOSIUM).
- \*AUTHOR, BLAXTER K L, STARKIE G L, HARDING F, BUNT B P, WESTON H B.
- \*SOURCE, J OF THE SOC OF DAIRY TECH, 28(3)/119-148, 1975.
- \*KEYWORDS, FOOD PROCESSING, DAIRY PRODUCTS, PACKAGING, CONSERVATION, ACCOUNTING, WATER USE.
- \*NOTES, FILED. FIVE PAPERS.  
ENERGY AND THE PRODUCTIVITY OF AGRICULTURE BY BLAXTER (ABSTRACTED).  
SOME ASPECTS OF ENERGY CONSERVATION IN DAIRY PROCESS PLANT BY STARKIE.  
CONSERVATION OF RAW MATERIALS BY HARDING.  
THE ENERGY USED BY PACKAGING AND ITS MINIMIZATION BY BUNT.  
FUEL - ITS EFFICIENT USE -- PRESENT AND FUTURE BY WESTON.
- \*DATE, 750000

## ABSTRACT 842

- \*TITLE, MODIFICATION OF FOOD PROCESSING FOR REDUCED ENERGY CONSUMPTION AND EFFLUENT GENERATION.
- \*AUTHOR, BOMBEN J L.
- \*SOURCE, ASAE PAPER 75-6515, DEC 1975.
- \*KEYWORDS, FOOD PROCESSING, BLANCHING, FRUITS AND VEGETABLES, WATER USE, ALTERNATIVES, SOLAR, DEHYDRATION.
- \*NOTES, FILED. FOOD PROCESSING MODIFICATIONS THAT COULD REDUCE WASTE GENERATION AND ENERGY CONSUMPTION ARE DESCRIBED BRIEFLY - VIBRATORY SPIRAL BLANCHER-COOLER, DECENTRALIZED TOMATO PROCESSING, COUNTER-CURRENT DE SALTING, UNIT KERNEL CORN, FLEXIBLE POUCHES, DEHYDRATION WITH SOLAR ENERGY, AND FUEL FROM AGRICULTURAL WASTES.
- \*DATE, 751200

## ABSTRACT 843

- \*TITLE, RESOURCE IMPLICATIONS WITH PARTICULAR REFERENCE TO ENERGY REQUIREMENTS FOR GLASS AND PLASTIC MILK BOTTLES.
- \*AUTHOR, BOSTEAD I.
- \*SOURCE, J OF THE SOC OF DAIRY TECH, 27(3)/159-165, 1974.
- \*KEYWORDS, FOOD PROCESSING, PACKAGING, DAIRY PRODUCTS, UNITED KINGDOM.
- \*NOTES, FILED. DISCUSSES ENERGY REQUIREMENTS FOR MILK BOTTLING IN UK INCLUDING MATERIAL USED, RETURNABLE OR NON-RETURNABLE NATURE OF BOTTLES, TRIPPAGE AND DELIVERY SYSTEM AS CRITERIA. FUTURE IMPLICATIONS.
- \*DATE, 740000

- \*TITLE, UTILITY USAGE IN SMALL SLAUGHTER PLANTS.
- \*AUTHOR, BRASINGTON C F.
- \*SOURCE, ARS-S-174, AGR RESEARCH SERVICE, USDA, MARCH 1978, 17 PP.
- \*KEYWORDS, FOOD PROCESSING, ELECTRICAL, MEAT PACKING.
- \*NOTES, FILED. UTILITY USAGE WAS STUDIED AT 11 SMALL PACKING PLANTS.
- \*DATE, 780300

## ABSTRACT 845

- \*TITLE, DRYING BEEF PACKING PLANT WASTES BYDIRECT APPLICATION OF SOLAR ENERGY.
- \*AUTHOR, BRUSEWITZ G H, FARMER D M.
- \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT VOL 3/4, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/ PERGAMON PRESS INC, 24-28 OCT 1977, PP 515-519.
- \*KEYWORDS, FOOD PROCESSING, MEAT PACKING, DEHYDRATION, SOLAR, WASTES.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 846

- \*TITLE, RECOVERY OF WASTE HEAT FROM DRYING CITRUS BY-PRODUCTS.
- \*AUTHOR, BRYAN W L.
- \*SOURCE, US CITRUS AND SUBTROPICAL PRODUCTS LABORATORY, WINTER HAVEN, FL, 1975, 31 PP.
- \*KEYWORDS, FOOD PROCESSING, DEHYDRATION, WASTE HEAT.
- \*NOTES, FILED. COMBINING CERTAIN FEATURES OF TWO COMMERCIAL WASTE HEAT EVAPORATORS IN DEHYDRATING CITRUS PULP AND PEEL MIGHT REDUCE BY A THIRD THE ENERGY REQUIRED IN A SIMPLE DIRECT DRYING PROCESS. INITIAL INVESTMENT WOULD BE ABOUT 50 PERCENT HIGHER, TO BE RECOVERED IN SIX MONTHS.
- \*DATE, 750000

## ABSTRACT 847

- \*TITLE, WATER RECYCLE IMPROVES DISC CLEANING OF TOMATOES.
- \*AUTHOR, CARROAD P A, ROSE W W.
- \*SOURCE, FOOD TECH, 31(3)/92-96, MARCH 1977.
- \*KEYWORDS, FOOD PROCESSING, FRUITS AND VEGETABLES, ECONOMICS, CONSERVATION, WATER USE.
- \*NOTES, FILED. DESCRIBES IMPROVEMENTS IN ALTERNATIVE METNODS OF CLEANING TOMATOES, WHICH DECREASE WATER AND ENERGY USAGE.
- \*DATE, 770300

## ABSTRACT 848

- \*TITLE, WATER/ENERGY TRADE-OFF IN CLEANING TOMATOES.
- \*AUTHOR, CARROAD P A, KROCHTA J M, ROSE W W.
- \*SOURCE, FOOD TECH, 30(3)/24-26, MARCH 1976.
- \*KEYWORDS, FOOD PROCESSING, FRUITS AND VEGETABLES, CONSERVATION, WATER USE.
- \*NOTES, FILED. DISCUSSES IMPLICATIONS OF MODIFIED WATER USAGE METHODS FOR CLEANING TOMATOES. DISC CLEANING SIGNIFICANTLY REDUCED FLOW OF POLLUTED WATER BUT REQUIRED MORE ENERGY THAN CONVENTIONAL METHODS.
- \*DATE, 760300

## ABSTRACT 849

- \*TITLE, ENERGY SAVING TECHNIQUES FOR THE FOOD INDUSTRY.
- \*AUTHOR, CASPER M E. ED.
- \*SOURCE, PARK RIDGE, NJ 07656/NOYES DATA CORP, 1977, 657 PP.
- \*KEYWORDS, FOOD PROCESSING, ACCOUNTING, CONSERVATION, MEAT PRODUCTS, POULTRY AND EGG PRODUCTS, DAIRY PRODUCTS, FRUITS AND VEGETABLES, GRAIN MILL PRODUCTS, BAKERY PRODUCTS, SUGAR AND CONFECTIONERY PRODUCTS, FATS AND OILS, BEVERAGES, FISH, SEAFOOD, MISCELLANEOUS FOOD PRODUCTS.
- \*NOTES, FILED. BASED ON TWO REPORTS PREPARED TO ASSIST THE FEI IN ESTABLISHING ENERGY EFFICIENCY IMPROVEMENT TARGETS FOR THE FOOD AND KINDRED PRODUCTS INDUSTRY. INCLUDES THE ENERGY IMPROVEMENT TARGETS FOR THE FOOD INDUSTRY AS A WHOLE AS WELL AS HIGHLIGHTS OF THE ANALYSIS FOR EACH OF THE 47 COMPONENT CATEGORIES OF THE FOOD INDUSTRY. THE METHODS USED ARE FULLY DESCRIBED. DETAILED DESCRIPTIONS OF OF EACH COMPONENT, AS WELL AS A COMPOSITE ENERGY PROFILE OF THE INDUSTRY AS A WHOLE ARE ALSO INCLUDED.
- \*DATE, 770600



- \*TITLE, ANALYSIS OF ENERGY UTILIZATION IN SPINACH PROCESSING.
- \*AUTHOR, CHINNAN M S, SINGH R P, PEDERSEN L D, CARROD P A, RDSE W W, JACOB N L.
- \*SOURCE, ASAE PAPER 78-6524, 1978, 23 PP.
- \*KEYWORDS, FOOD PROCESSING, ENERGY ACCOUNTING, CANNING.
- \*NOTES, FILED. AN ENERGY ACCOUNTING STUDY WAS CONDUCTED ON CANNING OF SPINACH. BOTH STEAM AND ELECTRICAL ENERGY USED BY VARIOUS UNIT OPERATIONS WERE MEASURED. ENERGY INTENSIVE UNIT OPERATIONS INCLUDE BLANCHING, HEATING IN EXHAUST BOXES AND RETORTING.
- \*DATE, 781218

## ABSTRACT 851

- \*TITLE, ERDA PROGRAMS AND OBJECTIVES - ENERGY CONSERVATION IN FOOD PROCESSING.
- \*AUTHOR, CLARK S J.
- \*SOURCE, PREPARED BY WASH SCI MARKETING, INC, FOR ERDA, DIV OF INDUSTRIAL ENERGY CONSERVATION, JULY 1977.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770700

## ABSTRACT 852

- \*TITLE, ENERGY AUDIT IN FOOD PLANT DESIGN - APPLICATION TO A MALT PLANT.
- \*AUTHOR, COLLINS C J.
- \*SOURCE, ASAE PAPER 78-6520, 21 PP.
- \*KEYWORDS, FOOD PROCESSING, ENERGY ACCOUNTING, DESIGN.
- \*NOTES, FILED.
- \*DATE, 781218

## ABSTRACT 853

- \*TITLE, INVESTIGATION OF THE INFLUENCE OF SOME FACTORS ON ENERGY REQUIREMENTS AND DUST PRODUCTION IN PULP DRYING PLANTS, ESPECIALLY WITH REGARD TO THE RETENTION TIME OF THE PULP.
- \*AUTHOR, CRONEWITZ V T, MULLER G, BISSINGER B, STADLER F.
- \*SOURCE, ZUCKER, 28(8)/401-410, 1975.
- \*KEYWORDS, FOOD PROCESSING, BEET SUGAR, ACCOUNTING, DEHYDRATION, GERMANY.
- \*NOTES, FILED. OPTIMAL DRYER EFFICIENCY DEPENDED ON THE SPECIFIC EVAPORATION, THE DRYER LOAD, THE RATE OF BOILER FLUE GAS ADDITION, THE RATE OF DRUM ROTATION, RETENTION TIME, AND GAS VELOCITY. IN GERMAN, WITH BRIEF ENGLISH SUMMARY.
- \*DATE, 750000

## ABSTRACT 854

- \*TITLE, REFRIGERATION ENERGY IN RAW MILK STORAGE.
- \*AUTHOR, CURRIER J W R.
- \*SOURCE, BULLETIN DE L INSTITUT DU FROID ANNEXE, 1/173-178, 1976.
- \*KEYWORDS, FOOD PROCESSING, FLUID MILK, STORAGE, REFRIGERATION, NEW ZEALAND.
- \*NOTES, FILED. COMPARES ENERGY EFFICIENCY OF ALTERNATIVE MILK-COOLING SYSTEMS.
- \*DATE, 760000

## ABSTRACT 855

- \*TITLE, ENERGY CONSUMPTION IN THE SUGAR INDUSTRY.
- \*AUTHOR, DAMBRINE P F.
- \*SOURCE, INDUSTRIES ALIMENTAIRES ET AGRICOLES, 91(7/8)/807-811, 1974.
- \*KEYWORDS, FOOD PROCESSING, BEET SUGAR, CONSERVATION, DEHYDRATION, FRANCE.
- \*NOTES, FILED. DESCRIBES A PROCESS INNOVATION IN BEET SUGAR EVAPORATION, WHICH INVOLVES CONTINUOUS CRYSTALLIZATION AND HEAT RECOVERY FROM EVAPORATED VAPORS, AND WHICH PERMITS A 30-35 PERCENT REDUCTION IN ENERGY CONSUMPTION AT THIS PROCESSING POINT. IN FRENCH.
- \*DATE, 740000

## ABSTRACT 856

- \*TITLE, A SIMULATION STUDY OF DECISION STRATEGIES FOR A HDG PROCESSING PLANT CONSTRAINED BY ENERGY SUPPLY REGULATIONS.
- \*AUTHOR, DAVIS G A, CONNOR L J.
- \*SOURCE, AGR ECON REPDR 326, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, MI, AUG 1977, 41PP.
- \*KEYWORDS, FOOD PROCESSING, ECONOMICS, CONSERVATION, OPERATING PROCEDURE.
- \*NOTES, FILED. THE POTENTIAL EFFECTS OF ALTERNATIVE ENERGY CONSERVATION STRATEGIES OF A MEDIUM-SIZED MIDWESTERN HDG PROCESSING PLANT. WITH THE HELP OF A SIMULATED COMPUTER MODEL, A 12 PERCENT ENERGY REDUCTION WAS ACHIEVED.
- \*DATE, 770800



- TITLE, ENERGY SAVINGS IN PULP DRYING.
- AUTHOR, DEMAUX P M, TACCARD M.
- SOURCE, INDUSTRIES ALIMENTAIRES ET AGRICOLES, 94(7/8)/737-747, 1977.
- KEYWORDS, FOOD PROCESSING, BEET SUGAR, DEHYDRATION, CONSERVATION, FRANCE.
- NOTES, FILED. THE ECONOMICS OF BEET PULP DRYING IS DISCUSSED AND POTENTIAL ENERGY-SAVING ALTERNATIVES ARE EXAMINED. IN FRENCH.
- DATE, 770000

## ABSTRACT 858

- TITLE, BAKERY OVENS AND THE ENERGY CRISIS.
- AUTHOR, DERSCH J A.
- SOURCE, BAKERS DIGEST, 47(5)/105-108, OCT 1973.
- KEYWORDS, FOOD PROCESSING, BAKERY PRODUCTS, CONSERVATION.
- NOTES, FILED. COMPARES CHARACTERISTICS OF EIGHT DIFFERENT COMMERCIAL BAKERY OVEN TYPES, IN TERMS OF ENERGY CONSERVATION.
- DATE, 731000

## ABSTRACT 859

- TITLE, INDUSTRIAL ENERGY STUDY OF SELECTED FOOD INDUSTRIES.
- AUTHOR, DEVELOPMENT PLANNING AND RESEARCH ASSOCIATES INC.
- SOURCE, US DEPT OF COMMERCE, NTIS, 5285 PORT ROYAL RD, SPRINGFIELD, VA 22161, JULY 1974, 580 PP.
- KEYWORDS, FOOD PROCESSING, INDUSTRY, ANIMAL.
- NOTES, FILED.
- DATE, 740700

## ABSTRACT 860

- TITLE, AGRO-INDUSTRIAL UTILIZATION OF REJECT HEAT AND WATER.
- AUTHOR, DIVINE T E, DEMMITT T F.
- SOURCE, ASAE PAPER 74-6520, DEC 1974.
- KEYWORDS, FOOD PROCESSING, MODELS, HEAT, WATER USE, CONSERVATION.
- NOTES, FILED. ALTERNATIVE AGRO-INDUSTRIAL PRODUCTION UNITS ARE IDENTIFIED FOR INCLUSION IN A COMPLEX TO MAKE USE OF REJECT HEAT AND WATER. AN ANALYTICAL APPROACH IS DISCUSSED FOR DEVELOPING AN OPTIMAL CONFIGURATION FOR MODELING OF SUCH A COMPLEX. THIS OPTIMAL CONFIGURATION IS EXPECTED TO MAKE USE OF A CHARACTERISTIC OF THE PROPOSED COMPLEX IN WHICH PRODUCTION UNITS ARE SEQUENTIALLY ORDERED FROM HIGH TEMPERATURE USES TO LOW TEMPERATURE USES. AN INVERSE WATER CONSUMPTION RELATIONSHIP IS EXPECTED TO RESULT WITH HIGH VOLUME WATER USE CORRESPONDING TO LOW TEMPERATURE USES.
- DATE, 741200

## ABSTRACT 861

- TITLE, ENERGY WASTAGE IN FOOD PROCESSING.
- AUTHOR, DOE P E.
- SOURCE, FOOD TECH IN AUSTRALIA, 29(4)/158-160, APRIL 1977.
- KEYWORDS, FOOD PROCESSING, CONSERVATION, CANNING, FREEZING, DEHYDRATION.
- NOTES, FILED. DESCRIBES ENERGY INPUT DURING CANNING, DRYING, AND FREEZING OF PEAS, AND DISCUSSES AREAS FOR ENERGY CONSERVATION.
- DATE, 770400

## ABSTRACT 862

- TITLE, ALINET - A DYNAMIC NETWORK MODEL OF THE FOOD PROCESSING AND DISTRIBUTION SECTOR.
- AUTHOR, DUCOT E R, LEVIS I S, LEVIS A H.
- SOURCE, SYSTEMS CONTROL INC, 1801 PAGE MILL RD, PALO ALTO, CA 94304, APRIL 1978.
- KEYWORDS, FOOD PROCESSING, MARKETING, TRANSPORTATION, ACCOUNTING, MODELS, GRAIN MILL PRODUCTS, DAIRY PRODUCTS, MEAT PRODUCTS, POLICY, POULTRY AND EGG PRODUCTS.
- NOTES, FILED. FATIONALE AND DEVELOPMENT OF A COMPUTER SIMULATION MODEL OF FOOD PROCESSING AND DISTRIBUTION, FOR EVALUATING THE IMPACT OF POLICY DECISIONS.
- DATE, 780400

## ABSTRACT 863

- TITLE, IDENTIFICATION OF MAJOR AREAS OF ENERGY UTILIZATION IN THE FOOD PROCESSING/FOOD SERVICE INDUSTRY.
- AUTHOR, DWYER S J, ET AL.
- SOURCE, NSF/RA-770029, NATIONAL SCI FOUNDATION, WASHINGTON DC, JAN 1977, 350 PP.
- KEYWORDS, FOOD PROCESSING, ACCOUNTING, MODELS.
- NOTES, FILED. CHICKEN PRODUCTS AND BY PRODUCTS WERE USED AS AN ENERGY ACCOUNTING MODEL FOR THE FOOD PROCESSING/FOOD SERVICE INDUSTRY TO IDENTIFY AREAS FOR IMPROVING THERMODYNAMIC EFFICIENCY, TO REDUCE ENERGY CONSUMPTION AND TO TRANSLATE ENERGY BENEFITS TO CONSUMERS AND OTHERS.
- DATE, 770100

- \*TITLE, REDUCTION OF RATES OF FOSSIL FUEL CONSUMPTION BY ENERGY CONSERVATION AND SOLAR ASSISTS IN FOOD CANNING OPERATIONS.
- \*AUTHOR, ELKINS E R, RALLS J W, MCHULLIN S L.
- \*SOURCE, PROC OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, 9-13 AUG 1976, P 146.
- \*KEYWORDS, FOOD PROCESSING, FOSSIL FUELS, ENERGY CONSUMPTION, CONSERVATION, SOLAR.
- \*NOTES, FILED.
- \*DATE, 760809

## ABSTRACT 865

- \*TITLE, SAFEWAY PLANS NEW SAN LEANORO PLANT AS ENERGY SAVER.
- \*AUTHOR, ELLIOTT R A.
- \*SOURCE, AMER DAIRY REVIEW, 7 PP.
- \*KEYWORDS, FOOD PROCESSING, DAIRY PRODUCTS, WATER USE.
- \*NOTES, FILED. NEW COMPUTERIZED DAIRY PRODUCTS PLANT IS DESCRIBED, WHICH CAN POTENTIALLY CONSERVE ENERGY, REDUCE WATER CONSUMPTION AND DECREASE WASTE.
- \*DATE,

## ABSTRACT 866

- \*TITLE, HEAT RECOVERY IN PROCESS PLANTS.
- \*AUTHOR, FANARITIS J P, STREICH H J.
- \*SOURCE, CHEM ENGR, 28 MAY 1973, P 80.
- \*KEYWORDS, FOOD PROCESSING, HEAT, CONSERVATION.
- \*NOTES, GENERAL PRINCIPLES AND ALTERNATIVE METHODS FOR OPTIMUM RECOVERY AND USE OF HEAT FROM ELEVATED-TEMPERATURE PROCESS STREAMS ARE PRESENTED.
- \*DATE, 730528

## ABSTRACT 867

- \*TITLE, SOME ASPECTS OF ENERGY COSTS IN FOOD PROCESSING.
- \*AUTHOR, FARRER K T H.
- \*SOURCE, FOOD TECH IN AUSTRALIA, 29(1)/7-13, JAN 1977.
- \*KEYWORDS, FOOD PROCESSING, CANNING, GENERAL, ECONOMICS, AUSTRALIA.
- \*NOTES, FILED. NOTE RESPONSE LETTER, IN FOOD TECH IN AUSTRALIA, 29(8) ON PAGE 327. DISCUSSES ENERGY IMPLICATIONS DURING ENTIRE CANNING OPERATION, INCLUDING PACKAGING, CLEANING AND EFFLUENT CONTROL.
- \*DATE, 770100

## ABSTRACT 868

- \*TITLE, STANDARDIZED TESTS COMPARE ENERGY CONSUMPTION RATES FOR STERILIZING EQUIPMENT.
- \*AUTHOR, FERRUA J P, COL M H.
- \*SOURCE, CANNER/PACKER, 144(1)/44, 1975.
- \*KEYWORDS, FOOD PROCESSING, FRUITS AND VEGETABLES, STERILIZATION, CANNING.
- \*NOTES, FILED. COMPARES HEATING EFFICIENCY OF ROTARY PRESSURE RETORT, ROTARY ATMOSPHERIC RETORT, AND FLAME STERILIZER. THE ROTARY PRESSURE RETORT WAS CLEARLY MORE EFFICIENT AND CHEAPER.
- \*DATE, 750000

## ABSTRACT 869

- \*TITLE, REFRIGERATION DEMANDS FOR MEAT PROCESSING.
- \*AUTHOR, FLEMING A K.
- \*SOURCE, BULLETIN OF L INSTITUTE OF FRODO ANNEXE, 1/285-292, 1976.
- \*KEYWORDS, FOOD PROCESSING, REFRIGERATION, MEAT PACKING, MEAT, NEW ZEALAND, ACCOUNTING.
- \*NOTES, FILED. SUMMARIZES ENERGY DEMANDS AND USAGE IN LARGE NEW ZEALAND MEAT PLANTS, AND PREDICTS PLANT PERFORMANCE (ENERGY CONSERVED, REFRIGERATION PRODUCED) FOR GIVEN MEAT PRODUCTIONS AND AMBIENT TEMPERATURES. IN ENGLISH.
- \*DATE, 760000

## ABSTRACT 870

- \*TITLE, ENERGY ANALYSIS IN DEHYDRATION PROCESSES.
- \*AUTHOR, FLINK J M.
- \*SOURCE, FOOD TECH, 31(3)/77-84, MARCH 1977.
- \*KEYWORDS, FOOD PROCESSING, DEHYDRATION, ACCOUNTING.
- \*NOTES, FILED. CALCULATION OF ENERGY REQUIRED TO REMOVE 1 KG WATER THROUGH AIR DRYING AT SEVERAL TEMPERATURES, DRUM DRYING, AND FREEZE DRYING. MUCH MORE ENERGY IS REQUIRED BY FREEZE DRYING THAN BY THE OTHERS, AND AIR DRYING REQUIRED THE LEAST ENERGY IN SPECIAL SECTION ON ENERGY.
- \*DATE, 770300

- \*TITLE, DIRECT STEAM INJECTION WATER HEATER CUTS FUEL COSTS 7 PERCENT, INCREASES PRODUCTION 10 PERCENT / STEAM INJECTION HEATERS SUPPLY MORE WATER, CONTINUOUSLY WITH CLOSER TEMPERATURE CONTROL.
- \*AUTHOR, FOOD PROCESSING.
- \*SOURCE, FOOD PROCESSING, 37(11)/1976 AND 33(1)/1972.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION, POULTRY SLAUGHTER.
- \*NOTES, FILED. DESCRIBES WATER HEATER SYSTEM DESIGNED FOR PET FOOD PLANT WHICH IS MEDED TO MAINTAIN WATER AT A CONSTANT TEMPERATURE FOR INGREDIENT AND PROCESS USE. SYSTEM ELIMINATED HUGE HOLDING TANK, THUS FREEING FLOOR SPACE, AS WELL AS REDUCED WATER HAMMER, PROCESS SLOW-DOWNS, AND FUEL COSTS. SECOND ARTICLE DESCRIBES SIMILAR INSTALLATION IN A POULTRY PROCESSING PLANT.
- \*DATE, 761130

## ABSTRACT 872

- \*TITLE, NEW BOILER SAVES \$48,000 IN FIRST YEAR.
- \*AUTHOR, FOOD PROCESSING.
- \*SOURCE, FOOD PROCESSING, 38(1)/168, 1977.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION, MEAT, FRUITS AND VEGETABLES.
- \*NOTES, FILED. INSTALLATION OF NEW 800 HP GAS/OIL BOILER (WHICH OPERATES AT 85 PERCENT FUEL TO STEAM EFFICIENCY) SIMULTANEOUSLY WITH HEAT EXCHANGE TO PREHEAT BOILER WATER FROM PROCESS WASTEWATER, RESULTED IN INCREASED PLANT CAPACITY (21,000 MORE CASES) FOR FEWER THERMS (173,654 FEWER) AND LOWER FUEL COSTS (\$28,000).
- \*DATE, 773100

## ABSTRACT 873

- \*TITLE, VENTURI STEAM BLANCHER SAVES 50 PERCENT IN FUEL COSTS.
- \*AUTHOR, FOOD PROCESSING.
- \*SOURCE, FOOD PROCESSING, 38(7)/96-97, 1977.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION, FRUITS AND VEGETABLES, BLANCHING.
- \*NOTES, FILED. NEW BLANCHER DESIGN REDUCES FUEL COSTS 50 PERCENT WHILE INCREASING PRODUCT VOLUME AND IMPROVING QUALITY. RECIRCULATES STEAM INSIDE TOTALLY ENCLOSED HOODED UNIT, HAS WATER-SEALED PRODUCT ENTRANCE AND EXIT, AND STEAMS ON DEMAND ONLY.
- \*DATE, 770000

## ABSTRACT 874

- \*TITLE, CONSERVE ENERGY, INCREASE EFFICIENCY.
- \*AUTHOR, FOOD PROCESSING INDUSTRY.
- \*SOURCE, FOOD PROCESSING INDUSTRY, 46(543)/7 PP, 1977.
- \*KEYWORDS, FOOD PROCESSING, ACCOUNTING, CONSERVATION, SOLAR.
- \*NOTES, FILED. DESCRIBES HOW TO PREPARE AN ENERGY AUDIT, AND HOW TO INCREASE ENERGY EFFICIENCY THROUGH CONSERVATION METHODS. ALSO GIVES CASE STUDY OF SOLAR ENERGY USED ON A BROILER HOUSE.
- \*DATE, 770000

## ABSTRACT 875

- \*TITLE, OPTIMIZATION OF DRY MILK PROCESS.
- \*AUTHOR, FOUTS D A, OKOS M R, PEART R M.
- \*SOURCE, ASAE PAPER 78-6523, 1978, 11 PP.
- \*KEYWORDS, FOOD PROCESSING, FLUID MILK, DRYING.
- \*NOTES, FILED. THE MILK DRYING PROCESS INVOLVES THE OPERATIONS OF EVAPORATION AND SPRAY DRYING. BOTH OPERATIONS ARE HIGHLY ENERGY INTENSIVE AND A SURVEY IS MADE OF ALTERNATIVE PROCESSES WHICH WILL SAVE ENERGY OR SUBSTITUTE FOR THESE OPERATIONS.
- \*DATE, 781218

## ABSTRACT 876

- \*TITLE, ENERGY USE AND CONSERVATION IN THE FOOD INDUSTRY - UNITED STATES AND INDIA.
- \*AUTHOR, GOEL V K.
- \*SOURCE, UNIV MICROFILMS INTERNATIONAL, 300 N ZEEB RD, ANN ARBOR, MI 48106, AUG 1978, 253 PP.
- \*KEYWORDS, FOOD PROCESSING, USA, INDIA, ENERGY CONSUMPTION, TRANSPORTATION, CONSERVATION, DAIRY, FLUID MILK, CHEESE, MEAT, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 780800

## ABSTRACT 877

- \*TITLE, ENERGY PROFILE ANALYSIS IN DAIRY MANUFACTURING PLANTS.
- \*AUTHOR, GOEL V K, JORDAN W K, RAO M A.
- \*SOURCE, ASAE PAPER 78-6525, 1978, 10 PP.
- \*KEYWORDS, FOOD PROCESSING, DAIRY, ENERGY USE.
- \*NOTES, FILED. ENERGY USE IN A CHEESE PLANT FOR PROCESSING, PACKAGING, AND TRANSPORTATION IS PRESENTED. SOURCES OF THERMAL ENERGY LOSSES WERE IDENTIFIED. DISCARDED HOT WATER WAS THE MAJOR SOURCE OF THERMAL ENERGY LOSS. DATA FROM THE CHEESE PLANT ARE COMPARED WITH THOSE FROM FLUID MILK PLANTS.
- \*DATE, 780930



- \*TITLE, ENERGY USE IN ABATTOIRS AND THE POTENTIAL FOR ENERGY CONSERVATION BY WASTE HEAT RECOVERY.
- \*AUTHOR, GRAHAM A.
- \*SOURCE, ABSTRACTED IN FOOD TECH IN AUSTRALIA, 29(8)/326, AUG 1977.
- \*KEYWORDS, FOOD PROCESSING, MEAT PACKING, AUSTRALIA, ACCOUNTING.
- \*NOTES, FILED. ENERGY COSTS ARE LESS THAN FIVE PERCENT OF THE TOTAL COST OF AUSTRALIAN MEAT PRODUCTION AND THEREFORE OF LOW PRIORITY. A REASONABLE ESTIMATE FOR THE ENERGY CONSUMED IN PROCESSING ANIMALS IN ABATTOIRS WOULD APPEAR TO BE 4.0 MJ/KG OF DRESSED CARCASS WEIGHT, 3.7 MJ FROM FUELS AND 1.0 MJ FROM ELECTRICITY.
- \*DATE, 770800

## ABSTRACT 879

- \*TITLE, ENERGY CONSERVATION PROGRAM SAVES TVG \$500,000 IN 1976.
- \*AUTHOR, GRIFFITH H F, STOBBE K, HALSETH D, ROBE K.
- \*SOURCE, FOOD PROCESSING, 38(1)/112-114, 1977.
- \*KEYWORDS, FOOD PROCESSING, CANNING, FRUITS AND VEGETABLES.
- \*NOTES, FILED. DESCRIBES TRI-VALLEY GROWERS ENERGY CONSERVATION PROGRAM. STEP-BY-STEP APPROACH SQUEEZES ALL FEASIBLE HEAT FROM STEAM. ALL CONDENSATE HEAT/WATER BECOMES BOILER FEEDWATER OR PROCESS HEAT.
- \*DATE, 770000

## ABSTRACT 880

- \*TITLE, ENERGY USAGE IN FOOD PROCESSING AND DISTRIBUTION.
- \*AUTHOR, HAWTHORN J.
- \*SOURCE, SPAN, 18(1)/15-16, 1975.
- \*KEYWORDS, FOOD PROCESSING, ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 881

- \*TITLE, ENERGY CONSUMPTION IN THE TOTAL PRODUCTION CYCLE OF VARIOUS FOOD PRODUCTS.
- \*AUTHOR, HENIG Y S, SCHOEN H M.
- \*SOURCE, GENERAL FOODS CORP, CENTRAL RESEARCH DEPT, WHITE PLAINS, N Y, NOV 1975, 29 PP.
- \*KEYWORDS, FOOD PROCESSING, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 751100

## ABSTRACT 882

- \*TITLE, ENERGY REQUIREMENTS - FREEZING VS CANNING.
- \*AUTHOR, HENIG Y S, SCHOEN H M, LONDAHL G.
- \*SOURCE, FOOD ENGR, 48(9)/54-57, SEPT 1976.
- \*KEYWORDS, FOOD PROCESSING, FREEZING, CANNING, FRUITS AND VEGETABLES, MEAT PRODUCTS, ACCOUNTING, CONSERVATION.
- \*NOTES, FILED. THREE ARTICLES. FROZEN VS CANNED CORN BY HENIG AND SCHOEN. FROZEN VS CANNED PEAS BY LONDAHL. MEAT ANALOGS VS FRESH MEAT BY HENIG AND SCHOEN.
- \*DATE, 760900

## ABSTRACT 883

- \*TITLE, NEW TECHNIQUES FOR TEMPERATURE CONTROL OF PERISHABLE GOODS IN TRANSPORT AND STORAGE APPLICABLE TO THE LESS DEVELOPED AREAS.
- \*AUTHOR, JORDAN R C.
- \*SOURCE, UN CONF ON SCI AND TECH FOR DEV, PARIS, 1962, PP 120-132.
- \*KEYWORDS, FOOD PROCESSING, REFRIGERATION, INSULATION, TRANSPORTATION, STORAGE, DEVELOPING COUNTRIES.
- \*NOTES, FILED. THIS ARTICLE IS CONCERNED WITH RECENT TECHNICAL DEVELOPMENTS WHICH HAVE OCCURRED IN THE UNITED STATES AND WHICH MAY AFFECT MATERIALLY THE FUTURE DEVELOPMENT OF REFRIGERATION SYSTEMS FOR PERISHABLE PRODUCTS.
- JOURNAL

## ABSTRACT 884

- \*TITLE, HEAT PUMP APPLICATION IN MEAT PROCESSING INDUSTRY.
- \*AUTHOR, KARMAN V D.
- \*SOURCE, ASAE PAPER 78-6516, 1978, 11 PP.
- \*KEYWORDS, FOOD PROCESSING, HEAT PUMPS, MEAT.
- \*NOTES, FILED. AN ECONOMIC FEASIBILITY STUDY IS PRESENTED WHICH SHOWS THAT AN INDUSTRIAL HEAT PUMP SYSTEM FOR A MEAT PROCESSING FACILITY IS HIGHLY ATTRACTIVE. FREE WASTE ENERGY FROM THE PLANT REFRIGERATION SYSTEM CONDENSERS ARE USED AS THE SOURCE ENERGY FOR THE SYSTEM WHICH HEATS PLANT HOT WATER.
- \*DATE, 781218



- \*TITLE, ENERGY CONSUMPTION AND CONSERVATION IN SEPARATION PROCESSES.
- \*AUTHOR, KING C J.
- \*SOURCE, FOOD TECH, 31(3)/85-87, MARCH 1977.
- \*KEYWORDS, FOOD PROCESSING, SEPARATION, CONSERVATION, DEHYDRATION.
- \*NOTES, FILED. PRINCIPLES OF ENERGY CONSUMPTION IN DIFFERENT SEPARATION PROCESSES. DEWATERING, EXTRACTION, EVAPORATION, RECOVERY FROM WASTE WATER. IN SPECIAL SECTION ON ENERGY.
- \*DATE, 770300

## ABSTRACT 886

- \*TITLE, ENERGY UTILIZATION IN A DAIRY PROCESSING PLANT.
- \*AUTHOR, KNOPF F C, WILSON P W, OKOS M R.
- \*SOURCE, ASAE PAPER 78-6521, 1978, 29 PP.
- \*KEYWORDS, FOOD PROCESSING, DAIRY, ENERGY USE.
- \*NOTES, FILED. PAPER DESCRIBES HOW A DETAILED ENERGY AUDIT WAS PERFORMED IN A DAIRY PLANT. THE AMOUNT OF ENERGY NECESSARY TO PRODUCE FLUID MILK PRODUCTS, ICE CREAM AND COTTAGE CHEESE IS QUANTIFIED FOR EACH UNIT OPERATION.
- \*DATE, 781218

## ABSTRACT 887

- \*TITLE, REDUCTION OF ENERGY IN WET CORN MILLING.
- \*AUTHOR, KROCHTA J M, LOOK K T.
- \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT, 3/4, FAZZOLARE R A, SMITH C B, EDITORS, ELMFORD, NY 10528/ PERGAMON PRESS INC, 24-28 OCT 1977, PP 495-502.
- \*KEYWORDS, FOOD PROCESSING, WET CORN MILLING, ENERGY ACCOUNTING.
- \*NOTES, FILED. WET CORN MILLING IS AN ENERGY INTENSIVE PROCESS DUE TO THE NEED TO FRY AND CONCENTRATE THE RESULTING PRODUCTS. MODEST INCREASES IN DEWATERING EFFICIENCY AND DRYER EFFICIENCY COULD PRODUCE ENERGY SAVINGS OF 18 AND 14 PERCENT RESPECTIVELY. IN ADDITION, MODIFICATIONS TO THE STEEPING PRETREATMENT BEFOR MILLING COULD REDUCE OR ELIMINATE THE ENERGY REQUIREMENT FOR STEEP-WATER CONCENTRATION, WITH ENERGY SAVINGS UP TO 17 PERCENT.
- \*DATE, 771024

## ABSTRACT 888

- \*TITLE, SOLAR - - ENERGY COOLING AND FREEZING OF FOOD - A COMPUTER ANALYSIS.
- \*AUTHOR, KROCHTA J M, TUMSEY T R.
- \*SOURCE, FOOD TECH, 31(3)/61-66, 76, MARCH 1977.
- \*KEYWORDS, FOOD PROCESSING, SOLAR, CHILLING, FREEZING, ACCOUNTING, MODELS.
- \*NOTES, FILED. ANALYZES AND DISCUSSES TECHNICAL AND ECONOMIC FEASIBILITY OF SOLAR-ABSORPTION REFRIGERATION, SHOWING THAT IT IS marginally FEASIBLE FOR FREEZING OR FROZEN STORAGE AND QUITE FEASIBLE FOR REFRIGERATION, THOUGH EXPENSIVE.
- \*DATE, 770300

## ABSTRACT 889

- \*TITLE, REDUCTION OF ENERGY IN WET CORN MILLING.
- \*AUTHOR, KROCHTA J M, LOOK K T.
- \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT VOL 3/4, FAZZOLARE R A, SMITH C B, EDITORS, ELMFORD, NY 10528/ PERGAMON PRESS INC, 24-28 OCT 1977, PP 495-502.
- \*KEYWORDS, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 890

- \*TITLE, ENERGY USE IN FRUITS AND VEGETABLE PROCESSING.
- \*AUTHOR, LANG O.
- \*SOURCE, DIE INDUSTRIELLE OBST-UND GEMUSEVERWERTUNG, 60(13)/379-381, 1975.
- \*KEYWORDS, FOOD PROCESSING, FRUITS AND VEGETABLES, GENERAL, HEAT, WATER USE, GERMANY.
- \*NOTES, FILED. DISCUSSES METHODS OF INCREASING EFFICIENCY OF HEATING WATER TO APPROPRIATE PROCESSING TEMPERATURES, INCLUDING HEAT EXCHANGERS AND HEAT PUMPS. IN GERMAN.
- \*DATE, 750000

## ABSTRACT 891

- \*TITLE, ENERGY AND FOOD PRODUCTION.
- \*AUTHOR, LEACH G.
- \*SOURCE, IPC SCI AND TECH PRESS LTD, IPC HOUSE, 32 HIGH ST, GUILDFORD, SURREY, ENGLAND GU1 3EW, 1976, 137PP.
- \*KEYWORDS, FOOD PROCESSING, UNITED KINGDOM, HISTORICAL, ENERGY BUDGET.
- \*NOTES, FILED. PROVIDES INFORMATION ON THE RANGE OF ENERGY INPUTS TO PRODUCE DIFFERENT KINDS OF FOOD BY THE FULL SPECTRUM OF METHODS. IT EXPLORES RELATIONSHIPS BETWEEN ENERGY, LAND AND LABOUR USAGE. IT RELATES THE AMOUNTS OF ENERGY USED TO TRANSPORT, PACKAGE, SELL, COOK, STORE, AND PROCESS FOODSTUFFS. POINTS OUT OPPORTUNITIES FOR CONSERVING FUELS.
- \*DATE, 760000

## ABSTRACT 892

- \*TITLE, WASTE HEAT CAPTURED.
- \*AUTHOR, LEAVITT P F.
- \*SOURCE, FOOD ENGR, MARCH 1977, P 89.
- \*KEYWORDS, FOOD PROCESSING, HEAT, CONSERVATION.
- \*NOTES, FILED. ENERGY CONSERVATION THROUGH WASTE HEAT RECOVERY AT GERBER PRODUCTS.
- \*DATE, 770300

## ABSTRACT 893

- \*TITLE, BOILER MAINTENANCE AND OPERATIONS.
- \*AUTHOR, LIND J E.
- \*SOURCE, ASAE PAPER 78-6514, 1978, 3 PP.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION.
- \*NOTES, FILED. A DETAILED APPROACH TO ESTABLISHING A WORKABLE MAINTENANCE AND ENERGY CONSERVATION PROGRAM. SUGGESTIONS ON THE PROPER SELECTION OF EQUIPMENT, THE NECESSARY STEPS TO TRAIN OPERATING PERSONNAL, NECESSARY TOOLS AND TEST EQUIPMENT ARE GIVEN IN DETAIL. A 12 POINT LIST OF MAJOR AREAS THAT ENERGY AND MAINTENANCE SAVINGS CAN BE MADE SUMMARIZES THE PROGRAM.
- \*DATE, 781218

## ABSTRACT 894

- \*TITLE, FREEZING PRESERVATION IN THE FUTURE.
- \*AUTHOR, LONDAHL G.
- \*SOURCE, BULLETIN DE L INSTITUT DU FROID ANNEXE, 1/243-250, 1976.
- \*KEYWORDS, FOOD PROCESSING, FREEZING, FRUITS AND VEGETABLES, SWEDEN.
- \*NOTES, FILED. DISCUSSES FACTORS INVLOVED IN ESTIMATING FEASIBILITY OF FREEZING FOOD IN THE FUTURE. INCLUDES COMPARISONS OF VARIOUS STEPS AND ALTERNATIVE PROCESSES AND PACKAGING, FOR ENERGY USAGE, STORAGE LIFE, NUTRITIONAL VALUE AND SENSORY PROPERTIES.
- \*DATE, 760000

## ABSTRACT 895

- \*TITLE, FEASIBILITY OF USING SOLAR ENERGY IN A CANNING PLANT AND MEAT PROCESSING PLANT.
- \*AUTHOR, LUND D B, DUFFIE J A, LEVONOVICH P, HEIDEMANN R, BUELOW F H.
- \*SOURCE, ASAE PAPER 77-6518, 1977, 25 PP.
- \*KEYWORDS, FOOD PROCESSING, SOLAR, MODELS.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 896

- \*TITLE, COMPATIBILITY OF SOLAR ENERGY SUPPLY, COLLECTION AND STORAGE WITH FOOD PROCESSING ENERGY DEMANDS.
- \*AUTHOR, LUND D, BUELOW F, DUFFIE J.
- \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT VOL 3/4, FAZZOLARE R A, SMITH C B, EDITORS, ELMSEFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 527-528.
- \*KEYWORDS, FOOD PROCESSING, SOLAR, MODELS, MEAT, DAIRY, FRUITS AND VEGETABLES.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 897

- \*TITLE, COMPATIBILITY OF SOLAR ENERGY SUPPLY, COLLECTION AND STORAGE WITH FOOD PROCESSING ENERGY DEMANDS.
- \*AUTHOR, LUND D B.
- \*SOURCE, DEPT OF FOOD SCI, UNIV OF WISC, MADISON, WI 53706, 1977, 154 PP.
- \*KEYWORDS, FOOD PROCESSING, SOLAR, MEAT PACKING, CANNING, ECONOMICS.
- \*NOTES, FILED. REPORT CONTAINS THE RESULTS OF A STUDY ON THE ENERGY DEMANDS OF A CANNING PLANT AND A MEAT PROCESSING PLANT. MODELS OF SOLAR ENERGY SUPPLY AND COLLECTION ARE INCORPORATED. THE ECONOMIC FEASIBILITY OF USING SOLAR ENERGY IN SELECTED FOOD PROCESSING SYSTEMS IS ANALYZED.
- \*DATE, 770000

## ABSTRACT 898

- \*TITLE, IMPACT OF THE ENERGY CRISIS ON FOOD PACKAGING.
- \*AUTHOR, HALLOY J C.
- \*SOURCE, SOC OF THE PLASTICS INDUSTRY INC, 250 PARK AVE, NEW YORK, NY 10017, 10 JUNE 1975, 7 PP.
- \*KEYWORDS, FOOD PROCESSING, PACKAGING.
- \*NOTES, FILED.
- \*DATE, 750610

- \*TITLE, TECHNICAL AND ENGINEERING ASPECTS OF REFRIGERATED FOOD PRESERVATION.
- \*AUTHOR, MATTAROLO L.
- \*SOURCE, BULLETIN DE L INSTITUT DU FROID ANNEXE, 1/49-69, 1976.
- \*KEYWORDS, FOOD PROCESSING, REFRIGERATION.
- \*NOTES, FILED. OVERALL COLD-CHAIN EFFICIENCY DEPENDS ON ENERGY SAVING AND SYSTEM RELIABILITY. THESE FACTORS ARE DISCUSSED IN DEPTH.
- \*DATE, 760000

## ABSTRACT 900

- \*TITLE, ENERGY CONSERVATION AND ITS RELATION TO MATERIALS HANDLING IN THE FOOD INDUSTRY.
- \*AUTHOR, MATTHEWS R F.
- \*SOURCE, FOOD SCI DEPT, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 1975, 143 PP.
- \*KEYWORDS, FOOD PROCESSING, SOLAR, CONVERSION, FOSSIL FUELS, CONSERVATION, REFRIGERATION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 901

- \*TITLE, ENERGY USE PROFILES IN CITRUS PACKING PLANTS.
- \*AUTHOR, MAYOU L P, SINGH R P.
- \*SOURCE, ASAE PAPER 78-6539, 1978, 24 PP.
- \*KEYWORDS, FOOD PROCESSING, PACKING.
- \*NOTES, FILED. RESULTS FROM A SURVEY OF ENERGY USE BY CITRUS PACKING PLANTS ARE ANALYZED. A PROCEDURE TO DETERMINE OPTIMUM CONDITIONS FOR SURFACE MOISTURE REMOVAL OF WAXED CITRUS IS PRESENTED. USE OF HEAT DISCHARGED IN A REFRIGERATION SYSTEM IS EXPLORED.
- \*DATE, 781216

## ABSTRACT 902

- \*TITLE, ENERGY CONSERVATION IN THE CANNING INDUSTRY.
- \*AUTHOR, NATIONAL CANNERS ASSOCIATION.
- \*SOURCE, BULLETIN 36-L, NATIONAL CANNERS ASSOC, 1133 20TH ST NW, WASHINGTON DC, APRIL 1974, 15 PP.
- \*KEYWORDS, FOOD PROCESSING, CANNING, CONSERVATION.
- \*NOTES, FILED. PAMPHLET. CONTAINS A COLLECTION OF INDUSTRIAL CONCEPTS AND IDEAS FOR REDUCING ENERGY CONSUMPTION IN CANNING PLANTS.
- \*DATE, 740400

## ABSTRACT 903

- \*TITLE, ASHRAE MEMBERS GET TIPS ON SAVING BOTH ENERGY AND MONEY.
- \*AUTHOR, NATIONAL PROVISIONER.
- \*SOURCE, NATIONAL PROVISIONER, 2 APRIL 1977, PP 9-12, 14-15.
- \*KEYWORDS, FOOD PROCESSING, MEAT PACKING, CONSERVATION.
- \*NOTES, FILED. SUMMARIES OF PAPERS PRESENTED DURING ASHRAE SEMINAR ON ENERGY CONSERVATION IN MEAT PACKING PLANTS. TIPS TO MANAGEMENT, COVERING FACILITIES, WATER USE, UTILITIES - ENERGY CONSUMPTION AND LOSS THROUGH LEAKS OF AIR, STEAM AND WATER - REFRIGERATION SAVINGS DUE TO HOT-BONING - HISTORICAL ENERGY PROFILE AND CONSERVATION TARGETS FOR THE INDUSTRY.
- \*DATE, 770402

## ABSTRACT 904

- \*TITLE, TOTAL ENERGY TO PRODUCE FOOD SERVINGS AS A FUNCTION OF PROCESSING AND MARKETING MODES.
- \*AUTHOR, OLABODE H A, STANDING C N, CHAPMAN P A.
- \*SOURCE, J OF FOOD SCI, 42(3)/768-774, 1977.
- \*KEYWORDS, FOOD PROCESSING, GENERAL, ACCOUNTING, FRUITS AND VEGETABLES, CANNING, FREEZING, PEELING, TRANSPORTATION, MARKETING, POTATOES, DEHYDRATION.
- \*NOTES, FILED. DETAILED ENERGY ACCOUNTING WAS DONE FOR ALL MAJOR PROCESSING AND MARKETING NOTES FROM POINT OF HARVEST TO POINT OF CONSUMPTION, FOR TEN POTATO PRODUCT MODELS - FRESH, FLAKE-DRIED, MICROWAVE-DRIED, GRANULATED, SPRAY-DRIED, FREEZE-DRIED, CANNED, RETORT POUCHED, REFRIGERATED, AND FROZEN.
- \*DATE, 770000

## ABSTRACT 905

- \*TITLE, ENERGY USE AND CONSERVATION IN THE PROCESSING WORKS OF THE NEW ZEALAND MEAT INDUSTRY.
- \*AUTHOR, PEARSON R G, PILLING R G.
- \*SOURCE, LINCOLN COLLEGE, CANTERBURY, NEW ZEALAND, DEC 1975, 79 PP.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION, NEW ZEALAND.
- \*NOTES, FILED.
- \*DATE, 751200



- \*TITLE, IMPROVED OPERATIONS OF ATMOSPHERIC COOKER CUTS ENERGY BILL BY \$3900/SEASON.
- \*AUTHOR, PHILPOT J E.
- \*SOURCE, PARDEE ENGR, 935 PARDEE ST, BERKELEY, CA 94710, 6 PP.
- \*KEYWORDS, FOOD PROCESSING, CANNING, CONSERVATION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 907

- \*TITLE, DIRECT ENERGY INPUTS TO FOOD PRODUCTION.
- \*AUTHOR, PRICE D R, GUNKEL W W, CASLER G L.
- \*SOURCE, PROC OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, 9-13 AUG 1976, P 138.
- \*KEYWORDS, FOOD PROCESSING, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 760809

## ABSTRACT 908

- \*TITLE, SOLAR ENERGY FOR THE AUSTRALIAN FOOD PROCESSING INDUSTRY.
- \*AUTHOR, PROCTOR D, MORSE R N.
- \*SOURCE, SOLAR ENERGY, 19/63-72, 1976.
- \*KEYWORDS, FOOD PROCESSING, SOLAR, AUSTRALIA, ECONOMICS.
- \*NOTES, FILED. PAPER DESCRIBES SIMPLE METHODS OF MAKING ACCURATE COST EFFECTIVENESS PREDICTIONS FOR PLANT OWNERS AND OPERATORS. COST EFFECTIVENESS OF SOLAR HEAT DECREASES AS APPLICATION TEMPERATURE INCREASES. SEVENTY PERCENT OF THE HEAT USED IN AUSTRALIAN FOOD PROCESSING IS AT TEMPERATURES BELOW 100 DEGREES C. A FEASIBILITY STUDY OF A TYPICAL PLANT IN MELBOURNE SHOWS THAT IT IS TECHNICALLY PRACTICABLE TO PHASE SOLAR ENERGY INTO EXISTING PROCESSES.
- \*DATE, 760000

## ABSTRACT 909

- \*TITLE, ENERGY-HOARDING NEW IQF FREEZER SAVES OVER 20 PERCENT COMPRESSOR HP.
- \*AUTHOR, QUICK FROZEN FOODS.
- \*SOURCE, QUICK FROZEN FOODS, 38(4)/4PP, NOV 1975.
- \*KEYWORDS, FOOD PROCESSING, FRUITS AND VEGETABLES, FREEZING, CONSERVATION.
- \*NOTES, FILED. DESCRIBES NEW IQF SYSTEM WHICH CAN RUN 10-15 DEGREES F HIGHER THAN PREVIOUS MODELS DUE TO INCREASED HEAT TRANSFER IN THE FREEZING TUNNEL, THUS REDUCING HP REQUIRED.
- \*DATE, 751100

## ABSTRACT 910

- \*TITLE, ENERGY ECONOMY IN INDUSTRIAL DRYING.
- \*AUTHOR, RAME J M.
- \*SOURCE, REVUE LAITIERE FRANCAISE, 352/6PP, APRIL 1977.
- \*KEYWORDS, FOOD PROCESSING, DEHYDRATION, CONSERVATION, FRANCE, HEAT.
- \*NOTES, FILED. TECHNICAL DISCUSSION OF FACTORS INFLUENCING DEHYDRATION RATES IN FOODS AND WAYS TO OPTIMIZE ENERGY EFFICIENCY. IN FRENCH.
- \*DATE, 770400

## ABSTRACT 911

- \*TITLE, APPLICATION OF PRODUCT RETURN OSMOSIS TO REDUCE ENERGY IN BEET-SUGAR PROCESSING.
- \*AUTHOR, RANDALL J M, CAMIRAND W M, POPPER K.
- \*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT - VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 837-844.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 912

- \*TITLE, THERMAL ENERGY LOSSES AND CONSERVATION IN VEGETABLE CANNERIES OF NORTHEAST USA.
- \*AUTHOR, RAO M A.
- \*SOURCE, PROC OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, 9-13 AUG 1976, P 141.
- \*KEYWORDS, FOOD PROCESSING, HEAT, CONSERVATION, USA.
- \*NOTES, FILED.
- \*DATE, 760809



- \*TITLE, ENERGY CONSERVATION IN FOOD CANNERIES - THERMODYNAMIC AND ECONOMIC CONSIDERATIONS.
- \*AUTHOR, RAO M A, GOEL V K, KATZ J.
- \*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT - VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 845-848.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 914

- \*TITLE, THERMAL ENERGY LOSSES AND CONSERVATION IN SAUERKRAUT PROCESSING PLANTS.
- \*AUTHOR, RAO M A, KENNY J F, KATZ J, DOWNING D L.
- \*SOURCE, J OF MILK FOOD TECH, 39(8)/543-545, AUG 1976.
- \*KEYWORDS, FOOD PROCESSING, CANNING, HEAT, PICKLED FRUITS AND VEGETABLES.
- \*NOTES, FILED. SOURCES AND MAGNITUDES OF THERMAL ENERGY LOSSES IN THREE SAUERKRAUT PROCESSING PLANTS IN WESTERN NEW YORK. FUELS FOR THIS HEAT ENERGY ACCOUNTED FOR 86-95 PERCENT OF ALL ENERGY PURCHASED BY THE PLANTS. REDUCTION OF HEAT ENERGY USAGE WITH APPROPRIATE CONSERVATION METHODS IS POTENTIALLY 6-33 PERCENT, DEPENDING ON PLANT CHARACTERISTICS.
- \*DATE, 760800

## ABSTRACT 915

- \*TITLE, THERMAL ENERGY LOSSES IN VEGETABLE CANNING PLANTS.
- \*AUTHOR, RAO M A, KATZ J, KENNY J F, DOWNING D L.
- \*SOURCE, FOOD TECH, 30(12)/4 PP, 1976.
- \*KEYWORDS, FOOD PROCESSING, FRUITS AND VEGETABLES, CANNING, CONSERVATION, HEAT, ACCOUNTING.
- \*NOTES, FILED. ENERGY AUDIT AND IDENTIFICATION OF POTENTIAL CONSERVATION MEASURES IN FOUR VEGETABLE CANNERIES. THE AVERAGE HEAT LOSSES FOR ALL PLANTS WAS 15.2 PERCENT OF NET HEAT INPUT, WHILE THAT FOR HOT WATER WAS 17.3 PERCENT.
- \*DATE, 760000

## ABSTRACT 916

- \*TITLE, COMPUTER ESTIMATION OF HEAT LOSSES IN FOOD PROCESSING PLANTS.
- \*AUTHOR, RAO M A, KATZ J.
- \*SOURCE, FOOD TECH, 30(3)/36-39, 42, MARCH 1976.
- \*KEYWORDS, FOOD PROCESSING, HEAT, MODELS, ACCOUNTING, CONSERVATION.
- \*NOTES, FILED. BASED ON MODEL VEGETABLE PROCESSING PLANT, COMPUTER GENERATED ENERGY LOSS DATA FROM DISCARDED HOT WATER, EQUIPMENT, STEAM PIPES, CEILING, AND SIDE WALLS.
- \*DATE, 760300

## ABSTRACT 917

- \*TITLE, STEAM BLANCHER USES 50 PERCENT LESS ENERGY.
- \*AUTHOR, RAY A.
- \*SOURCE, FOOD PROCESSING, JAN 1975.
- \*KEYWORDS, FOOD PROCESSING, BLANCHING, FRUITS AND VEGETABLES.
- \*NOTES, FILED. HYDROSTATICALLY SEALED WASHER/STEAM BLANCHER/Cooler COMBINES ALL THREE FUNCTIONS IN ONE UNIT. PRODUCTION CAPACITY IS INCREASED, REQUIRED FLOOR SPACE IS REDUCED, AND STEAM REQUIREMENT PER LB OF PRODUCT IS HALVED.
- \*DATE, 750100

## ABSTRACT 918

- \*TITLE, ENERGY EFFICIENCY IN SUPPLYING RECOMMENDED DIETARY ALLOWANCE.
- \*AUTHOR, REHKUGLER G E.
- \*SOURCE, ASAE PAPER 76-6521, 1976, 18 PP.
- \*KEYWORDS, FOOD PROCESSING, SUPPLY DEMAND.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 919

- \*TITLE, ENERGY CONSUMPTION AND ACCEPTABILITY - COMPARISON OF COOKING METHODS AND APPLIANCES FOR BEEF PATTIES.
- \*AUTHOR, RHEE K S, DREW F.
- \*SOURCE, CONSUMER RESEARCH CENTER, TEXAS AGR EXPT STA, TEXAS A AND M UNIV, COLLEGE STATION, TX 77843, JUNE 1977, 14 PP.
- \*KEYWORDS, FOOD PROCESSING, COOKING, ENERGY CONSUMPTION, MEAT PRODUCTS.
- \*NOTES, FILED.
- \*DATE, 770600

- \*TITLE, THE EFFECT OF PROCESSING OPERATIONS ON THE ENERGY AVAILABLE FROM FOOD.
- \*AUTHOR, RICE E E.
- \*SOURCE, FOOD TECH, 21(259)/41-44, MARCH 1967.
- \*KEYWORDS, FOOD PROCESSING, FOOD ENERGY.
- \*NOTES, FILED. ENERGY AVAILABLE FROM A CONSUMED FOOD IS OFTEN INCREASED BY PROCESSING WHICH IMPROVES DIGESTIBILITY.
- \*DATE, 670300

## ABSTRACT 921

- \*TITLE, YOU CAN ESTIMATE THE VALUE OF PIPE INSULATION.
- \*AUTHOR, RIPPEN A L.
- \*SOURCE, PRODUCTION TIPS, THE NATIONAL ICE CREAM RETAILERS ASSOC, INC, FEB 1978, 4 PP.
- \*KEYWORDS, FOOD PROCESSING, INSULATION.
- \*NOTES, FILED.
- \*DATE, 780200

## ABSTRACT 922

- \*TITLE, CONSERVING ENERGY IN THE DAIRY PLANT.
- \*AUTHOR, RIPPEN A L.
- \*SOURCE, DAIRY AND ICE CREAM FIELD, 158(2)/36, 97, FEB 1975.
- \*KEYWORDS, FOOD PROCESSING, DAIRY PRODUCTS, CONSERVATION.
- \*NOTES, FILED. PRACTICAL TIPS FOR DAIRY FOOD PLANT OPERATIONS.
- \*DATE, 750200

## ABSTRACT 923

- \*TITLE, ENERGY CONSERVATION IN THE FOOD PROCESSING INDUSTRY.
- \*AUTHOR, RIPPEN A L.
- \*SOURCE, J OF MILK FOOD TECH, 38(11)/715-720, NOV 1975.
- \*KEYWORDS, FOOD PROCESSING, GENERAL, ACCOUNTING, CONSERVATION.
- \*NOTES, FILED. DESCRIBES ENERGY USAGE TRENDS IN THE FOOD PROCESSING INDUSTRY AND SUGGESTS CONSERVATION MEASURES.
- \*DATE, 751100

## ABSTRACT 924

- \*TITLE, MAKING ICE CREAM WITH LESS ENERGY.
- \*AUTHOR, RIPPEN A L.
- \*SOURCE, AMER DAIRY REVIEW, 39(8)/32D, 32F, 1977.
- \*KEYWORDS, FOOD PROCESSING, FROZEN DAIRY PRODUCTS, CONSERVATION.
- \*NOTES, FILED. TRADE JOURNAL INFORMATION TO PROCESSORS ON REDUCING ENERGY CONSUMPTION THROUGH IN-PLANT AWARENESS.
- \*DATE, 770000

## ABSTRACT 925

- \*TITLE, FUEL - HANDLE WITH CARE.
- \*AUTHOR, RIPPEN A L.
- \*SOURCE, AMER DAIRY REVIEW, 36(5)/4 PP, MAY 1974.
- \*KEYWORDS, FOOD PROCESSING, GENERAL, CONSERVATION.
- \*NOTES, FILED. HOW TO REDUCE ENERGY USE THROUGH USE OF BUILDING INSULATION, INFRARED HEAT, STEAM PIPE INSULATION, COMPLETE COMBUSTION, LOW PRESSURE STEAM AND MANAGEMENT AND EMPLOYEE COMMITMENT.
- \*DATE, 740500

## ABSTRACT 926

- \*TITLE, OUR INDUSTRY TODAY- INFLUENCE OF FUTURE ENERGY SUPPLIES ON PROCESSING PROCEDURES AND COSTS.
- \*AUTHOR, RIPPEN A L.
- \*SOURCE, J OF DAIRY SCIENCE, 62(1)/91-95, JAN 1979.
- \*KEYWORDS, FOOD PROCESSING, DAIRY.
- \*NOTES, FILED.
- \*DATE, 790100

## ABSTRACT 927

- \*TITLE, EFFECT OF MILLING CONDITIONS ON YIELDS, MILLING TIME AND ENERGY REQUIREMENTS IN A PILOT SCALE ENGELBERG RICE MILL.
- \*AUTHOR, ROBERTS E L, WASSERMAN T.
- \*SOURCE, J OF FOOD SCI, 42(3)/ 3 PP, 1977.
- \*KEYWORDS, FOOD PROCESSING, RICE MILLING, CONSERVATION.
- \*NOTES, FILED. REDUCTION IN ENERGY REQUIREMENTS AND INCREASED YIELDS CAN BE ACHIEVED BY PROPER MILL ADJUSTMENTS AND THE USE OF VARIOUS ADDITIVES. FURTHER EVALUATION NEEDED TO SELECT OPTIMUM VARIABLE COMBINATIONS.
- \*DATE, 770000

- \*TITLE, FREEZE ORICO VEGETABLES.
- \*AUTHOR, ROBERTSON G H.
- \*SOURCE, USDA WESTERN REGIONAL RESEARCH CENTER, 800 BUCHANAN ST, BERKELEY, CA 94710, REPORTED IN AGRICULTURAL RESEARCH, MARCH 1978, 13 PP.
- \*KEYWORDS, FOOD PROCESSING, FREEZING, FRUITS AND VEGETABLES.
- \*NOTES, FILED. VEGETABLES FROZEN IN LIQUID FREEZANT REQUIRE 25 PERCENT LESS ENERGY THAN THOSE FROZEN BY AIR BLAST, WITH FREEZING TIME REDUCED FROM 25 TO AS FEW AS 2 MINUTES. THE FREEZANT CONSISTS OF 15 PERCENT SALT, 15 PERCENT ALCOHOL, AND WATER AT -20 DEGREES C. VEGETABLES ARE THOROUGHLY AGITATED IN THE LIQUID THEN DRAINED AND SPUN DRY. QUALITY IS EQUAL TO CONVENTIONALLY FROZEN PRODUCTS.
- \*DATE, 780300

ABSTRACT 929

- \*TITLE, ENERGY REQUIREMENTS AND CONSERVATION IN THE MEAT PACKING INDUSTRY.
- \*AUTHOR, ROSOFF H D, RIES K M.
- \*SOURCE, PROC OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, 9-13 AUG 1976, P 145.
- \*KEYWORDS, FOOD PROCESSING, REQUIREMENTS, CONSERVATION, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 760839

ABSTRACT 930

- \*TITLE, AUTOMATIC BDLER BLOWDOWN CONTROL ACHIEVES FUEL SAVINGS.
- \*AUTHOR, ROUSE M, TAYLOR T, MANSFIELD D.
- \*SOURCE, PULP AND PAPER, AUG 1974, 2 PP.
- \*KEYWORDS, FOOD PROCESSING, HEAT, CONSERVATION.
- \*NOTES, FILED. CONTINUOUS MONITORING AND CONTROL OF TOTAL DISSOLVED SOLIDS WITH AN AUTOMATIC BOILER BLOWDOWN SYSTEM MAXIMIZES ENERGY USE. APPLICATION IN PAPER MILL IS DESCRIBED, ALTHOUGH OTHER APPLICATIONS ARE FEASIBLE.
- \*DATE, 740800

ABSTRACT 931

- \*TITLE, A REVIEW OF MICROWAVES FOR FOOD PROCESSING.
- \*AUTHOR, SALE A J H.
- \*SOURCE, J OF FOOD TECH, 11(4)/319-329, 1976.
- \*KEYWORDS, FOOD PROCESSING, MICROWAVES.
- \*NOTES, FILED. DESCRIBES MANY DIFFERENT APPLICATIONS OF MICROWAVES IN FOOD PROCESSING, ALONE AND WITH CONVENTIONAL HEAT SOURCES.
- \*DATE, 760000

ABSTRACT 932

- \*TITLE, ENERGY REQUIREMENTS FOR LIQUID FOOD CONCENTRATION.
- \*AUTHOR, SCHWARTZBERG H G.
- \*SOURCE, FOOD TECH, 31(3)/67-76, MARCH 1977.
- \*KEYWORDS, FOOD PROCESSING, DEHYDRATION, ACCOUNTING.
- \*NOTES, FILED. ANALYZES ENERGY REQUIRED TO REMOVE WATER BY SEVERAL METHODS, AND METHODS TO OPTIMIZE EFFICIENCY. IN A SPECIAL SECTION ON ENERGY.
- \*DATE, 770300

ABSTRACT 933

- \*TITLE, ENERGY USE AND CONSERVATION IN FOOD PROCESS INDUSTRY.
- \*AUTHOR, SINGH R P.
- \*SOURCE, DEPT OF AGR ENGR, UNIV OF CALIF, OAVIS, CA 95616, JAN 1979, 29 PP.
- \*KEYWORDS, FOOD PROCESSING, ENERGY CONSUMPTION, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 780100

ABSTRACT 934

- \*TITLE, COMPATIBILITY OF SOLAR ENERGY WITH FLUID MILK PROCESSING ENERGY DEMANDS.
- \*AUTHOR, SINGH R K, LUNO D B, BUELOW F H.
- \*SOURCE, ASAE PAPER 78-6526, 1978, 15 PP.
- \*KEYWORDS, FOOD PROCESSING, SOLAR, DAIRY.
- \*NOTES, FILED. COMPATIBILITY OF SOLAR ENERGY COLLECTION, STORAGE AND SUPPLY WITH ENERGY DEMANDS FOR A FLUID MILK PROCESSING PLANT WAS ASSESSED USING TRANSIENT SIMULATION PROGRAM AND F-CHART ECONOMIC ANALYSIS PROGRAM. THE RESULTS SHOW THAT SOLAR ENERGY CAN SUPPLY UP TO 34 PERCENT OF THE PROCESSING ENERGY DEMAND BUT THAT THE ECONOMIC CLIMATE MUST CHANGE MARKEDLY FOR THE SYSTEM TO BE ECONOMICALLY FEASIBLE.
- \*DATE, 781218



- \*TITLE, ENERGY CONSUMPTION AND CONSERVATION IN FOOD STERILIZATION.
- \*AUTHOR, SINGH R P.
- \*SOURCE, FOOD TECH, 31(3)/57-60, MARCH 1977.
- \*KEYWORDS, FOOD PROCESSING, STERILIZATION, ACCOUNTING, CONSERVATION.
- \*NOTES, FILED. ENERGY ANALYSIS OF THE FOOD STERILIZATION UNIT, USING A CONTINUOUS ATMOSPHERIC RETORT AS A MODEL. IN A SPECIAL SECTION ON ENERGY.
- \*DATE, 770300

## ABSTRACT 936

- \*TITLE, ENERGY ACCOUNTING IN FOOD PROCESS OPERATIONS.
- \*AUTHOR, SINGH R P.
- \*SOURCE, FOOD TECH, APRIL 1978, PP 40 - 46.
- \*KEYWORDS, FOOD PROCESSING, ENERGY ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 780400

## ABSTRACT 937

- \*TITLE, DIRECT ENERGY CONSUMPTION IN LEMON AND ORANGE PACKING PLANTS.
- \*AUTHOR, SINGH R P, HAYDU L P, O'BRIEN M.
- \*SOURCE, PRESENTED AT THE FIFTH INTERNATIONAL CONGRESS OF FOOD SCI AND TECH, KYOTO, JAPAN, 17-22 SEPT 1978, 18 PP.
- \*KEYWORDS, FOOD PROCESSING, FRUITS AND VEGETABLES, PACKAGING, ENERGY CONSUMPTION, ELECTRICAL, NATURAL GAS.
- \*NOTES, FILED. A STUDY ON CONSUMPTION OF ENERGY IN LEMON AND ORANGE PACKING PLANTS WAS CONDUCTED WITH THE FOLLOWING OBJECTIVES, (1) TO COLLECT AND ANALYZE MONTHLY ELECTRICAL AND NATURAL GAS USE DATA FROM SEVERAL PACKING PLANTS, (2) TO DEVELOPE AN ENERGY USE PROFILE FOR ORANGE AND LEMON PACKING HOUSE OPERATIONS. ENERGY DATA FOR THE PERIOD JULY 1976 TO JULY 1977 WERE OBTAINED FROM 17 CITRUS PACKING PLANTS REPRESENTING THREE DIFFERENT GEOGRAPHICAL REGIONS IN CALIFORNIA.
- \*DATE, 780917

## ABSTRACT 938

- \*TITLE, ENERGY USE AND CONSERVATION IN THE FOOD PROCESS INDUSTRY.
- \*AUTHOR, SINGH R P, STOUT B A.
- \*SOURCE, DEPT OF AGR ENGR, MICH STATE UNIV, EAST LANSING, MI 48824, 15 MARCH 1979, 31 PP.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION, ENERGY CONSUMPTION, ENERGY ACCOUNTING, STERILIZATION.
- \*NOTES, FILED.
- \*DATE, 790315

## ABSTRACT 939

- \*TITLE, ENERGY AND ENGINEERING TRADE-OFFS IN TOMORROWS FOOD PLANT.
- \*AUTHOR, SLATER L E.
- \*SOURCE, FOOD ENGR, RADNOR, PA 19089, 10 JUNE 1975, 19 PP.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION.
- \*NOTES, FILED. AUTHOR SUGGESTS THAT THE ENERGY CRUNCH OF 1973 MAY BE A POSITIVE FORCE IN FOOD PROCESS ENGINEERING.
- \*DATE, 750610

## ABSTRACT 940

- \*TITLE, SAVING ENERGY - A CORPORATE COMMITMENT.
- \*AUTHOR, SLATER L E, WESTENBERGER J A, DINNAGE D F, HEGGEMANN W.
- \*SOURCE, FOOD ENGR, 47(12)/47-58, DEC 1975.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION, DEHYDRATION, ECONOMICS, WASTES.
- \*NOTES, FILED. INTRODUCTION TO SPECIAL SECTION ON ENERGY CONSERVATION WITH THREE ARTICLES - CUTTING DOWN PROCESS FUEL REQUIREMENTS BY WESTENBERGER, HOW TO DESIGN FOR ECONOMIC EVAPORATION BY DINNAGE, TRASH BECOMES PLANT ENERGY SOURCE BY HEGGEMANN.
- \*DATE, 751200

## ABSTRACT 941

- TITLE, THE EFFECTS OF WATER POLLUTION CONTROL ON ENERGY CONSUMPTION.
- AUTHOR, STEVENS J I, KUSIK C I.
- SOURCE, CHEM ENGR, 15 AUG 1977.
- KEYWORDS, FOOD PROCESSING, WATER USE.
- NOTES, FILED. THE COSTS OF POLLUTION CONTROL (WASTEWATER TREATMENT) TAKE UP A LARGER PERCENTAGE OF TOTAL OPERATING COSTS IN THE HIGH-ENERGY, BASIC INDUSTRIES THAN FOR THE INDUSTRY AS A WHOLE.
- DATE, 770815

## ABSTRACT 942

- TITLE, THE COST OF ENERGY.
- AUTHOR, SUPERMARKET NEWS.
- SOURCE, SUPERMARKET NEWS, (2)/56 PP, 23 OCT 1978.
- KEYWORDS, FOOD PROCESSING, CONSERVATION, MARKETING.
- NOTES, FILED. 15 ARTICLES ON ENERGY USE IN SUPERMARKETS.
- DATE, 781023



## ABSTRACT 943

- \*TITLE, CHARACTERISTICS OF POWER DEMAND VARIATION WITH TIME DURING CHURNING IN A BICONICAL CHURN.
- \*AUTHOR, SYNNOTT E C.
- \*SOURCE, IRISH J OF AGR RESEARCH, 15(2)/197-206, 1976.
- \*KEYWORDS, FOOD PROCESSING, BUTTER, CONSERVATION.
- \*NOTES, FILED. AN ANALYSIS OF ENERGY USAGE DURING BUTTER CHURNING NOTED TWO PEAKS, AT THE WHIPPING AND BREAKING POINTS OF THE CREAM.
- \*DATE, 760000

## ABSTRACT 944

- \*TITLE, ENERGY ANALYSIS IN HEATING AND COOLING PROCESSES.
- \*AUTHOR, THOMPSON D R.
- \*SOURCE, FOOD TECH, 31(3)/51-56, MARCH 1977.
- \*KEYWORDS, FOOD PROCESSING, HEAT, CONSERVATION.
- \*NOTES, FILED. ANALYZES THE DIFFERENT TYPES OF HEAT EXCHANGERS USED IN FOOD PROCESSING FOR APPLICATION, HEAT TRANSFER, AND ENERGY OPTIMIZATION.
- \*DATE, 770300

## ABSTRACT 945

- \*TITLE, ENERGY UTILIZATION IN THE LEADING ENERGY CONSUMING FOOD PROCESSING INDUSTRIES.
- \*AUTHOR, UNGER S G.
- \*SOURCE, FOOD TECHNOLOGY, DEC 1975, PP 33-45.
- \*KEYWORDS, FOOD PROCESSING, AGRICULTURE, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 751200

## ABSTRACT 946

- \*TITLE, PRESERVATION OF FRESH SOLID FOODS BY GAS EXCHANGE.
- \*AUTHOR, UNIVERSITY OF MARYLAND.
- \*SOURCE, DCE CONTRACT EC 77-5-01-5-73, UNIVERSITY OF MARYLAND, COLLEGE PARK, MD 20742, APRIL 1978, 79 PP.
- \*KEYWORDS, FOOD PROCESSING, FRUITS AND VEGETABLES, MEAT, ALTERNATIVES, CONSERVATION.
- \*NOTES, FILED. SERIES OF PROGRESS REPORTS ON A PROJECT DESIGNED TO DEMONSTRATE THAT SUBSTANTIAL ENERGY SAVING ARE POSSIBLE IF FOODS ARE PROCESSED THROUGH GAS EXCHANGE RATHER THAN THROUGH CONVENTIONAL CANNING AND FREEZING METHODS. FOODS SO PROCESSED WOULD REQUIRE NO REFRIGERATION, WOULD RETAIN THE SENSORY, PHYSICAL, AND NUTRITIONAL QUALITIES OF FRESH FOODS, AND THUS COULD BE EXPECTED TO HAVE HIGH CONSUMER ACCEPTANCE.
- \*DATE, 780400

## ABSTRACT 947

- \*TITLE, IDENTIFICATION OF DIRECT ENERGY UTILIZATION FOR CHICKEN PROCESSING AND DISTRIBUTION.
- \*AUTHOR, UNKLESBAY K, UNKLESBAY N, DWYER S J.
- \*SOURCE, PROC OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, 9-13 AUG 1976, P 144.
- \*KEYWORDS, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 760809

## ABSTRACT 948

- \*TITLE, REPORT OF THE PROCEEDINGS OF THE AGRICULTURE PROCESSING INDUSTRY WORKSHOP ON ENERGY CONSERVATION.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, ERDA, DIV OF INDUSTRIAL ENERGY CONSERVATION, WASHINGTON SCI MARKETING INC, WASHINGTON DC, 4-5 MARCH 1976, 83 PP.
- \*KEYWORDS, FOOD PROCESSING, CONSERVATION, WASTES, DAIRY, AGRICULTURE, REFRIGERATION.
- \*NOTES, FILED.
- \*DATE, 760304

## ABSTRACT 949

- \*TITLE, APPLICATION OF WIND POWER TO REFRIGERATE APPLE STORAGES.
- \*AUTHOR, VAUGHAN D H, MOSES H L, O'BRIEN W F.
- \*SOURCE, ASAE PAPER 78-3526, 1978, 24 PP.
- \*KEYWORDS, FOOD PROCESSING, WIND, APPLES, STORAGE.
- \*NOTES, FILED. A WIND-POWERED COLD STORAGE FACILITY, WHICH INCLUDES A 10-KILOWATT WIND GENERATOR MOUNTED ON A 90-FT TOWER, A D.C. VAPOR COMPRESSION REFRIGERATION SYSTEM, A 1000 BUSHEL APPLE STORAGE BUILDING, AN ICE/TANK THERMAL STORAGE UNIT, AND AN ELECTRICAL (BATTERY BANK) ENERGY STORAGE, IS DESCRIBED.
- \*DATE, 781218

- \*TITLE, THE ENERGY SCENARIO OF VEGETABLE PROCESSING.
- \*AUTHOR, VERGARA W, RAD M A, JORDAN W K.
- \*SOURCE, ASAE PAPER 77-6E26, 1977, 26 PP.
- \*KEYWORDS, FOOD PROCESSING, NEW YORK, ENERGY CONSUMPTION, MODELS.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 951

- \*TITLE, PRELIMINARY SOLAR DRYING STUDIES OF SOME FLORIDA FRUITS AND VEGETABLES.
- \*AUTHOR, WAGNER C J, BRYAN W L, BERRY R E.
- \*SOURCE, US CITRUS AND SUBTROPICAL PRODUCTS LAB, PO BOX 1909, WINTER HAVEN, FL 33880, 1977, 4 PP.
- \*KEYWORDS, FOOD PROCESSING, SOLAR, DRYING, FRUITS AND VEGETABLES, FLORIDA.
- \*NOTES, FILED. FLORIDA GROWN FRUITS AND VEGETABLES WERE DRIED WITH FORCED AMBIENT AIR CIRCULATION IN AN ENCLOSED SOLAR DRYER USING DIRECT SOLAR ENERGY CONCENTRATED 2-3 FOLD BY REFLECTORS. DRIED PRODUCTS WERE COMPARED WITH SIMILAR PRODUCTS PREPARED IN A CONVENTIONAL HOT-AIR FORCED-DRAFT DRYER, AND WITH COMERCIAL PRODUCTS.
- \*DATE, 770000

## ABSTRACT 952

- \*TITLE, FUEL VALUE OF GRAPE AND APPLE PROCESSING WASTES.
- \*AUTHOR, WALTER R M, SHERMAN R M.
- \*SOURCE, J OF AGR FOOD CHEM, 24(6)/1244-1245, 1976.
- \*KEYWORDS, FOOD PROCESSING, WASTES, ALTERNATIVES.
- \*NOTES, FILED. DRIED GRAPE AND APPLE PRESS-CAKES WERE CONVERTED TO CARBON PRODUCTS BY LOW-TEMPERATURE PYROLYSIS, AND THEIR FUEL VALUES COMPARED WITH THAT OF COMMERCIAL CHARCOAL BRIQUETS. THEIR GROSS HEAT OF COMBUSTION WAS APPROXIMATELY 90 PERCENT OF THAT OF THE COMMERCIAL BRIQUET, WHILE THE DRIED PRESS-CAKES CONTAINED APPROXIMATELY 65 PERCENT.
- \*DATE, 760000

## ABSTRACT 953

- \*TITLE, PNEUMATIC CONVEYING OF HIGH-MOISTURE FOODS.
- \*AUTHOR, WANG C Y, SINGH R P, STEFFE J F.
- \*SOURCE, ASAE PAPER 77-6008, JUNE 1977, 12 PP.
- \*KEYWORDS, FOOD PROCESSING, FRUITS AND VEGETABLES, WASTES, WATER USE.
- \*NOTES, FILED. ENERGY REQUIREMENTS ARE DETERMINED FOR CONVEYING DICED CARROTS, DICED PINAPPLE, PEAS AND ROUGH RICE IN A PILOT SCALE PNEUMATIC CONVEYOR. THE ENERGY USED IN A PNEUMATIC SYSTEM IS COMPARED WITH THE WATER FLUME METHOD OF CONVEYING FOOD PROCESSING WASTES.
- \*DATE, 770600

## ABSTRACT 954

- \*TITLE, ENERGY REQUIREMENTS FOR PROCESSING POULTRY.
- \*AUTHOR, WHITEHEAD W K, SHUPE W L, RUSSELL R B.
- \*SOURCE, ASAE PAPER 78-3039, 1978, 18 PP.
- \*KEYWORDS, FOOD PROCESSING, POULTRY, ENERGY CONSUMPTION.
- \*NOTES, FILED. AN ENERGY SURVEY OF THREE POULTRY PROCESSING PLANTS SHOWED THAT THE LARGEST CONSUMPTION OF ELECTRICITY WAS FOR PROCESS REFRIGERATION. MONTHLY VARIATIONS IN ENERGY CONSUMPTION SHOWED HIGHER ELECTRICITY USE IN THE SUMMER DUE TO HIGHER REFRIGERATION REQUIREMENTS. NATURAL GAS AND FUEL OIL WERE THE PRIMARY SOURCES OF FOSSIL FUEL FOR HEAT AND STEAM.
- \*DATE, 780000

## ABSTRACT 955

- \*TITLE, ENERGY USED FOR FOOD PROCESSING IN WASHINGTON.
- \*AUTHOR, WHITTLESEY N K, PFEIFFER G.
- \*SOURCE, CIRCULAR 575, RESEARCH CENTER, COLLEGE OF AGR, WASHINGTON STATE UNIV, PULLMAN, AUG 1974, 22 PP.
- \*KEYWORDS, FOOD PROCESSING, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 740200

## ABSTRACT 956

- \*TITLE, ENERGY UTILIZATION IN MEAT PROCESSING PLANTS.
- \*AUTHOR, WILSON P W, KNOPF F C, OKOS M R.
- \*SOURCE, ASAE PAPER 78-6507, 1978.
- \*KEYWORDS, FOOD PROCESSING, MEAT, ENERGY ACCOUNTING.
- \*NOTES, FILED. UTILIZATION OF ENERGY BY FIVE PROCESSES IN AN INTEGRATED PORK PLANT WAS EVALUATED. ENERGY FLOWS THROUGH UNIT OPERATIONS OF EACH PROCESS HAVE BEEN MEASURED USING FLOW RATES AND TEMPERATURE MONITORING DEVICES INSTALLED IN THE PLANT.
- \*DATE, 781218

- \*TITLE, THOUGHTS ON THE ENERGY SITUATION IN A SUGAR FACTORY WITH PARTICULAR REFERENCE TO THE CONDITIONS AT OCHSENFURT.
- \*AUTHOR, WITTE V G.
- \*SOURCE, ZUCKER, 27(7)/358-362, 1974.
- \*KEYWORDS, FOOD PROCESSING, BEET SUGAR, HEAT, ACCOUNTING, CONSERVATION, GERMANY.
- \*NOTES, FILED. ANALYSIS OF HEAT USAGE IN BEET SUGAR PRODUCTION, WITH SUGGESTED ENERGY SAVINGS. POTENTIAL SAVINGS OF 25 PERCENT ACHIEVABLE WITH PROCESS CHANGES. IN GERMAN WITH A BRIEF ENGLISH SUMMARY.
- \*DATE, 740000

## ABSTRACT 958

- \*TITLE, CONDENSATION OF DRYING VAPOURS WITH HEAT UTILIZATION IN PROCESS TECHNOLOGY.
- \*AUTHOR, WUNSCH V H.
- \*SOURCE, ZUCKER, 29(12)/673-676, 1976.
- \*KEYWORDS, FOOD PROCESSING, BEET SUGAR, CONSERVATION, HEAT, DEHYDRATION, GERMANY.
- \*NOTES, FILED. A METHOD OF RECOVERING ENERGY OTHERWISE DISCHARGED WITH DRYING VAPORS, IS DESCRIBED. RAW, THIN-JUICE IS HEATED BEFORE EVAPORATION WITH A COMPRESSED SECOND VAPOR COMPONENT. IN GERMAN WITH A BRIEF ENGLISH SUMMARY.
- \*DATE, 760000

## ABSTRACT 959

- \*TITLE, FUEL CONSUMPTION BY COOKING APPLIANCES.
- \*AUTHOR, DREW F, RHEE K S.
- \*SOURCE, CONSUMER RESEARCH CENTER, TEXAS AGR EXPT STATIN, TEXAS A AND M UNIV, COLLEGE STATION, TX, JAN 1978, 8 PP.
- \*KEYWORDS, FOOD PROCESSING, COOKING, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 780100

## GENERAL 960 -- 1155

## ABSTRACT 960

- \*TITLE, ENERGY - USE CONSERVATION AND SUPPLY.
- \*AUTHOR, ABELSON P H.
- \*SOURCE, AMER ASSOC FOR THE ADVANCEMENT OF SCI, WASHINGTON D C, 1974, 154 PP.
- \*KEYWORDS, GENERAL, CONSERVATION, INDUSTRY, AGRICULTURE, PETROLEUM, COAL, COAL GASIFICATION, NUCLEAR, ELECTRICAL, GEOTHERMAL, SOLAR, WIND, ALCOHOL STORAGE, HYDROGEN.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 961

- \*TITLE, INCREASING WORLD ENERGY SUPPLIES.
- \*AUTHOR, ABELSON P H.
- \*SOURCE, SCIENCE, 182(4117)/1, 14 DEC 1973.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, WORLD WIDE.
- \*NOTES, FILED.
- \*DATE, 731214

## ABSTRACT 962

- \*TITLE, NO TIME TO CONFUSE.
- \*AUTHOR, ADELMAN M A, ET AL.
- \*SOURCE, THE INST FOR CONTEMPORARY STUDIES, 260 CALIFORNIA STREET, SUITE 811, SAN FRANCISCO, CALIFORNIA, 1975, 156 PP.
- \*KEYWORDS, GENERAL, POLICY, HISTORICAL, ECONOMICS, ENVIRONMENT.
- \*NOTES, FILED.
- \*DATE, 750009

- \*TITLE, A TEACHER S HANDBOOK ON ENERGY.
- \*AUTHOR, ANDERSON C.
- \*SOURCE, SUPPORTING SERVICES UNIT, COLORADO DEPT OF ED, DENVER, COLORADO, 1974, 150 PP.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, CONSERVATION, ELEMENTARY SCHOOL, BIBLIOGRAPHY.
- \*NOTES, FILED.
- \*DATE, 740600

## ABSTRACT 964

- \*TITLE, ENERGY SUPPLY PATTERNS FOR THE YEARS 1975-2000.
- \*AUTHOR, ANDERSON R J.
- \*SOURCE, PRESENTED AT THE 68TH ANNUAL ASAE MEETING, UNIV OF CALIF, OAVIS, 22-25 JUNE 1975, 6 PP.
- \*KEYWORDS, GENERAL, SUPPLY DEMAND, NUCLEAR, SOLAR, GEOTHERMAL, TIDAL.
- \*NOTES, FILED.
- \*DATE, 750622

## ABSTRACT 965

- \*TITLE, ANNUAL REVIEW OF ENERGY - VOL 2.
- \*AUTHOR, ANNUAL REVIEWS INC.
- \*SOURCE, PALO ALTO, CA/ANNUAL REVIEWS INC, 1977, 520 PP.
- \*KEYWORDS, GENERAL, POLICY, ECONOMICS, WORLD WIDE, ENVIRONMENT.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 966

- \*TITLE, DIRECTORY OF STATE GOVERNMENT ENERGY-RELATED AGENCIES, SEPTEMBER 1975.
- \*AUTHOR, ANON.
- \*SOURCE, STOCK NO 041-018-000-90-9, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, SEPT 1975, 237 PP.
- \*KEYWORDS, GENERAL, CATALOG, USA.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 967

- \*TITLE, ENERGY.
- \*AUTHOR, ANON.
- \*SOURCE, ENCYCLOPEDIA SCIENCE SUPPLEMENT, GROLIER INC, 1974, PP 169-206.
- \*KEYWORDS, GENERAL, SUPPLY DEMAND, ENERGY CONSUMPTION, PETROLEUM, COAL.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 968

- \*TITLE, ENERGY.
- \*AUTHOR, ANON.
- \*SOURCE, ENCYCLOPEDIA SCIENCE SUPPLEMENT, GROLIER INC, 1975, PP 155-200.
- \*KEYWORDS, GENERAL, SOLAR, PETROLEUM, NATURAL GAS, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 969

- \*TITLE, ENERGY ABSTRACTS.
- \*AUTHOR, ANON.
- \*SOURCE, ENGINEERING INDEX, EN1(1)/12PP, APRIL 1974.
- \*KEYWORDS, GENERAL, BIBLIOGRAPHY.
- \*NOTES, FILED.
- \*DATE, 740400

## ABSTRACT 970

- \*TITLE, SELECTED INFORMATION RESOURCES ON ENERGY.
- \*AUTHOR, ANON.
- \*SOURCE, NATIONAL REFERRAL CENTER, SCI AND TECH DIV, LIBRARY OF CONGRESS, WASHINGTON D C, DEC 1973, 16 PP.
- \*KEYWORDS, GENERAL, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 731200

## ABSTRACT 971

- \*TITLE, YOUR POWER BILL IS DUE.
- \*AUTHOR, ANON.
- \*SOURCE, MAINLINER MAGAZINE, 2(5)/1-5, 15 JUNE 1973.
- \*KEYWORDS, GENERAL, ENERGY CONSUMPTION, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 730615



\*TITLE, THE COMING GLUT OF ENERGY.  
 \*AUTHOR, ANON.  
 \*SOURCE, THE ECONOMIST, 5 JAN 1974, PP 13-15.  
 \*KEYWORDS, GENERAL, CONSERVATION, SUPPLY DEMAND, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 740105

## ABSTRACT 973

\*TITLE, ENERGY FOR AMERICAS THIRD CENTURY.  
 \*AUTHOR, ANON.  
 \*SOURCE, MOSAIC, 5(2)/1-36, SPRING 1974.  
 \*KEYWORDS, GENERAL, HISTORICAL, SOLAR, WIND, ORGANIC, GEOTHERMAL, COAL.  
 \*NOTES, NAS.  
 \*DATE, 740000

## ABSTRACT 974

\*TITLE, DEVELOPMENT DIGEST.  
 \*AUTHOR, ANON.  
 \*SOURCE, DEVELOPMENT DIGEST, 10(3)/3-50, JULY 1972.  
 \*KEYWORDS, GENERAL, HISTORICAL, GEOTHERMAL, SOLAR, ENERGY SOURCES, NUCLEAR, DEVELOPING COUNTRIES, JOURNAL.  
 \*NOTES, NAS. ISSUE CONTAINS SEVERAL ARTICLES ON ENERGY.  
 \*DATE, 720700

## ABSTRACT 975

\*TITLE, UNDERCURRENTS.  
 \*AUTHOR, ANON.  
 \*SOURCE, UNDERCURRENTS LTD, 275 FINCHLEY RD, LONDON NW3.  
 \*KEYWORDS, GENERAL, JOURNAL.  
 \*NOTES, A PERIODICAL, BIMONTHLY.  
 \*DATE,

## ABSTRACT 976

\*TITLE, APPROPRIATE TECHNOLOGY.  
 \*AUTHOR, ANON.  
 \*SOURCE, INTERMEDIATE TECHNOLOGY PUB LTD, 9 KING ST, WC2E 8HN, ENGLAND.  
 \*KEYWORDS, GENERAL, JOURNAL.  
 \*NOTES, A QUARTERLY JOURNAL.  
 \*DATE,

## ABSTRACT 977

\*TITLE, ENERGY.  
 \*AUTHOR, ANON.  
 \*SOURCE, SCIENCE, 184(4134)/222-402, 19 APRIL 1974.  
 \*KEYWORDS, GENERAL, SOCIAL IMPLICATIONS, CONSERVATION, POLICY, ECONOMICS, PETROLEUM, FOSSIL FUELS, GEOTHERMAL, SOLAR, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 740419

## ABSTRACT 978

\*TITLE, ENERGY RESEARCH.  
 \*AUTHOR, ANON.  
 \*SOURCE, NATIONAL ENERGY RESEARCH STEERING GROUP, MINISTERIE VON BUITENLANDSE ZAKEN, DEC 1974, 91 PP.  
 \*KEYWORDS, GENERAL, NETHERLANDS, WASTE HEAT, ENERGY SOURCES, SOLAR, ELECTRICAL, HYDROGEN, COAL, NUCLEAR.  
 \*NOTES, FILED.  
 \*DATE, 741200

## ABSTRACT 979

\*TITLE, PATTERNS OF ENERGY CONSUMPTION IN THE UNITED STATES.  
 \*AUTHOR, ANON.  
 \*SOURCE, OFFICE OF SCI AND TECH, EXECUTIVE OFFICE OF THE PRESIDENT, WASHINGTON D C, JAN 1972.  
 \*KEYWORDS, GENERAL, SUPPLY DEMAND, ENERGY CONSUMPTION, USA, TRANSPORTATION, INDUSTRY.  
 \*NOTES, FILED.  
 \*DATE, 720100

## ABSTRACT 980

\*TITLE, UN CONFERENCE ON NEW SOURCES OF ENERGY.  
 \*AUTHOR, ANON.  
 \*SOURCE, PROC OF UN CONF ON NEW SOURCES OF ENERGY, ROME, 1961.  
 \*KEYWORDS, GENERAL, ENERGY SOURCES.  
 \*NOTES,  
 \*DATE, 610000

## ABSTRACT 981

- \*TITLE, PROCEEDINGS OF THE NINTH WORLD ENERGY CONFERENCE.
- \*AUTHOR, ANON.
- \*SOURCE, PROCEEDINGS OF THE NINTH WDRLD ENERGY CNDF, 9 VOLUMES, DETROIT, 23-27 SPET 1974.
- \*KEYWRDRS, GENERAL, WORLD WIDE.
- \*NOTES,
- \*DATE, 740923

## ABSTRACT 982

- \*TITLE, ENERGY AND PDWER.
- \*AUTHOR, ANON.
- \*SOURCE, REPRINT DF ARTICLES FROM SCIENTIFIC AMERICANS SEPT 1971 ISSUE, SAN FRANCISCO/WH FREEMAN AND CD, 1971.
- \*KEYWRDRS, GENERAL, AGRICULTURE, INDUSTRY, ECONDMICS.
- \*NOTES, FILED.
- \*DATE, 710000

## ABSTRACT 983

- \*TITLE, SURVEY OF ENERGY RESOURCES, 1974.
- \*AUTHOR, ANON.
- \*SOURCE, US NATIONAL COMMITTEE DF THE WORLD ENERGY CONF, 345 E 47TH ST, NEW YORK, 1974, 400 PP.
- \*KEYWRDRS, GENERAL.
- \*NDTES, AID.
- \*DATE, 740000

## ABSTRACT 984

- \*TITLE, PRDCEEDINGS 9TH WDRLD ENERGY CONFERENCE.
- \*AUTHOR, ANDN.
- \*SOURCE, CNDF HELD SEPT 22-27, 1974, DETROIT, REPRINTS AVAILABLE IN 6 VDLS, US NATIONAL CDMITTEE DF THE WORLD ENERGY CONF, C/D EJC, 345 E 47TH ST, NEW YDRK.
- \*KEYWORDS, GENERAL.
- \*NDTES, AID.
- \*DATE, 740922

## ABSTRACT 985

- \*TITLE, ENERGY TODAY.
- \*AUTHDR, ANDN.
- \*SOURCE, ENERGY TODAY, 1(1)/1-47, 29 DCT 1976, NORTHWEST CDLLEGE AND UNIV ASSOCIATION FOR SCIENCE, 100 SPROUT RD, RICHLAND, WASHINGTON.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, ELECTRICAL, FDSSIL FUELS, SOLAR, NUCLEAR.
- \*NOTES, FILED.
- \*DATE, 761029

## ABSTRACT 986

- \*TITLE, ENERGY.
- \*AUTHOR, ANDN.
- \*SDURCE, REPRINTS OF THE CHRISTIAN SCI MONITOR, PD BOX 527, BACK BAY STATION, BOSTON, MA 02117, 1976, 14 PP.
- \*KEYWRDRS, GENERAL, SOLAR, NUCLEAR, CONSERVATIDN, INDUSTRY, HOME.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 987

- \*TITLE, SCIENCE - AMERICAN ASSDCIATION FOR THE ADVANCEMENT DF SCIENCE.
- \*AUTHOR, ANON.
- \*SOURCE, SCIENCE, 199(4329)/PP 583-710, 10 FEB 1978.
- \*KEYWRDRS, GENERAL, SOLAR, DRGANIC, BIDMASS, INTERNATIONAL.
- \*NOTES, FILED.
- \*DATE, 780210

## ABSTRACT 988

- \*TITLE, ARIZONA ENERGY - A FRAMEWORK FOR DECISION.
- \*AUTHOR, ARIZONA ACADEMY.
- \*SOURCE, ARIZONA ACADEMY, PD BDX 1429, PHEONIX, AZ, 11-14 APRIL 1976, 161 PP.
- \*KEYWRDRS, GENERAL, ARIZONA.
- \*NOTES, AID.
- \*DATE, 760411

\*TITLE, SATELLITE SOLAR-POWER STATIONS.  
 \*AUTHOR, ARONSON R B.  
 \*SOURCE, MACHINE DESIGN, 27 NOV 1975, PP 18-23.  
 \*KEYWORDS, GENERAL, SOLAR.  
 \*NOTES, FILED.  
 \*DATE, 751127

## ABSTRACT 990

\*TITLE, ENERGY OPTIONS TO THE YEAR 2000.  
 \*AUTHOR, BALZHISER R E.  
 \*SOURCE, REPRINT 263, CHEM ENGR, 3 JAN 1977, PP 72-90.  
 \*KEYWORDS, GENERAL, NUCLEAR, SOLAR, COAL.  
 \*NOTES, FILED.  
 \*DATE, 770103

## ABSTRACT 991

\*TITLE, THE ENERGY CRISIS AND THE FUTURE.  
 \*AUTHOR, BARNEA J.  
 \*SOURCE, 75/RR21, UN INST FOR TRAINING AND RESEARCH, 801 UN PLAZA, NEW YORK, NY, 1975, 117PP.  
 \*KEYWORDS, GENERAL, ECONOMICS, POLICY, ALTERNATIVES, DEVELOPMENT, INTERNATIONAL, PETROLEUM.  
 \*NOTES, FILED. THE ENERGY CRISIS EFFECTS, IMPLICATIONS AND WHAT CAN BE DONE. PART TWO OF THE REPORT CONSISTS OF THE INTERNATIONAL ENERGY DEVELOPMENTS TO THE MIDDLE OF 1974 AND FUTURE TRENDS.  
 \*DATE, 750000

## ABSTRACT 992

\*TITLE, THE FORGOTTEN FUNDAMENTALS OF THE ENERGY CRISIS.  
 \*AUTHOR, BARTLETT A A.  
 \*SOURCE, AMER J OF PHYSICS, 46(9)/876-888, SEPT 1978.  
 \*KEYWORDS, GENERAL, SUPPLY DEMAND.  
 \*NOTES, FILED.  
 \*DATE, 780900

## ABSTRACT 993

\*TITLE, PROCESS INNOVATION AND CHANGES IN INDUSTRIAL ENERGY USE.  
 \*AUTHOR, BERG C A.  
 \*SOURCE, SCIENCE, 199(4329)/608-614, 10 FEB 1978.  
 \*KEYWORDS, GENERAL, INDUSTRY, FOSSIL FUELS.  
 \*NOTES, FILED.  
 \*DATE, 780210

## ABSTRACT 994

\*TITLE, ENERGY RESEARCH - A HARSH CRITIQUE SAYS FEDERAL EFFORT MAY BACKFIRE.  
 \*AUTHOR, BOFFEY P M.  
 \*SOURCE, SCIENCE, 190/535-537, 7 NOV 1975.  
 \*KEYWORDS, GENERAL, CONSERVATION, TECHNOLOGY ASSESSMENT.  
 \*NOTES, FILED.  
 \*DATE, 751107

## ABSTRACT 995

\*TITLE, THE WORLD FOOD COUNCIL AND IT S EFFECT UPON AMERICAN AGRICULTURE.  
 \*AUTHOR, SUTZ E L.  
 \*SOURCE, US KEYNOTE SPEECH PRESENTED AT FARM ELECTRIFICATION COUNCIL FOOD AND ENERGY INTERDEPENDENCE SYMPOSIUM, WASHINGTON D C, 20 AUG 1975, 11 PP.  
 \*KEYWORDS, GENERAL, USA, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 75082C

## ABSTRACT 996

\*TITLE, ENERGY AND THE EARTH MACHINE.  
 \*AUTHOR, CARR D E.  
 \*SOURCE, NEW YORK/W W NORTON AND CO INC, 1976, 264 PP.  
 \*KEYWORDS, GENERAL, NUCLEAR, WIND, SOLAR, FOOD ENERGY, TRANSPORTATION.  
 \*NOTES, FILED.  
 \*DATE, 760000

- \*TITLE, US ENERGY RESOURCES - LIMITS AND FUTURE OUTLOOK.
- \*AUTHOR, CHENEY E S.
- \*SOURCE, AMER SCIENTIST, 62/14-22, JAN-FEB 1974.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, USA, CANADA, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 740100

## ABSTRACT 998

- \*TITLE, ENERGY FOR SURVIVAL.
- \*AUTHOR, CLARK W.
- \*SOURCE, GARDEN CITY, NEW YORK/ANCHOR BOOKS, 1975, 652 PP.
- \*KEYWORDS, GENERAL, HISTORICAL, ENERGY SOURCES, ELECTRICAL, NUCLEAR, GEOTHERMAL, HYDROGEN, SOLAR, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 999

- \*TITLE, PERHAPS THE ANSWER IS TO THINK SMALL AS OUR INDUSTRIAL SOCIETY SEARCHES FOR APPROPRIATE TECHNOLOGIES.
- \*AUTHOR, CLARK W.
- \*SOURCE, SMITHSONIAN, 7(4)/42-49, JULY 1976.
- \*KEYWORDS, GENERAL.
- \*NOTES, FILED.
- \*DATE, 760700

## ABSTRACT 1000

- \*TITLE, THINKING ABOUT THE FUTURE - A CRITIQUE OF THE LIMITS TO GROWTH.
- \*AUTHOR, COLE H S D, FREEMAN C, JAHODA M, PAVITT K L R.
- \*SOURCE, GREAT BRITAIN/REDWOOD-BURN LTD, 1973, 215 PP.
- \*KEYWORDS, GENERAL, MODELS, HISTORICAL, ENERGY SOURCES, POPULATION, ENVIRONMENT.
- \*NOTES, FILED.
- \*DATE, 730000

## ABSTRACT 1001

- \*TITLE, HOW TO USE NATURAL ENERGY.
- \*AUTHOR, CONSERVATION TOOLS AND TECHNOLOGY LTD.
- \*SOURCE, CONSERVATION TOOLS AND TECH LTD, 143 MAPLE RD, SURBITON, SURREY, KT6 4BH, ENGLAND, AUTUMN 1975, 20 PP.
- \*KEYWORDS, GENERAL, WIND, SOLAR, WATER POWER.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1002

- \*TITLE, ENERGY TECHNOLOGY HANDBOOK.
- \*AUTHOR, CONSIDINE D M. ED.
- \*SOURCE, NEW YORK, NY/MCGRAW-HILL BOOK COMPANY, 1977, 1857 PP.
- \*KEYWORDS, GENERAL, COAL, PETROLEUM, NUCLEAR, SOLAR, GEOTHERMAL, HYDROPOWER, CHEMICALS, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1003

- \*TITLE, THE ENERGY CHALLENGE.
- \*AUTHOR, CONSUMERS POWER CO.
- \*SOURCE, ARTICLE IN ANNUAL REPORT TO SHAREHOLDERS, CONSUMERS POWER, 1972, 3PP.
- \*KEYWORDS, GENERAL, COAL, ELECTRICAL, SOLAR.
- \*NOTES, FILED.
- \*DATE, 720000

## ABSTRACT 1004

- \*TITLE, ENERGY FOR MILLENIUM THREE.
- \*AUTHOR, COOK E.
- \*SOURCE, TECH REVIEW, DEC 1972, PP 16-23.
- \*KEYWORDS, GENERAL.
- \*NOTES, NAS.
- \*DATE, 721200



\*TITLE, REMARKS FOR ENERGY RESOURCE DEVELOPMENT, FEA.  
 \*AUTHOR, CRAVEN D B.  
 \*SOURCE, PRESENTED AT FARM ELECTRIFICATION COUNCIL FOOD AND ENERGY INTERDEPENDENCE SYMPOSIUM, WASHINGTON D C, 20 AUG 1975, 7 PP.  
 \*KEYWORDS, -GENERAL.  
 \*NOTES, FILED.  
 \*DATE, 750820

## ABSTRACT 1006

\*TITLE, ENERGY.  
 \*AUTHOR, CRAWLEY G M.  
 \*SOURCE, NEW YORK, NY/MACMILLAN PUBL CO, 1975, 337 PP.  
 \*KEYWORDS, GENERAL, NUCLEAR, CONSERVATION, HEAT, FOSSIL FUELS, TRANSPORTATION, STORAGE, ECONOMICS, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 1007

\*TITLE, ALL ABOUT ENERGY.  
 \*AUTHOR, DALTON R.  
 \*SOURCE, DOJ CHEMICAL CO, MIDLAND, MICH, 1974.  
 \*KEYWORDS, GENERAL, ELEMENTARY SCHOOL, SOLAR, ELECTRICAL, GEOTHERMAL, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1008

\*TITLE, ENERGY IN THE WORLD ECONOMY.  
 \*AUTHOR, DARMSTADTER J, TEITELBAUM P D, POLACH J G.  
 \*SOURCE, BALTIMORE/JOHNS HOPKINS UNIV PRESS, 1971, 876 PP.  
 \*KEYWORDS, GENERAL.  
 \*NOTES,  
 \*DATE, 710000

## ABSTRACT 1009

\*TITLE, THE NEW ENERGY SOURCES.  
 \*AUTHOR, DAVIS W K, GOLAN S.  
 \*SOURCE, INDUSTRIAL RESEARCH, 15 NOV 1974, PP 8-15.  
 \*KEYWORDS, GENERAL, ENERGY SOURCES, NUCLEAR, SOLAR, PHOTOVOLTAIC, WIND, GEOTHERMAL.  
 \*NOTES, NAS.  
 \*DATE, 741115

## ABSTRACT 1010

\*TITLE, COALPLEXES IN MICHIGAN.  
 \*AUTHOR, DETROIT EDISON CO.  
 \*SOURCE, DETROIT EDISON, RESOURCES AND FACILITIES, PLANNING DEPT, 17 FEB 1976, 9 PP.  
 \*KEYWORDS, GENERAL, MICHIGAN, COAL.  
 \*NOTES, FILED.  
 \*DATE, 760217

## ABSTRACT 1011

\*TITLE, ENERGY - A CRITICAL DECISION FOR THE UNITED STATES ECONOMY.  
 \*AUTHOR, DIX S M.  
 \*SOURCE, 320 FEDERAL SQUARE BUILDING, GRAND RAPIDS, MI 49503/  
 S M DIX AND ASSOCIATES, 1977, 252 PP.  
 \*KEYWORDS, GENERAL, ECONOMICS, POLICY.  
 \*NOTES, FILED. AN OVERALL VIEW OF ENERGY IS DISCUSSED ON POLITICAL ECONOMIC IS AN APPROACH TO ENERGY POLICY AND FUTURE ENERGY SUPPLY DATA.  
 \*DATE, 770000

- \*TITLE, INDIANAS VIEWS ON THE ENERGY CRISIS.
- \*AUTHOR, DOERING O C.
- \*SOURCE, CES PAPER 6, AGR ECON DEPT, PURDUE UNIV, WEST LAFAYETTE, IN 47907, SEPT 1974, 8 PP.
- \*KEYWORDS, GENERAL, INDIANA.
- \*NOTES, FILED.
- \*DATE, 740900

## ABSTRACT 1013

- \*TITLE, ENERGY -- A CRISIS - A DILEMMA - OR JUST ANOTHER PROBLEM.
- \*AUTHOR, DOOLITTLE J S.
- \*SOURCE, CHAMPAIGN, IL/MATRIX PUBL. INC. 1977, 313 PP.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, FOSSIL FUELS, SOLAR, WIND, ALTERNATIVES, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1014

- \*TITLE, THE EFFICIENT USE OF ENERGY.
- \*AUTHOR, DRYDEN I G C. ED.
- \*SOURCE, IPC SCI AND TECH PRESS LTD, IPC HOUSE, 32 HIGH ST, GUILDFORD, SURREY, ENGLAND GU1 3EW, 1975, 601PP.
- \*KEYWORDS, GENERAL, ECONOMICS, HEAT, ENVIRONMENT, ELECTRICAL, NUCLEAR.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1015

- \*TITLE, UNITED STATES ENERGY THROUGH THE YEAR 2000 (REVISED).
- \*AUTHOR, DUPREE W G, CORSENTINO J S.
- \*SOURCE, BUREAU OF MINES, US DEPT OF THE INTERIOR, WASHINGTON D C, DEC 1975, 65 PP.
- \*KEYWORDS, GENERAL, ELECTRICAL, TRANSPORTATION, COAL.
- \*NOTES, FILED.
- \*DATE, 751200

## ABSTRACT 1016

- \*TITLE, ENERGY TECHNOLOGY.
- \*AUTHOR, EATON W W.
- \*SOURCE, OFFICE OF PUBLIC AFFAIRS, ERDA, WASHINGTON D C, 1975, 60 PP.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, CONVERSION, STORAGE, TRANSMISSION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1017

- \*TITLE, OUR ENERGY PROBLEMS AND SOLUTIONS.
- \*AUTHOR, ENERGY CONSERVATION RESEARCH.
- \*SOURCE, ENERGY CONSERVATION RESEARCH, 9 BIRCH RD, MALVERN, PA 19355, 1977, 45 PP.
- \*KEYWORDS, GENERAL, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1018

- \*TITLE, A SUMMARY OF ACCIDENTS RELATED TO NON-NUCLEAR ENERGY.
- \*AUTHOR, US ENVIRONMENTAL PROTECTION AGENCY.
- \*SOURCE, EPA-600/9-77-012, US EPA, OFFICE OF RESEARCH AND DEV, INFO SERVICE, SPRINGFIELD, VA 22161, MAY 1977, 11 PP.
- \*KEYWORDS, GENERAL, SAFETY.
- \*NOTES, FILED. PURPOSE OF THE REPORT IS TO ASSIST IN THE FORMULATION OF ENERGY POLICY. ACCIDENT REPORTS ARE GIVEN FOR COAL, CRUDE OIL, NATURAL GAS, LNG, ELECTRIC POWER, DEVELOPING ENERGY SYSTEMS, AND ADVERSE NATURAL INCIDENTS.
- \*DATE, 770500

- TITLE, PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT - VOL I.
- AUTHOR, FAZZOLARE R A, SMITH C B. ED.
- SOURCE, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, 1006 PP.
- KEYWORDS, GENERAL, ENERGY ACCOUNTING, AGRICULTURE, ECONOMICS, SOCIAL IMPLICATIONS, INTERNATIONAL, ALTERNATIVES, DEVELOPMENT, TRANSPORTATION, ENVIRONMENT, POLICY, CONSERVATION, LAND USE, ANIMAL PRODUCTION, SUPPLY DEMAND, SOLAR, DESIGN, STORAGE, INDUSTRY, MODELS, FOOD PROCESSING, HEAT, MATERIALS, BUILDINGS, APPLIANCES, AUTOMOBILE.
- NOTES, FILED. OVER 300 PAPERS ARE COLLECTED AND LISTED UNDER 12 MAJOR HEADINGS. THESE PAPERS ARE CONTAINED IN VOLUMES I,II,III,IV.
- DATE, 771024

## ABSTRACT 1020

- TITLE, PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT - VOL II.
- AUTHOR, FAZZOLARE R A, SMITH C B. ED.
- SOURCE, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, 735 PP.
- KEYWORDS, GENERAL, ENERGY ACCOUNTING, AGRICULTURE, ECONOMICS, POLICY, TRANSPORTATION, ENVIRONMENT, CONSERVATION, SOCIAL IMPLICATIONS, INTERNATIONAL, ALTERNATIVES, DEVELOPMENT, ANIMAL PRODUCTION, SOLAR, SUPPLY DEMAND, LAND USE, DESIGN, STORAGE, INDUSTRY, MODELS, HEAT, FOOD PROCESSING, MATERIALS, BUILDINGS, APPLIANCES, AUTOMOBILE.
- NOTES, FILED.
- DATE, 771024

## ABSTRACT 1021

- TITLE, ENERGY FROM THE SEA. . . WAVES, TIDES, AND CURRENTS.
- AUTHOR, FISHER A.
- SOURCE, POPULAR SCI, MAY 1975, PP 69-73, 124.
- KEYWORDS, GENERAL, SEATHERMAL, SOLAR.
- NOTES, FILED.
- DATE, 750500

## ABSTRACT 1022

- TITLE, ENERGY FROM THE SEA. . . PART II - TAPPING THE RESERVOIR OF SOLAR HEAT.
- AUTHOR, FISHER A.
- SOURCE, POPULAR SCI, JUNE 1975, PP 79-81, 122.
- NOTES, FILED.
- KEYWORDS, GENERAL, SEATHERMAL, SOLAR.
- DATE, 750600

## ABSTRACT 1023

- TITLE, THE ENERGY PINCH - WHERE DO WE GO FROM HERE.
- AUTHOR, FISHER A.
- SOURCE, POPULAR SCI, MARCH 1974, PP 76-77.
- KEYWORDS, GENERAL, ENERGY SOURCES, HISTORICAL.
- NOTES, FILED.
- DATE, 740300

## ABSTRACT 1024

- TITLE, ENERGY CRISIS IN PERSPECTIVE.
- AUTHOR, FISHER J C.
- SOURCE, NEW YORK/WILEY AND SONS, 1974, 196 PP.
- KEYWORDS, GENERAL, HISTORICAL, ENERGY SOURCES, ENERGY CONSUMPTION, ECONOMICS, SOCIAL IMPLICATIONS, POLICY, ELECTRICAL, EFFICIENCY.
- NOTES, FILED.
- DATE, 740000

## ABSTRACT 1025

- TITLE, THE ENERGY QUESTION.
- AUTHOR, FOLEY G, MASSIN C.
- SOURCE, NEW YORK/PENGUIN BOOK, 1976, 343 PP.
- KEYWORDS, GENERAL, ENERGY SOURCES, CONVERSION.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 1026

- TITLE, A TIME TO CHOOSE.
- AUTHOR, FREEMAN S D. ET AL.
- SOURCE, CAMBRIDGE, MA/BALLINGER PUBL CO, 1974, 511 PP.
- KEYWORDS, GENERAL, POLICY, HISTORICAL, ECONOMICS, ENVIRONMENT.
- NOTES, FILED. FINAL REPORT BY THE ENERGY POLICY PROJECT OF THE FORD FOUNDATION.
- DATE, 740000

## ABSTRACT 1027

\*TITLE, EXPLORING ENERGY CHOICES.  
 \*AUTHOR, FREEMAN S D. ET AL.  
 \*SOURCE, PRELIMINARY REPORT OF THE FORD FOUNDATIONS ENERGY POLICY PROJECT, 1974, 81 PP.  
 \*KEYWORDS, GENERAL, WORLD WIDE, ENERGY CONSUMPTION, RESOURCES.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1028

\*TITLE, A NATIONAL PLAN FOR ENERGY RESEARCH, DEVELOPMENT AND DEMONSTRATION.  
 \*AUTHOR, FRI R W.  
 \*SOURCE, STOCK NO 060-000-0067-1, ERDA 77-1, ENERGY RESEARCH AND DEV ADMINISTRATION, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1977, 45PP.  
 \*KEYWORDS, GENERAL, TECHNOLOGY ASSESSMENT, CONSERVATION.  
 \*NOTES, FILED. A PLAN IS PRESENTED TO REDUCE US DEPENDENCE ON FOREIGN OIL IMMEDIATELY, TO KEEP US IMPORTS LOW AFTER THAT AND TO EVENTUALLY HAVE INEXHAUSTABLE SOURCES OF ENERGY.  
 \*DATE, 770623

## ABSTRACT 1029

\*TITLE, THE FLOW OF ENERGY IN THE BIOSPHERE.  
 \*AUTHOR, GATES D M.  
 \*SOURCE, SCIENTIFIC AMER, 225(3)/89-100, SEPT 1971.  
 \*KEYWORDS, GENERAL, PHOTOSYNTHESIS, SOLAR, ENERGY FLOW.  
 \*NOTES, FILED.  
 \*DATE, 710900

## ABSTRACT 1030

\*TITLE, ENERGY IN PERSPECTIVE.  
 \*AUTHOR, GAUCHER L P.  
 \*SOURCE, CHEM TECH, MARCH 1971, PP 153-158.  
 \*KEYWORDS, GENERAL, ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 710300

## ABSTRACT 1031

\*TITLE, NEW DIRECTIONS IN ENERGY.  
 \*AUTHOR, GENERAL ELECTRIC CO.  
 \*SOURCE, MANAGER, ADVANCED ENERGY PROGRAMS MARKETING, SPACE DIV, GENERAL ELECTRIC CO, PO BOX 13601, PHILADELPHIA, PA, UNDATED.  
 \*KEYWORDS, GENERAL, SOLAR, CONVERSION, STORAGE, WIND.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 1032

\*TITLE, UNDERSTANDING THE NATIONAL ENERGY DILEMMA.  
 \*AUTHOR, GEORGETOWN UNIVERSITY.  
 \*SOURCE, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES, GEORGETOWN UNIV, 1800 K ST NW, WASHINGTON DC 20006, 1973, 24 PP.  
 \*KEYWORDS, GENERAL, ENERGY FLOW, SUPPLY DEMAND, USA.  
 \*NOTES, FILED.  
 \*DATE, 730000

## ABSTRACT 1033

\*TITLE, US ENERGY DEMAND - SOME LOW ENERGY FUTURES.  
 \*AUTHOR, GIBBONS J. ET AL.  
 \*SOURCE, SCIENCE, 200/142-152, 14 APRIL 1978.  
 \*KEYWORDS, GENERAL, USA, SUPPLY DEMAND, CONSERVATION.  
 \*NOTES, FILED. THIS ARTICLE PRESENTS SEVERAL PLAUSIBLE ENERGY DEMAND SCENARIOS FOR THE UNITED STATES THROUGH THE YEAT 2010, EACH ONE DERIVED FROM ANALYTIC EFFORTS CONDUCTED BY THE DEMAND AND CONSERVATION PANEL OF THE NATIONAL RESEARCH COUNCILS COMMITTEE ON NUCLEAR AND ALTERNATIVE ENERGY SYSTEMS.  
 \*DATE, 770414



\*TITLE, POWER FROM LOCAL ENERGY RESOURCES.  
 \*AUTHOR, GOLDING E W.  
 \*SOURCE, PRCC OF THE UNITED NATIONS CONF ON NEW SOURCES OF ENERGY, VOL 1, ROME,  
 AUG 1961, PP 149-155.  
 \*KEYWORDS, GENERAL, WIND, SOLAR, ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 610800

## ABSTRACT 1035

\*TITLE, THE UNCERTAIN PROMISE - VALUE CONFLICTS IN TECHNOLOGY TRANSFER.  
 \*AUTHOR, GOULET D.  
 \*SOURCE, NORTH AMERICA, NY/IDOC, 1977, 318 PP.  
 \*KEYWORDS, GENERAL, INTERNATIONAL, DEVELOPING COUNTRIES,  
 SOCIAL IMPLICATIONS, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1036

\*TITLE, PERSPECTIVES ON ENERGY.  
 \*AUTHOR, HALL C W, CRAIN R W, MINNAN G.  
 \*SOURCE, BULLETIN 335, ENGR AND SOC SERIES 3, WASHINGTON STATE UNIV,  
 COLLEGE OF ENGR, PULLMAN, WA, 1974, 39 PP.  
 \*KEYWORDS, GENERAL, ENERGY SOURCES, WORLD WIDE.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1037

\*TITLE, ENERGY ALERT, ENERGY ALERT.  
 \*AUTHOR, HALLADAY R W, ED.  
 \*SOURCE, MICH CHALLENGE, 16(8), CHAMBER OF COMMERCE, 501 S CAPITOL,  
 LANSING, MI 48933, NOV-DEC 1976.  
 \*KEYWORDS, GENERAL, WOOD, CONSERVATION, ELECTRICAL, MICHIGAN, SWEDEN,  
 ENERGY CONSUMPTION, INDUSTRY.  
 \*NOTES, FILED.  
 \*DATE, 761100

## ABSTRACT 1038

\*TITLE, ENERGY AND THE FUTURE.  
 \*AUTHOR, HAMMOND A L, METZ W D, MAUGH T H.  
 \*SOURCE, AMER ASSOC FOR THE ADVANCEMENT OF SCI, WASHINGTON DC,  
 1973, 184 PP.  
 \*KEYWORDS, GENERAL, FOSSIL FUELS, NUCLEAR, ENERGY SOURCES, FUEL CELL,  
 HYDROGEN, PHOTOVOLTAIC, GEOTHERMAL, SOLAR, ORGANIC,  
 CONSERVATION, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 730000

## ABSTRACT 1039

\*TITLE, SYNTHETIC FUELS - PRICES, PROSPECTS, AND PRIOR ART.  
 \*AUTHOR, HAMMOND O H, BARON R E.  
 \*SOURCE, AMER SCIENTIST, 64(467-417), JULY 1976.  
 \*KEYWORDS, GENERAL, COAL, LIQUEFACTION, PETROLEUM, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 760700

## ABSTRACT 1040

\*TITLE, ENERGY AND WATER.  
 \*AUTHOR, HARTE J, EL-GASSEIR M.  
 \*SOURCE, SCIENCE, 199(4329)/623-634, 10 FEB 1978.  
 \*KEYWORDS, GENERAL, ELECTRICAL, WATER POWER.  
 \*NOTES, FILED.  
 \*DATE, 780210

## ABSTRACT 1041

\*TITLE, ENERGY RESOURCES AVAILABLE TO THE UNITED STATES, 1985 TO 2000.  
 \*AUTHOR, HAYES E T.  
 \*SOURCE, SCIENCE, 203(4377)/233-239, 19 JAN 1979.  
 \*KEYWORDS, GENERAL, USA.  
 \*NOTES, FILED.  
 \*DATE, 790119

## ABSTRACT 1042

\*TITLE, RAYS OF HOPE - THE TRANSITION TO A POST-PETROLEUM WORLD.  
 \*AUTHOR, HAYES D.  
 \*SOURCE, NEW YORK, NY/WW NORTON AND CO, INC, 1977, 240 PP.  
 \*KEYWORDS, GENERAL, FOSSIL FUELS, NUCLEAR, SOLAR, WIND,  
 -TRANSPORTATION, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1043

\*TITLE, BUILDING RURAL MICHIGAN.  
 \*AUTHOR, HECK G W.  
 \*SOURCE, RURAL DEV TASK FORCE, MICH HOUSE REPUBLICAN CAUCUS, JAN 1974.  
 \*KEYWORDS, GENERAL, AGRICULTURE, MICHIGAN, ECONOMICS, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 740100

## ABSTRACT 1044

\*TITLE, INDIA - THE ENERGY SECTOR.  
 \*AUTHOR, HENDERSON P D.  
 \*SOURCE, WORLD BANK, WASHINGTON D C, 1975, 185 PP.  
 \*KEYWORDS, GENERAL, INDIA, ENERGY SOURCES, ENERGY CONSUMPTION, SUPPLY DEMAND,  
 ORGANIC.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 1045

\*TITLE, PLUG TECHNOLOGY INTO THE ENERGY SHORTAGE.  
 \*AUTHOR, HENRY J P.  
 \*SOURCE, INVESTMENT IN TOMORROW, (7)/2-8, SPRING 1973.  
 \*KEYWORDS, GENERAL, COAL, PETROLEUM, FOSSIL FUELS.  
 \*NOTES, FILED.  
 \*DATE, 730000

## ABSTRACT 1046

\*TITLE, INFORMATION ON INTERNATIONAL R AND D ACTIVITIES IN THE FIELD OF ENERGY.  
 \*AUTHOR, HERSHEY D F.  
 \*SOURCE, SMITHSONIAN SCI INFO EXCHANGE, 1730 M ST N W, WASHINGTON D C, MAY 1976,  
 365 PP.  
 \*KEYWORDS, GENERAL, INTERNATIONAL.  
 \*NOTES, AID. COMPILED UNDER NSF GRANT AER-74-2D78.  
 \*DATE, 760500

## ABSTRACT 1047

\*TITLE, ENERGY TECHNOLOGY III-COMERCIALIZATION.  
 \*AUTHOR, HILL R F. ED.  
 \*SOURCE, PROC OF THE 3RD ENERGY TECH CONF, WASHINGTON DC, 29-31 MARCH 1976.  
 335 PP/GOVT INST INC, 4733 BETHESDA AVE, NW WASHINGTON DC 20014.  
 \*KEYWORDS, GENERAL, POLICY, TECHNOLOGY ASSESSMENT.  
 \*NOTES, FILED.  
 \*DATE, 760500

## ABSTRACT 1048

\*TITLE, ENERGY.  
 \*AUTHOR, HOLLGREN J P, HERRERA P.  
 \*SOURCE, SAN FRANCISCO/SIERRA CLUB, JAN 1973, 252 PP.  
 \*KEYWORDS, GENERAL, ENERGY SOURCES, ENERGY CONSUMPTION.  
 \*NOTES, FILED.  
 \*DATE, 730100

## ABSTRACT 1049

\*TITLE, ANNUAL REVIEW OF ENERGY - VOLUME 1.  
 \*AUTHOR, HOLLANDER J M, SIMMONS M K.  
 \*SOURCE, ANNUAL REVIEWS INC, 4139 EL CAMINO WAY, PALO ALTO, CALIF, 1976, 793 PP.  
 \*KEYWORDS, GENERAL, SUPPLY DEMAND, ECONOMICS, CONSERVATION, ENVIRONMENT, POLICY,  
 INTERNATIONAL.  
 \*NOTES, FILED.  
 \*DATE, 760000

- \*TITLE, ANNUAL REVIEW OF ENERGY - VOL 3.
- \*AUTHOR, HOLLANDER J M. ED.
- \*SOURCE, 4139 EL CAMINO WAY, PALO ALTO, CA 94306/ANNUAL REVIEWS INC, 1978, 544 PP.
- \*KEYWORDS, GENERAL, SOLAR, WIND, NUCLEAR, ENVIRONMENT, INDUSTRY, SOCIAL IMPLICATIONS.
- \*NOTES, FILED. THE OBJECTIVE OF THIS BOOK IS TO PROVIDE REVIEWS OF ACTIVITIES AND LITERATURE RELEVANT TO TOPICS IN ENERGY. THE TOPICS COVERED ARE - ENERGY END USE AND CONSERVATION, ENERGY RESOURCES AND TECHNOLOGIES, RISKS AND IMPACTS OF ENERGY PRODUCTION AND USE, ENERGY ECONOMICS AND ECONOMETRICS, ENERGY POLICY, SOCIOPOLITICAL ASPECTS OF ENERGY, AND INTERNATIONAL AND REGIONAL ENERGY TOPICS.
- \*DATE, 780000

## ABSTRACT 1051

- \*TITLE, NEW ENERGY TECHNOLOGY - SOME FACTS AND ASSESSMENTS.
- \*AUTHOR, HOTTEL M C, HOWARD J B.
- \*SOURCE, CAMBRIDGE, MASS/THE MIT PRESS, 1974, 364 PP.
- \*KEYWORDS, GENERAL, FOSSIL FUELS, CONVERSION, NUCLEAR.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 1052

- \*TITLE, TOWARD A GLOBAL APPROACH TO THE ENERGY PROBLEM.
- \*AUTHOR, HOWE J W.
- \*SOURCE, IN THE BOOK--THE US AND WORLD DEVELOPMENT - AGENDA FOR ACTION, EDITOR ROGER D HANSEN, PRAEGER, MARCH 1976, PP 87-117.
- \*KEYWORDS, GENERAL, INTERNATIONAL.
- \*NOTES, AID.
- \*DATE, 760300

## ABSTRACT 1053

- \*TITLE, THE ENERGY RESOURCES OF THE EARTH.
- \*AUTHOR, HUBBERT M K.
- \*SOURCE, SCIENTIFIC AMER, 225(3)/61-70, SEPT 1971.
- \*KEYWORDS, GENERAL, SOLAR, ENERGY FLOW, COAL, ENERGY SOURCES, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 710900

## ABSTRACT 1054

- \*TITLE, EXTENSION ENERGY PROGRAMS.
- \*AUTHOR, HYATT G.
- \*SOURCE, ECOP ENERGY TASK FORCE, 28 SEPT 1977, 21 PP.
- \*KEYWORDS, GENERAL, CONSERVATION, AWARENESS.
- \*NOTES, FILED.
- \*DATE, 770928

## ABSTRACT 1055

- \*TITLE, A PERSPECTIVE ON THE NATIONS ENERGY SUPPLY PROBLEMS.
- \*AUTHOR, IKARD F N.
- \*SOURCE, PRESENTED AT 65TH ANNUAL MEETING, NATIONAL GOVERNORS CONF, LAKE TAHOE, NEVADA, 5 JUNE 1973, 12 PP.
- \*KEYWORDS, GENERAL, SUPPLY DEMAND, PETROLEUM, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 730605

## ABSTRACT 1056

- \*TITLE, RISK WITH ENERGY FROM CONVENTIONAL AND NONCONVENTIONAL SOURCES.
- \*AUTHOR, INHABER H.
- \*SOURCE, SCIENCE, 203/718-723, 23 FEB 1979.
- \*KEYWORDS, GENERAL.
- \*NOTES, FILED.
- \*DATE, 790223

- \*TITLE, ENERACTICS - A BOOK OF ENERGY THINGS TO DO.
- \*AUTHOR, JANETI J. ED.
- \*SOURCE, ENTROPY, SCI AND MATH TEACHING CENTER, MICH STATE UNIV, EAST LANSING 48824, JAN 1977, 90 PP.
- \*KEYWORDS, GENERAL, INSULATION, ENERGY BUDGET, APPLIANCES, FERTILIZER, SOLAR, WIND.
- \*NOTES, FILED.
- \*DATE, 770100

## ABSTRACT 1058

- \*TITLE, THE ENERGY SITUATION.
- \*AUTHOR, JOHNSON S. ED.
- \*SOURCE, NINTH DISTRICT QUARTERLY 3(4)/1-16, 3RD QUARTER 1976, RESEARCH DEPT, FEDERAL RESERVE BANK, MINNEAPOLIS, MINNESOTA 55480.
- \*KEYWORDS, GENERAL, PETROLEUM, NATURAL GAS, ECONOMICS, ELECTRICAL, CONSERVATION, POLICY.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1059

- \*TITLE, THE NEXT 200 YEARS.
- \*AUTHOR, KAHN H, BROWN U, MARTEL L.
- \*SOURCE, NEW YORK/WILLIAM MORROW AND CO, 1976, 241 PP.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1060

- \*TITLE, POTENTIAL ENERGY--AN ANALYSIS OF WORLD ENERGY TECHNOLOGY.
- \*AUTHOR, KENYARD M.
- \*SOURCE, CAMBRIDGE, MA/CAMBRIDGE UNIV PRESS, 1976, 221PP.
- \*KEYWORDS, GENERAL, ALTERNATIVES, ENERGY SOURCES.
- \*NOTES, FILED. THE PROBLEM OF THE ENERGY CRISIS IN THE UNITED STATES. TRADITIONAL AND FUTURE ENERGY SOURCES ARE DEALT WITH.
- \*DATE, 760000

## ABSTRACT 1061

- \*TITLE, WORLD RESOURCES AND THE WORLD MIDDLE CLASS.
- \*AUTHOR, KEYFITZ N.
- \*SOURCE, SCIENTIFIC AMER, 235(1)/28-35, JULY 1976.
- \*KEYWORDS, GENERAL, ECONOMICS, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 760700

## ABSTRACT 1062

- \*TITLE, ENERGY, ECOLOGY, AND ECONOMICS - ELEMENTS OF A THERMODYNAMICALLY BASED ECONOMY.
- \*AUTHOR, KOENIG H E, EDENS T C.
- \*SOURCE, DESIGN AND MANAGEMENT OF RURAL ECOSYSTEMS, MICH STATE UNIV, EAST LANSING, MI 48824, DEC 1975, 56 PP.
- \*KEYWORDS, GENERAL, ECONOMICS, ENVIRONMENT, ENERGY SOURCES, EFFICIENCY, LAND USE.
- \*NOTES, FILED.
- \*DATE, 751200

## ABSTRACT 1063

- \*TITLE, THE HARMONIOUSLY CONFUSED WORLD.
- \*AUTHOR, KOENIG H E, COOPER W E. ET AL.
- \*SOURCE, CENTER FOR ENVIR QUALITY, MICH STATE UNIV, EAST LANSING, MI 48824, 1977, 36 PP.
- \*KEYWORDS, GENERAL, ENVIRONMENT, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770000



\*TITLE, THE ENERGY CRISIS - PROBLEMS AND SOLUTIONS.  
 \*AUTHOR, KOTTMAN R M.  
 \*SOURCE, PRESENTED AT THE MEETING OF NATIONAL INDUSTRY-STATE AGR RESEARCH COUNCIL, 9 OCT 1973, 10 PP.  
 \*KEYWORDS, GENERAL.  
 \*NOTES, FILED.  
 \*DATE, 731009

## ABSTRACT 1065

\*TITLE, LDW-CDST, ABUNDANT ENERGY - PARADISE LOST.  
 \*AUTHOR, LANDSBERG H H.  
 \*SOURCE, SCIENCE 184(4134)/247-253, 19 APRIL 1974.  
 \*KEYWORDS, GENERAL.  
 \*NOTES, FILED.  
 \*DATE, 740419

## ABSTRACT 1066

\*TITLE, ENCYCLOPEDIA OF ENERGY.  
 \*AUTHOR, LAPEDES D N. ED.  
 \*SOURCE, NEW YORK, NY/MCGRAW-HILL BOOK CO, 1976, 785 PP.  
 \*KEYWORDS, GENERAL, ENERGY CONSUMPTION, FOSSIL FUELS, ALTERNATIVES, POLICY, ENVIRONMENT, ECONOMICS.  
 \*NOTES, FILED. THIS BOOK IS DESIGNED TO PROVIDE EVERYONE WITH A BETTER UNDERSTANDING OF THE ISSUES SURROUNDING ENERGY AND ITS USE.  
 \*DATE, 760000

## ABSTRACT 1067

\*TITLE, ENERGY DILEMMAS - AN OVERVIEW OF US ENERGY PROBLEMS AND ISSUES.  
 \*AUTHOR, LEAGUE OF WOMEN VOTERS.  
 \*SOURCE, PUBL 688, LEAGUE OF WOMEN VOTERS, 1730 M ST NW, WASHINGTON DC 20036, 1977, 39 PP.  
 \*KEYWORDS, GENERAL, SUPPLY DEMAND.  
 \*NOTES, FILED. THE ENERGY CRISIS - HOW IT EVOLVED, ITS IMPACT, AND ACTIONS TO BE TAKEN IN THE FUTURE.  
 \*DATE, 770000

## ABSTRACT 1068

\*TITLE, WORLD ENERGY STRATEGIES.  
 \*AUTHOR, LOVINS A B.  
 \*SOURCE, CAMBRIDGE, MASS/BALLINGER PUB CO, 1975, 131 PP.  
 \*KEYWORDS, GENERAL, PETROLEUM, FOSSIL FUELS, NUCLEAR, GEOTHERMAL, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 1069

\*TITLE, WORLD ENERGY STRATEGIES.  
 \*AUTHOR, LOVINS A B.  
 \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 30(5)/14-32, MAY 1974.  
 \*KEYWORDS, GENERAL, INTERNATIONAL, CONVERSION, PETROLEUM, COAL, NATURAL GAS, NUCLEAR, GEOTHERMAL.  
 \*NOTES, FILED.  
 \*DATE, 740500

## ABSTRACT 1070

\*TITLE, NON-NUCLEAR FUTURES--THE CASE FOR AN ETHICAL ENERGY STRATEGY.  
 \*AUTHOR, LOVINS A B, PRICE J H.  
 \*SOURCE, CAMBRIDGE, MA/BALLINGER PUBLISHING CO, 1975, 224PP.  
 \*KEYWORDS, GENERAL, NUCLEAR, SAFETY, POLICY, CONVERSION, ECONOMICS, SOCIAL IMPLICATIONS.  
 \*NOTES, FILED. A WIDE VARIETY OF TOPICS ARE COVERED ON NUCLEAR POWER WITH ONE MAIN THEME BEING THAT THE NUCLEAR DREAM OF EXCESS ENERGY CAN NOT BE ACHIEVED BECAUSE IT WOULD REQUIRE AN UNATTAINABLE AMOUNT OF CAPITAL. THE SAFETY OF NUCLEAR POWER IS QUESTIONED.  
 \*DATE, 750000

## ABSTRACT 1071

- \*TITLE, SOFT ENERGY PATHS--TOWARD A DURABLE PEACE.
- \*AUTHOR, LOVINS A B.
- \*SOURCE, CAMBRIDGE, MA/BALLINGER PUBLISHING CO, 1977, 231PP.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, ECONOMICS.
- \*NOTES, FILED. THE USE OF SOFT ENERGY (SOLAR, WIND, BIOMASS CONVERSION) IN PLACE OF CURRENT ENERGY SOURCES. POLITICS OF, FUTURE OF, AND COMPARATIVE COSTS OF ENERGY SOURCES.
- \*DATE, 770000

## ABSTRACT 1072

- \*TITLE, THE ECONOMIC GEOGRAPHY OF ENERGY.
- \*AUTHOR, LUTEN D B.
- \*SOURCE, SCIENTIFIC AMER, 225(3)/165-175, SEPT 1971.
- \*KEYWORDS, GENERAL, ENERGY FLOW, HISTORICAL, WORLD WIDE, PETROLEUM, STORAGE, NATURAL GAS.
- \*NOTES, FILED.
- \*DATE, 710900

## ABSTRACT 1073

- \*TITLE, ENERGY DEMAND, CONSERVATION, AND INSTITUTIONAL PROBLEMS.
- \*AUTHOR, MACRAKIS M S.
- \*SOURCE, NSF-RA-N-74-034, NATIONAL SCI FOUNDATION, WASHINGTON D C, 12-14 FEB 1973, 556 PP.
- \*KEYWORDS, GENERAL, ECONOMICS, SUPPLY DEMAND, TRANSPORTATION, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 730212

## ABSTRACT 1074

- \*TITLE, PROVIDING FOR ENERGY.
- \*AUTHOR, MANCKE R B.
- \*SOURCE, NEW YORK, NY/MCGRAW-HILL BOOK CO, 1977, 134 PP.
- \*KEYWORDS, GENERAL, POLICY, PETROLEUM, COAL, NATURAL GAS.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1075

- \*TITLE, REPORT TO GOVERNOR WILLIAM G MILLIKEN.
- \*AUTHOR, MCCRACKEN P W.
- \*SOURCE, REPORT OF THE SPECIAL COMMISSION ON ENERGY, OFFICE OF THE GOVERNOR, LANSING, MICH, FEB 1974, 66 PP.
- \*KEYWORDS, GENERAL, ENERGY CONSUMPTION, MICHIGAN, POLICY.
- \*NOTES, FILED.
- \*DATE, 740200

## ABSTRACT 1076

- \*TITLE, THE ENERGY CRISIS LINGERS ON AND ON.
- \*AUTHOR, MCKETTA J J.
- \*SOURCE, AGR ENGR, SEPT 1974, PP 14-16.
- \*KEYWORDS, GENERAL, ENVIRONMENT, FOSSIL FUELS, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 740900

## ABSTRACT 1077

- \*TITLE, ENERGY RESOURCES AND SUPPLY.
- \*AUTHOR, MCMULLAN J T, MORGAN R, MURRAY R B.
- \*SOURCE, NEW YORK/JOHN WILEY AND SONS, 1976, 508 PP.
- \*KEYWORDS, GENERAL, SOLAR, PHOTOSYNTHESIS, FOSSIL FUELS, COAL, PETROLEUM, NUCLEAR, STORAGE, WASTES, ECONOMICS, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1078

- \*TITLE, THE LIMITS TO GROWTH.
- \*AUTHOR, MEADOWS O H, MEADOWS O L, RANDERS J, BEHRENS W W.
- \*SOURCE, -NEW YORK/UNIVERSE BOOKS, 1972, 205 PP.
- \*KEYWORDS, GENERAL, FERTILIZER, POPULATION, LAND USE, ECONOMICS, ENVIRONMENT.
- \*NOTES, FILED.
- \*DATE, 720000

## ABSTRACT 1079

- \*TITLE, ENGINEERING RESEARCH FOR DECENTRALIZED POWER - A PLAN FOR ACTION.
- \*AUTHOR, MERRIAM H F.
- \*SOURCE, WORKING PAPER SERIES NO 19, TECH AND DEV INST, EAST-WEST CENTER, SEPT 1974.
- \*KEYWORDS, GENERAL.
- \*NOTES, HAS.
- \*DATE, 743900

## ABSTRACT 1080

- \*TITLE, DEVELOPING WESTERN ENERGY RESOURCES.
- \*AUTHOR, MEYER R.
- \*SOURCE, EXXON CO, PUBLIC AFFAIRS DEPT, PO BOX 2180, HOUSTON, TEXAS, 4 SEPT 1974, 9 PP.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, ENVIRONMENT, SOCIAL IMPLICATIONS.
- \*NOTES, FILED. PRESENTED TO FEDERATION OF ROCKY MOUNTAIN STATES, EAST GLACIER PARK, MONTANA.
- \*DATE, 740904

## ABSTRACT 1081

- \*TITLE, ENERGY.
- \*AUTHOR, MICHIGAN UNITED CONSERVATION CLUBS.
- \*SOURCE, MICH UNITED CONSERVATION CLUBS, PO BOX 30235, LANSING, MI 48909.
- \*KEYWORDS, GENERAL, CONSERVATION, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1082

- \*TITLE, TOWARD A UNIFIED MICHIGAN ENERGY POLICY.
- \*AUTHOR, MICHIGAN ENERGY AND RESOURCE RESEARCH ASSOCIATION.
- \*SOURCE, MICH ENERGY AND RESOURCE RESEARCH ASSOC, 328 EXECUTIVE PLAZA, 1200 SIXTH ST, DETROIT, MI 48226, NOV 1977, 138 PP.
- \*KEYWORDS, GENERAL, MICHIGAN, POLICY, FOSSIL FUELS, SUPPLY DEMAND, NUCLEAR, SOLAR.
- \*NOTES, FILED.
- \*DATE, 771100

## ABSTRACT 1083

- \*TITLE, ENERGY CRISIS - WAYS OUT.
- \*AUTHOR, MILLER P E.
- \*SOURCE, MINN SCI, 32/6-11, WINTER 1976-77.
- \*KEYWORDS, GENERAL, MINNESOTA, ENERGY CONSUMPTION, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1084

- \*TITLE, ANNUAL ENERGY REPORT OF THE GOVERNOR-1975.
- \*AUTHOR, MILLIKEN W G.
- \*SOURCE, OFFICE OF GOVERNOR, STATE OF MICH, LANSING APRIL 1975, 56 PP.
- \*KEYWORDS, GENERAL, PETROLEUM, NATURAL GAS, COAL, ELECTRICAL, MICHIGAN, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 750404

## ABSTRACT 1085

- \*TITLE, CONTINUING ENERGY CRISIS IN AMERICA.
- \*AUTHOR, MOORE J M, ED.
- \*SOURCE, CONGRESSIONAL QUARTERLY, 1414 22ND STREET NW, WASHINGTON, D C 20037, 1975, 124 PP.
- \*KEYWORDS, GENERAL, FOSSIL FUELS, NUCLEAR, POLICY, ECONOMICS, BIBLIOGRAPHY.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1086

\*TITLE, ENERGY AND PUBLIC POLICY-1972.  
 \*AUTHOR, MURPHY J J.  
 \*SOURCE, NEW YORK/THE CONFERENCE BOARD, 1972, 318 PP.  
 \*KEYWORDS, GENERAL, PETROLEUM, NUCLEAR, ENERGY SOURCES, ENVIRONMENT.  
 \*NOTES, FILED.  
 \*DATE, 720000

## ABSTRACT 1087

\*TITLE, ENERGY - A NATIONAL ISSUE.  
 \*AUTHOR, MURRAY F X.  
 \*SOURCE, THE CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES,  
 GEORGETOWN UNIV, 1800 K STREET NW, WASHINGTON, D C 20006,  
 1976, 49 PP.  
 \*KEYWORDS, GENERAL, ENERGY FLOW, SUPPLY DEMAND.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1088

\*TITLE, ENERGY CONSUMPTION IN MANUFACTURING.  
 \*AUTHOR, MYERS J G, GILB B A, NAKAMURA L, PRESTON N, RABITSCH E K.  
 \*SOURCE, CAMBRIDGE, MASS/BALLINGER PUB CO, 1974, 610 PP.  
 \*KEYWORDS, GENERAL, ENERGY CONSUMPTION, INDUSTRY.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1089

\*TITLE, US ENERGY PROSPECTS - AN ENGINEERING VIEWPOINT.  
 \*AUTHOR, NATIONAL ACADEMY OF SCIENCE.  
 \*SOURCE, NAS, 2101 CONSTITUTION AVE, WASHINGTON D C, 1974.  
 \*KEYWORDS, GENERAL, HISTORICAL, CONSERVATION, COAL, ELECTRICAL, PETROLEUM,  
 SUPPLY DEMAND.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1090

\*TITLE, ENERGY MODELLING.  
 \*AUTHOR, NATIONAL SCIENCE FOUNDATION.  
 \*SOURCE, SPECIAL PUBL-ENERGY POLICY, 32 HIGH ST, GUILDFORD,  
 SURREY, ENGLAND, GUI 3EW/IPC SCI AND TECH PRESS LTD, IPC HOUSE,  
 15-19 OCT 1973, 170 PP.  
 \*KEYWORDS, GENERAL, MODELS, ECONOMICS, POLICY, SUPPLY DEMAND,  
 WORLD WIDE.  
 \*NOTES, FILED. A COLLECTION OF THE PAPERS PRESENTED AT A SPECIAL  
 WORKSHOP ORGANIZED BY THE US NATIONAL SCIENCE FOUNDATION AND THE  
 ENERGY RESEARCH UNIT, QUEEN MARY COLLEGE, LONDON.  
 \*DATE, 731015

## ABSTRACT 1091

\*TITLE, SPACE COLONIES AND ENERGY SUPPLY TO THE EARTH.  
 \*AUTHOR, O NEILL G K.  
 \*SOURCE, SCIENCE, 190(4218)/943-947, 5 DEC 1975.  
 \*KEYWORDS, GENERAL, SOLAR.  
 \*NOTES, FILED.  
 \*DATE, 751205

## ABSTRACT 1092

\*TITLE, ENVIRONMENT, POWER, AND SOCIETY.  
 \*AUTHOR, ODUM H T.  
 \*SOURCE, WILEY-INTERSCIENCE, 1971.  
 \*KEYWORDS, GENERAL, ENVIRONMENT.  
 \*NOTES,  
 \*DATE, 710000



\*TITLE, THE ENERGY CYCLE OF THE EARTH.  
\*AUTHOR, CORT A H.  
\*SOURCE, SCIENTIFIC AMER, SEPT 1970, PP 54-63.  
\*KEYWORDS, GENERAL, SOLAR, ENERGY FLOW.  
\*NOTES, FILED.  
\*DATE, 700900

## ABSTRACT 1094

\*TITLE, SOMETHING NEW - 1977 WEATHERIZATION INCENTIVES FOR OREGON HOMEOWNERS.  
\*AUTHOR, OREGON DEPARTMENT OF ENERGY.  
\*SOURCE, OREGON DEPT OF ENERGY, 528 COTTAGE ST NE, SALEM, OR 97310, AUG 1977, 30 PP.  
\*KEYWORDS, GENERAL, OREGON, HOME, LEGISLATION, POLICY.  
\*NOTES, FILED.  
\*DATE, 770800

## ABSTRACT 1095

\*TITLE, ENERGY - PROSPECTS FOR THE REST OF THE CENTURY.  
\*AUTHOR, OTHMER D F.  
\*SOURCE, MECHANICAL ENGR, AUG 1974, PP 18-25.  
\*KEYWORDS, GENERAL, ENERGY SOURCES.  
\*NOTES, FILED.  
\*DATE, 740600

## ABSTRACT 1096

\*TITLE, THE ENERGY MANAGERS HANDBOOK.  
\*AUTHOR, PAYNE G A.  
\*SOURCE, IPC SCI AND TECH PRESS LTD, IPC HOUSE, 32 HIGH ST, GUILDFORD, SURREY, ENGLAND GU1 3EW, 1977, 147PP.  
\*KEYWORDS, GENERAL, CONSERVATION, FOSSIL FUELS, HEAT, ELECTRICAL, INDUSTRY.  
\*NOTES, FILED.  
\*DATE, 770000

## ABSTRACT 1097

\*TITLE, ENERGY BUDGETS AND THE TRADE-OFFS--THE NEED AND TECHNIQUES.  
\*AUTHOR, PEYTON T L.  
\*SOURCE, FARM ELECTRIFICATION COUNCIL, FOOD AND ENERGY SYMPOSIUM, 21 AUG 1975, WASHINGTON D C, 7 PP.  
\*KEYWORDS, GENERAL, ENERGY BUDGET.  
\*NOTES, FILED.  
\*DATE, 750821

## ABSTRACT 1098

\*TITLE, THE FUEL CONSUMPTION OF AUTOMOBILES.  
\*AUTHOR, PIERCE J R.  
\*SOURCE, SCIENTIFIC AMER, JAN 1975, PP 34-44.  
\*KEYWORDS, GENERAL, CONSERVATION, ENERGY CONSUMPTION.  
\*NOTES, FILED.  
\*DATE, 750100

## ABSTRACT 1099

\*TITLE, NEW WAYS WITH FUELS.  
\*AUTHOR, PIPER A.  
\*SOURCE, NATURE, 250/1P, 19 JULY 1974.  
\*KEYWORDS, GENERAL.  
\*NOTES, FILED.  
\*DATE, 740719

## ABSTRACT 1100

\*TITLE, ENERGY PRIMER.  
\*AUTHOR, PORTOLA INSTITUTE.  
\*SOURCE, PORTOLA INST, 558, SANTA CRUZ AVE, MENLO PARK, CA.  
\*KEYWORDS, GENERAL, RENEWABLE ENERGY, ENERGY SOURCES, SOLAR, WIND, BIOMASS, AGRICULTURE, METHANE, ALCOHOL.  
\*NOTES, FILED.  
\*DATE,

## ABSTRACT 1101

\*TITLE, THE ENERGY DILEMMA - AN ANALYSIS OF THE CURRENT SITUATION.  
\*AUTHOR, PRICE D R.  
\*SOURCE, NEW YORK STATE COLLEGE OF AGR AND LIFE SCI, CORNELL UNIV, ITHACA, N Y, AUG 1973, 11 PP.  
\*KEYWORDS, GENERAL, SUPPLY DEMAND, SOCIAL IMPLICATIONS, ECONOMICS.  
\*NOTES, FILED.  
\*DATE, 730600

## ABSTRACT 1102

\*TITLE, ENERGY FOR A TECHNOLOGICAL SOCIETY.  
\*AUTHOR, PRIEST J.  
\*SOURCE, READING, MASS/ADDISON-WESLEY PUB CO, 1975, 358 PP.  
\*KEYWORDS, GENERAL, FOSSIL FUELS, NUCLEAR, ELECTRICAL, CONSERVATION.  
\*NOTES, FILED.  
\*DATE, 750000

## ABSTRACT 1103

\*TITLE, A CATALOGUE.  
\*AUTHOR, PURDUE UNIVERSITY.  
\*SOURCE, NATIONAL ENERGY DATA WORKSHOP, PURDUE UNIV, WEST LAFAYETTE, IN 47907, 30-31 OCT 1974.  
\*KEYWORDS, GENERAL, BIBLIOGRAPHY, CATALOG.  
\*NOTES, FILED. LISTS CONTACTS AND ACTIVITIES IN EACH STATE.  
\*DATE, 741030

## ABSTRACT 1104

\*TITLE, ALTERNATIVES IN ENERGY DEVELOPMENT.  
\*AUTHOR, RANGARAO B V.  
\*SOURCE, ECONOMIC AND POLITICAL WEEKLY, 9(27)/1063-1069, 6 JULY 1974.  
\*KEYWORDS, GENERAL, WIND, FOSSIL FUELS, NUCLEAR, SOLAR.  
\*NOTES, FILED.  
\*DATE, 740706

## ABSTRACT 1105

\*TITLE, PIGS FOR ANCESTORS.  
\*AUTHOR, RAPPAPORT R.  
\*SOURCE, YALE UNIV PRESS, 1967.  
\*KEYWORDS, GENERAL.  
\*NOTES,  
\*DATE, 670000

## ABSTRACT 1106

\*TITLE, THE NATIONS ENERGY FUTURE.  
\*AUTHOR, RAY D L.  
\*SOURCE, REPORT BY US ATOMIC ENERGY COMMISSION TO RICHARD M NIXON, PRESIDENT OF THE UNITED STATES, 1 DEC 1973, 171 PP.  
\*KEYWORDS, GENERAL, HISTORICAL, SUPPLY DEMAND, CONSERVATION.  
\*NOTES, FILED.  
\*DATE, 731201

## ABSTRACT 1107

\*TITLE, FOOD AND POPULATION.  
\*AUTHOR, REVELLE R.  
\*SOURCE, SCIENTIFIC AMER, SEPT 1974, PP 161-170.  
\*KEYWORDS, GENERAL.  
\*NOTES, AID.  
\*DATE, 740900

\*TITLE, ENERGY SOURCES AND CONVERSION TECHNIQUES.  
 \*AUTHOR, ROBERTS R.  
 \*SOURCE, AMER SCIENTIST, 61(1)/66-75, JAN-FEB 1973.  
 \*KEYWORDS, GENERAL, HISTORICAL, CONVERSION.  
 \*NOTES, NAS.  
 \*DATE, 730100

## ABSTRACT 1109

\*TITLE, THE ENERGY CRISIS.  
 \*AUTHOR, ROCKS L, RUNYON R P.  
 \*SOURCE, NEW YORK/CROWN PUB, 1972, 189 PP.  
 \*KEYWORDS, GENERAL, HISTORICAL, PETROLEUM, COAL, NATURAL GAS, SOLAR, GEOTHERMAL,  
 NUCLEAR, ENVIRONMENT.  
 \*NOTES, FILED.  
 \*DATE, 720000

## ABSTRACT 1110

\*TITLE, ENERGY.  
 \*AUTHOR, SCHURR S H.  
 \*SOURCE, SCIENTIFIC AMER, SEPT 1963, PP 111-126.  
 \*KEYWORDS, GENERAL, ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 630900

## ABSTRACT 1111

\*TITLE, ENERGY, ECONOMIC GROWTH AND THE ENVIRONMENT.  
 \*AUTHOR, SCHURR S H, ET AL.  
 \*SOURCE, BALTIMORE/JOHN HOPKINS UNIV PRESS, 1972, 232 PP.  
 \*KEYWORDS, GENERAL, ECONOMICS, ENVIRONMENT, POLICY, ENERGY CONSUMPTION.  
 \*NOTES, FILED. A COMPILATION OF PAPERS PRESENTED AT A FORUM CONDUCTED BY  
 RESOURCES FOR THE FUTURE, 20-21 APRIL 1971.  
 \*DATE, 720000

## ABSTRACT 1112

\*TITLE, ENERGY PERSPECTIVES - INTERNATIONAL AND NATIONAL.  
 \*AUTHOR, SEAMANS R C.  
 \*SOURCE, WORLD RESOURCES/THE FORENSIC QUARTERLY, 49/337-344, AUG 1975.  
 \*KEYWORDS, GENERAL, INTERNATIONAL.  
 \*NOTES, FILED.  
 \*DATE, 750800

## ABSTRACT 1113

\*TITLE, A NATIONAL PLAN FOR ENERGY RESEARCH, DEVELOPMENT AND DEMONSTRATION -  
 CREATING ENERGY CHOICES FOR THE FUTURE.  
 \*AUTHOR, SEAMANS R C.  
 \*SOURCE, EROA 76-1, US GOVT PRINTING OFFICE, WASHINGTON DC 20402,  
 1976, 122 PP.  
 \*KEYWORDS, GENERAL, POLICY, DEVELOPMENT, WORLD WIDE, NUCLEAR.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1114

\*TITLE, THE UNITED STATES AND WORLD DEVELOPMENT - AGENOA 1977.  
 \*AUTHOR, SEVELL J W, ET AL.  
 \*SOURCE, NEW YORK, NY/PRAEGER PUBL, 1977, 248 PP9  
 \*KEYWORDS, GENERAL, WORLD WIDE, POLICY, USA.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1115

\*TITLE, THE NATIONAL ENERGY OUTLOOK.  
 \*AUTHOR, SHELL OIL CO.  
 \*SOURCE, SHELL OIL CO, JAN 1974, 39 PP.  
 \*KEYWORDS, GENERAL, ENERGY SOURCES, USA, SUPPLY DEMAND, PETROLEUM,  
 FOSSIL FUELS, INTERNATIONAL, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 740100

## ABSTRACT 1116

\*TITLE, INTRODUCTION TO ENERGY TECHNOLOGY.  
 \*AUTHOR, SHEPARD M L, CHADDOCK J B, COCKS F H, HARMAN C M.  
 \*SOURCE, ANN ARBOR, MICH/ANN ARBOR SCI PUB, 1976, 300 PP.  
 \*KEYWORDS, GENERAL, ELECTRICAL, NUCLEAR, STORAGE, TRANSPORTATION, SOLAR, WIND.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1117

\*TITLE, ENERGY ANALYSIS IN POLICY MAKING.  
 \*AUTHOR, SLESSER M.  
 \*SOURCE, NEW SCIENTIST, 1 NOV 1973, PP 328-333.  
 \*KEYWORDS, GENERAL, ENERGY SUBSIDY, AGRICULTURE.  
 \*NOTES, NAS.  
 \*DATE, 731101

## ABSTRACT 1118

\*TITLE, STRIKING A BALANCE.  
 \*AUTHOR, SPILHAUS A.  
 \*SOURCE, AGR ENGR, 56(9)/14-17, SEPT 1975.  
 \*KEYWORDS, GENERAL, POPULATION, ECONOMICS, ENVIRONMENT.  
 \*NOTES, FILED.  
 \*DATE, 750900

## ABSTRACT 1119

\*TITLE, ENERGY REQUIREMENTS AND THE ROLE OF ENERGY IN OUR  
 EXPANDING ECONOMY.  
 \*AUTHOR, SPORN P.  
 \*SOURCE, AGR ENGR, 39(9)/657, 677-679, 1957.  
 \*KEYWORDS, GENERAL, REQUIREMENTS.  
 \*NOTES,  
 \*DATE, 570000

## ABSTRACT 1120

\*TITLE, THE ENERGY EQUATIONS, NATURAL POWER FOR THE THIRD WORLD.  
 \*AUTHOR, SPURGEON D.  
 \*SOURCE, NEW SCIENTIST, 6 DEC 1973, PP 694-697.  
 \*KEYWORDS, GENERAL, GEOTHERMAL, SOLAR, WIND, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 731206

## ABSTRACT 1121

\*TITLE, ENERGY - SOURCES, USE AND ROLE IN HUMAN AFFAIRS.  
 \*AUTHOR, STEINHART C E, STEINHART J S.  
 \*SOURCE, NORTH SCITUATE, MASS/DUXBURY PRESS, 1974, 362 PP.  
 \*KEYWORDS, GENERAL, HISTORICAL, ENERGY BUDGET, FOOD ENERGY, ENERGY SOURCES,  
 FOSSIL FUELS, NUCLEAR, ELECTRICAL, POLICY, ENERGY ACCOUNTING.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1122

\*TITLE, PRODUCING YOUR OWN POWER.  
 \*AUTHOR, STONER C H, ET AL.  
 \*SOURCE, NEW YORK/VINTAGE BOOKS, 1975, 322 PP.  
 \*KEYWORDS, GENERAL, WIND, WATER POWER, WOOD, METHANE, SOLAR, CONSERVATION,  
 BIBLIOGRAPHY.  
 \*NOTES, FILED.  
 \*DATE, 750000



\*TITLE, ENERGY TECHNOLOGY II.  
 \*AUTHOR, SULLIVAN T F P. ET AL.  
 \*SOURCE, PROC DF THE 2ND ENERGY TECH CONF, 12-14 MAY 1975, GOVERNMENT INST, WASHINGTON D C, 344 PP.  
 \*KEYWORDS, GENERAL, LEGISLATION, POLICY, FOSSIL FUELS, COAL, PETROLEUM, NUCLEAR, NATURAL GAS, INTERNATIONAL, UNITED KINGDOM, CANADA, JAPAN, GERMANY, FRANCE, NETHERLANDS, MEXICO, CONSERVATION, ENVIRONMENT, STORAGE, TRANSMISSION, SOLAR, HMD, HYDROGEN, GEOTHERMAL, WIND.  
 \*NOTES, FILED.  
 \*DATE, 750512

## ABSTRACT 1124

\*TITLE, THE CONVERSION OF ENERGY.  
 \*AUTHOR, SUMMERS C M.  
 \*SOURCE, SCIENTIFIC AMER, 225(3)/149-160, SEPT 1971.  
 \*KEYWORDS, GENERAL, CONVERSION, EFFICIENCY.  
 \*NOTES, FILED.  
 \*DATE, 710900

## ABSTRACT 1125

\*TITLE, THE ENERGY CRISIS WORLD STRUGGLE FOR POWER AND WEALTH.  
 \*AUTHOR, TANZER M.  
 \*SOURCE, NEW YORK/MONTHLY REVIEW PRESS, 1974, 171 PP.  
 \*KEYWORDS, GENERAL, INTERNATIONAL, ENERGY SOURCES, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 740600

## ABSTRACT 1126

\*TITLE, AN ANALYSIS OF THE ERDA PLAN AND PROGRAM.  
 \*AUTHOR, TEAGUE O E. ET AL.  
 \*SOURCE, STDC NO 052-010-00457-3, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, OCT 1975, 318 PP.  
 \*KEYWORDS, GENERAL, FOSSIL FUELS, NUCLEAR, SOLAR, GEOTHERMAL, CONSERVATION, ENVIRONMENT.  
 \*NOTES, FILED.  
 \*DATE, 751000

## ABSTRACT 1127

\*TITLE, ENERGY FACTS II.  
 \*AUTHOR, TEAGUE O E. ET AL.  
 \*SOURCE, PREPARED FOR THE SUBCOMMITTEE ON ENERGY RESEARCH, DEV, AND DEMONSTRATION OF THE COMMITTEE ON SCI AND TECH, US HOUSE OF REP, NINETY-FOURTH CONGRESS, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, AUG 1975, 536 PP.  
 \*KEYWORDS, GENERAL, SUPPLY DEMAND, COAL, NUCLEAR, PETROLEUM, USA.  
 \*NOTES, FILED.  
 \*DATE, 750800

## ABSTRACT 1128

\*TITLE, ENERGY--THERE CAN BE ENOUGH.  
 \*AUTHOR, TESSIERI J E.  
 \*SOURCE, AGR ENGR, SEPT 1977, PP 14-16.  
 \*KEYWORDS, GENERAL, ALTERNATIVES, POLICY, USA.  
 \*NOTES, FILED. THE PAPER FEATURES A BRIEF 25 YEAR HISTORY OF US ENERGY USE, ALTERNATIVE ENERGY SOURCES, AND THE PRESIDENTS ENERGY PROGRAM. THE UNITED STATES ABILITY TO PRODUCE SURPLUS COMMODITIES IS NOTED.  
 \*DATE, 770900

## ABSTRACT 1129

\*TITLE, STRETCHING SCARCE SUPPLIES AND FINDING FUTURE FUELS.  
 \*AUTHOR, TEXAS A AND M UNIVERSITY.  
 \*SOURCE, TEXAS ENERGY AND MINERAL RESOURCES, 2(1)/1-3, TEXAS A AND M UNIV, COLLEGE STATION, TX, NOV 1975.  
 \*KEYWORDS, GENERAL, ALTERNATIVES, METHANOL.  
 \*NOTES, FILED.  
 \*DATE, 751100

## ABSTRACT 1130

\*TITLE, ENERGY FOR MAN FROM WINDMILLS TO NUCLEAR POWER.  
 \*AUTHOR, THIRRING M.  
 \*SOURCE, NEW YORK/HARPER AND ROW PUB, 1976, 439 PP.  
 \*KEYWORDS, GENERAL, ENERGY SOURCES, COAL, PETROLEUM, FOSSIL FUELS, SOLAR, NUCLEAR.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1131

\*TITLE, A SYSTEMATIC EVALUATION OF ENERGY CRISIS IMPACTS ON BUSINESS.  
 \*AUTHOR, TINKLEMAN M.  
 \*SOURCE, PRESENTED AT A JOINT NATIONAL MEETING OF THE INST OF MANAGEMENT SERVICES, OPERATIONS RESEARCH SOCIETY OF AMERICA, SAN JUAN, PUERTO RICO, 16-18 OCT 1974, 13 PP.  
 \*KEYWORDS, GENERAL, SUPPLY DEMAND.  
 \*NOTES, FILED.  
 \*DATE, 741016

## ABSTRACT 1132

\*TITLE, ENERGY NEEDS AND ANALYSIS WITH SPECIAL REFERENCE TO FOOD AND AGRICULTURE  
 \*AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.  
 \*SOURCE, FAO LIBRARY OCCASIONAL BIBLIOGRAPHY 13, DEC 1975, 17 PP.  
 \*KEYWORDS, GENERAL, BIBLIOGRAPHY.  
 \*NOTES, FILED.  
 \*DATE, 751200

## ABSTRACT 1133

\*TITLE, UNION CARBIDE AND NATIONAL ENERGY PROGRAMS.  
 \*AUTHOR, UNION CARBIDE CORP.  
 \*SOURCE, UNION CARBIDE CORP, MARCH 1975, 20 PP.  
 \*KEYWORDS, GENERAL, INDUSTRY, LEGISLATION, CHEMICALS.  
 \*NOTES, FILED.  
 \*DATE, 750300

## ABSTRACT 1134

\*TITLE, CHECKING YOUR ENERGY I Q.  
 \*AUTHOR, UNIVERSITY OF FLORIDA.  
 \*SOURCE, FLORIDA COOPERATIVE EXTENSION SERVICE, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL.  
 \*KEYWORDS, GENERAL, AWARENESS.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 1135

\*TITLE, ENERGY ALTERNATIVES - A COMPARITIVE ANALYSIS.  
 \*AUTHOR, UNIVERSITY OF OKLAHOMA.  
 \*SOURCE, SCI AND PUBLIC POLICY PROGRAM, UNIV OF OKLAHOMA, NORMAN, OK, MAY 1975.  
 \*KEYWORDS, GENERAL, COAL, PETROLEUM, FOSSIL FUELS, ALTERNATIVES, NUCLEAR, SOLAR, GEOTHERMAL, ORGANIC, WASTES, ELECTRICAL, ENERGY CONSUMPTION, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 750500

## ABSTRACT 1136

\*TITLE, ENERGY PERSPECTIVES.  
 \*AUTHOR, US-DEPARTMENT OF INTERIOR.  
 \*SOURCE, US DEPT OF INTERIOR, FEB 1975, 207 PP.  
 \*KEYWORDS, GENERAL, WORLD WIDE, STATISTICS, USA, ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 750200

## ABSTRACT 1137

\*TITLE, ENERGY MANAGEMENT - ECONOMIC SENSE FOR RETAILERS.  
 \*AUTHOR, US-DEPARTMENT OF COMMERCE.  
 \*SOURCE, OFFICE OF ENERGY PROGRAMS, US DEPT OF COMMERCE, WASHINGTON D C, FEB 1974, 6 PP.  
 \*KEYWORDS, GENERAL, AWARENESS, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 740200

- TITLE, ENERGY MANAGEMENT - TRADE ASSOCIATIONS AND THE ECONOMICS OF ENERGY.
- AUTHOR, US-DEPARTMENT OF COMMERCE.
- SOURCE, OFFICE OF ENERGY PROGRAMS, US DEPT OF COMMERCE, WASHINGTON D C, 6 PP, UNDATED.
- KEYWORDS, GENERAL, ECONOMICS.
- NOTES, FILED.
- DATE,

## ABSTRACT 1139

- TITLE, HOW TO START AN ENERGY MANAGEMENT PROGRAM.
- AUTHOR, US-DEPARTMENT OF COMMERCE.
- SOURCE, OFFICE OF ENERGY PROGRAMS, US DEPT OF COMMERCE, WASHINGTON D C, OCT 1973, 4 PP.
- KEYWORDS, GENERAL, AWARENESS.
- NOTES, FILED.
- DATE, 731000

## ABSTRACT 1140

- TITLE, ENERGY PERSPECTIVES 2.
- AUTHOR, US-DEPARTMENT OF INTERIOR.
- SOURCE, STOCK D24-000-00826-6, US DEPT OF INTERIOR, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1976, 224PP.
- KEYWORDS, GENERAL, RESOURCES, ENERGY CONSUMPTION, PRODUCTION.
- NOTES, FILED. WORLD AND US RESOURCES, CONSUMPTION, PRODUCTION, TRADE, ENERGY PROJECTIONS AND ENERGY SOURCES ARE PRESENTED WITH MAPS, GRAPHS, AND TABLES.
- DATE, 760600

## ABSTRACT 1141

- TITLE, CREATING ENERGY CHOICES FOR THE FUTURE - A SUMMARY OF THE NATIONAL PLAN FOR ENERGY RESEARCH, DEVELOPMENT AND DEMONSTRATION.
- AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- SOURCE, ERDA, TECH INFO CENTER, SPRINGFIELD, VA, 1975, 33 PP.
- KEYWORDS, GENERAL, ENERGY SOURCES.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 1142

- TITLE, ERDA UNIVERSITY CONFERENCE PROCEEDINGS 1975.
- AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- SOURCE, ERDA 75-42, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1975, 154 PP.
- KEYWORDS, GENERAL, SOLAR, GEOTHERMAL, NUCLEAR.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 1143

- TITLE, NATIONAL ENERGY OUTLOOK 1976.
- AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.
- SOURCE, FEA, FEB 1976, 400 PP.
- KEYWORDS, GENERAL, USA, COAL, NATURAL GAS, ELECTRICAL, NUCLEAR, ECONOMICS, FOSSIL FUELS.
- NOTES, FILED.
- DATE, 760200

## ABSTRACT 1144

- TITLE, PROJECT INDEPENDENCE - A SUMMARY.
- AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.
- SOURCE, FEA, 1974.
- KEYWORDS, GENERAL, HISTORICAL, ALTERNATIVES, CONSERVATION, POLICY.
- NOTES, FILED.
- DATE, 740000

## ABSTRACT 1145

- TITLE, PROJECT INTERDEPENDENCE - US AND WORLD ENERGY OUTLOOK THROUGH 1990.
- AUTHOR, US-HOUSE.
- SOURCE, PUBLICATION 95-31, SUBCOMMITTEE ON ENERGY AND POWER, COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE, US HOUSE OF REP, 95TH CONGRESS 1ST SESSION, JUNE 1977, 77 PP.
- KEYWORDS, GENERAL, WORLD WIDE, FOSSIL FUELS, PETROLEUM, SUPPLY DEMAND.
- NOTES, FILED.
- DATE, 770600

## ABSTRACT 1146

- \*TITLE, THE OIL CRISIS.
- \*AUTHOR, VERNON R.
- \*SOURCE, NEW YORK/W W NORTON AND CO INC, 1976, 301 PP.
- \*KEYWORDS, GENERAL, PETROLEUM, INTERNATIONAL.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1147

- \*TITLE, DEAR ENERGY.
- \*AUTHOR, VERWAY D I.
- \*SOURCE, THE MICHIGAN STATE ECONOMIC RECORD, 15(5), 1-12, SEPT-OCT 1973.
- \*KEYWORDS, GENERAL, NATURAL GAS, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 730900

## ABSTRACT 1148

- \*TITLE, ENERGY AS A MAJOR FACTOR IN MAN S DEVELOPMENT.
- \*AUTHOR, WARD G T.
- \*SOURCE, ASAE PAPER 70-112, 22 PP.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, DEVELOPING COUNTRIES, WORLD WIDE.
- \*NOTES, FILED.
- \*DATE, 700000

## ABSTRACT 1149

- \*TITLE, CLEAN FUELS FROM BIOMASS, SEWAGE, URBAN REFUSE, AGRICULTURAL WASTES.
- \*AUTHOR, WHITE J W, MCGREW W.
- \*SOURCE, INST OF GAS TECH, 3424 S STATE ST, CHICAGO, IL, MARCH 1976, 459 PP.
- \*KEYWORDS, GENERAL, BIOMASS, AGRICULTURE, WASTES, MUNICIPAL WASTE.
- \*NOTES, FILED.
- \*DATE, 760300

## ABSTRACT 1150

- \*TITLE, ENERGY.
- \*AUTHOR, WILSON M.
- \*SOURCE, NEW YORK/TIME-LIFE BOOKS, 1973, 200 PP.
- \*KEYWORDS, GENERAL, HISTORICAL, ELECTRICAL, HEAT.
- \*NOTES, FILED.
- \*DATE, 700000

## ABSTRACT 1151

- \*TITLE, ENERGY--GLOBAL PROSPECTS, 1985-2000.
- \*AUTHOR, WILSON C L, ED.
- \*SOURCE, NEW YORK, NY/MCGRAW-HILL BOOK CO, 1977, 291PP.
- \*KEYWORDS, GENERAL, POLICY, RESOURCES, PETROLEUM, NATURAL GAS, COAL, NUCLEAR, SUPPLY DEMAND.
- \*NOTES, FILED. REPORT OF THE WORKSHOP ON ALTERNATIVE ENERGY STRATEGIES, A PROJECT SPONSORED BY THE MASS INST OF TECH.
- \*DATE, 770000

## ABSTRACT 1152

- \*TITLE, OUTLOOK FOR ENERGY IN THE UNITED STATES TO 1985.
- \*AUTHOR, WINGER J G, GUNNING G D, EMERSON J D, SPARLING R G, ZRALY A J.
- \*SOURCE, ENERGY ECON DIV, THE CHASE MANHATTAN BANK, NEW YORK, MAY 1973, 55 PP.
- \*KEYWORDS, GENERAL, ENERGY SOURCES, SUPPLY DEMAND, PETROLEUM, NATURAL GAS, COAL, NUCLEAR, WATER POWER.
- \*NOTES, FILED.
- \*DATE, 730500

## ABSTRACT 1153

- \*TITLE, THE ENERGY CYCLE OF THE BIOSPHERE.
- \*AUTHOR, WOODWELL G M.
- \*SOURCE, SCIENTIFIC AMER, SEPT 1970, PP 64-74.
- \*KEYWORDS, GENERAL, ENERGY FLOW, PHOTOSYNTHESIS.
- \*NOTES, FILED.
- \*DATE, 700900



- TITLE, ENERGY CRISIS - DANGER AND OPPORTUNITY.
- AUTHOR, YANNAKONE V J. ET AL.
- SOURCE, ST PAUL, MINN/VEST PUB CO, 1974, 432 PP.
- KEYWORDS, GENERAL, ENERGY SOURCES, ECONOMICS, SOCIAL IMPLICATIONS.
- NOTES, FILED.
- DATE, 740000

## ABSTRACT 1155

- TITLE, REMARKS PREPARED FOR DELIVERY BY FRANK G ZARB, ADMINISTRATOR FEA, BEFORE THE SAE, FEBRUARY 25, 1976.
- AUTHOR, ZARB F G.
- SOURCE, FEDERAL ENERGY NEWS, FEDERAL ENERGY ADMINISTRATION, WASHINGTON D C, FEB 1976, 7 PP.
- KEYWORDS, GENERAL, AUTOMOBILE, INDUSTRY, ENERGY SOURCES.
- NOTES, FILED.
- DATE, 760200

## GEOTHERMAL 1156 -- 1175

## ABSTRACT 1156

- TITLE, GEOTHERMAL ENERGY - A REVIEW OF RESEARCH AND DEVELOPMENT.
- AUTHOR, ARMSTEAD H C.
- SOURCE, UNESCO PRESS, 1973.
- KEYWORDS, GEOTHERMAL.
- NOTES,
- DATE, 730000

## ABSTRACT 1157

- TITLE, GEOTHERMAL POWER.
- AUTHOR, BARNEA J.
- SOURCE, SCIENTIFIC AMER, JAN 1972, PP 70-77.
- KEYWORDS, GEOTHERMAL.
- NOTES, NAS.
- DATE, 720100

## ABSTRACT 1158

- TITLE, HEAT FROM THE EARTH.
- AUTHOR, BATTTELLE MEMORIAL INSTITUTE.
- SOURCE, ENERGY PERSPECTIVES 3, BATTTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS, OH, OCT 1973, 5 PP.
- KEYWORDS, GEOTHERMAL, USA, ITALY.
- NOTES, FILED.
- DATE, 731000

## ABSTRACT 1159

- TITLE, GEOTHERMAL - EARTH'S PRIMORDIAL ENERGY.
- AUTHOR, BOWEN R G, GROH E A.
- SOURCE, TECH REVIEW, 74(1)/42-48, OCT/NOV 1971.
- KEYWORDS, GEOTHERMAL.
- NOTES, NAS.
- DATE, 711000

## ABSTRACT 1160

- TITLE, GEOTHERMAL ENERGY.
- AUTHOR, EATON W W.
- SOURCE, USERDA, TECH INFO CENTER, PO BOX 62, OAK RIDGE, TENN, 1975, 42 PP.
- KEYWORDS, GEOTHERMAL, GENERAL.
- NOTES, FILED.
- DATE, 750000

\*TITLE, GEOTHERMAL ENERGY.  
 \*AUTHOR, EINARSSON J.  
 \*SOURCE, UNESCO COURIER, FEB 1974, PP 24-25.  
 \*KEYWORDS, GEOTHERMAL.  
 \*NOTES, NAS.  
 \*DATE, 740200

## ABSTRACT 1162

\*TITLE, GEOTHERMAL SYSTEMS AND POWER DEVELOPMENT.  
 \*AUTHOR, ELLIS A J.  
 \*SOURCE, AMER SCIENTIST, 63/510-521, SEPT/OCT 1975.  
 \*KEYWORDS, GEOTHERMAL, WORLD WIDE, DEVELOPMENT.  
 \*NOTES, FILED.  
 \*DATE, 750900

## ABSTRACT 1163

\*TITLE, POWER FROM THE EARTH.  
 \*AUTHOR, FENNER D, KLARMANN J.  
 \*SOURCE, ENVIRONMENT, 13(10)/19-34, DEC 1971.  
 \*KEYWORDS, GEOTHERMAL.  
 \*NOTES, NAS.  
 \*DATE, 711200

## ABSTRACT. 1164

\*TITLE, GEOTHERMAL ENERGY - THE PROSPECTS GET HOTTER.  
 \*AUTHOR, HENAHAN J F.  
 \*SOURCE, POPULAR SCI, NOV 1974, PP 96-99, 142, 143.  
 \*KEYWORDS, GEOTHERMAL.  
 \*NOTES, FILED.  
 \*DATE, 741100

## ABSTRACT 1165

\*TITLE, GEOTHERMAL ENERGY - A NATIONAL PROPOSAL FOR GEOTHERMAL RESOURCES RESEARCH.  
 \*AUTHOR, MICKEL W J. ET AL.  
 \*SOURCE, FINAL REPORT OF THE GEOTHERMAL RESOURCES RESEARCH CONF, BATTELLE SEATTLE RESEARCH CENTER, SEATTLE, WASH, 18-20 SEPT 1972, 55 PP.  
 \*KEYWORDS, GEOTHERMAL, WORLD WIDE.  
 \*NOTES, FILED.  
 \*DATE, 720918

## ABSTRACT 1166

\*TITLE, GEOTHERMAL ENERGY - STATE OF THE ART, 1975.  
 \*AUTHOR, MCNITT J R.  
 \*SOURCE, ITEM 4(C), ADVISORY COMMITTEE ON THE APPLICATION OF SCI AND TECH TO DEV, 21ST SESSION, GENEVA, 17-28 NOV 1975, 23 PP.  
 \*KEYWORDS, GEOTHERMAL, TECHNOLOGY ASSESSMENT, WORLD WIDE.  
 \*NOTES, FILED.  
 \*DATE, 751117

## ABSTRACT 1167

\*TITLE, WAIRAKEI POWER STATION.  
 \*AUTHOR, NEW ZEALAND ELECTRICITY CO.  
 \*SOURCE, NEW ZEALAND ELECTRICITY CO, A R SHEAVER, GOVT PRINTER, WELLINGTON, 1974, 3 PP.  
 \*KEYWORDS, GEOTHERMAL, DESIGN, NEW ZEALAND.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1168

\*TITLE, GEOTHERMAL ENERGY - THE NEGLECTED ENERGY OPTION.  
 \*AUTHOR, REX R W.  
 \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 27(8)/52-56, OCT 1971.  
 \*KEYWORDS, GEOTHERMAL.  
 \*NOTES, NAS.  
 \*DATE, 711000

\*TITLE, MERCURY EMISSIONS FROM GEOTHERMAL POWER PLANTS.  
 \*AUTHOR, ROBERTSON D E, CRECELIUS E A, FRUCHTER J S, LUDWICK J D.  
 \*SOURCE, SCIENCE, 196(4294)/1094-1097, 3JUNE 1977.  
 \*KEYWORDS, GEOTHERMAL, USA.  
 \*NOTES, FILED. GEOTHERMAL STEAM USED FOR POWER PRODUCTION CONTAINS SIGNIFICANT QUANTITIES OF MERCURY. MUCH OF WHICH ESCAPES TO THE ATMOSPHERE AS ELEMENTAL MERCURY VAPOR IN COOLING TOWER EXHAUSTS.  
 \*DATE, 170603

## ABSTRACT 1170

\*TITLE, GEOTHERMAL ENERGY.  
 \*AUTHOR, SMITH M C.  
 \*SOURCE, LOS ALAMOS INFORMAL REPORT LA-5289-MS, LOS ALAMOS, NEW MEXICO, MAY 1973.  
 \*KEYWORDS, GEOTHERMAL.  
 \*NOTES, NAs.  
 \*DATE, 730500

## ABSTRACT 1171

\*TITLE, GEOTHERMAL RESOURCES POTENTIAL IN AFRICA AND RECOMMENDATIONS FOR DEVELOPMENT.  
 \*AUTHOR, UN-ECONOMIC AND SOCIAL COUNCIL.  
 \*SOURCE, UN ECON AND SOCIAL COUNCIL, ECON COMMISSION FOR AFRICA, SECOND AFRICAN MEETING ON ENERGY, ACCRA, GHANA, 1-12 MARCH 1976, 9 PP.  
 \*KEYWORDS, GEOTHERMAL, AFRICA.  
 \*NOTES, FILED.  
 \*DATE, 760301

## ABSTRACT 1172

\*TITLE, EXPLORATION AND EXPLOITATION OF GEOTHERMAL RESOURCES IN ARID AND SEMIARID LANDS.  
 \*AUTHOR, UNIVERSITY OF ARIZONA.  
 \*SOURCE, INFO PAPER 2, OFFICE OF ARID LAND STUDIES, UNIV OF ARIZONA, TUSCON, AZ 85721, 1973, 119 PP.  
 \*KEYWORDS, GEOTHERMAL.  
 \*NOTES, NAs.  
 \*DATE, 730000

## ABSTRACT 1173

\*TITLE, SECOND SYMPOSIUM ON THE DEVELOPMENT AND USE OF GEOTHERMAL RESOURCES.  
 \*AUTHOR, UNIVERSITY OF CALIFORNIA.  
 \*SOURCE, LAWRENCE BERKELEY LAB, UNIV OF CALIF, MAY 1975.  
 \*KEYWORDS, GEOTHERMAL.  
 \*NOTES,  
 \*DATE, 750500

## ABSTRACT 1174

\*TITLE, GEOTHERMAL ENERGY.  
 \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.  
 \*SOURCE, ERDA, TECH INFO CENTER, PO BOX 62, OAK RIDGE, TN, AUG 1975, 11 PP.  
 \*KEYWORDS, GEOTHERMAL.  
 \*NOTES, FILED.  
 \*DATE, 750800

## ABSTRACT 1175

\*TITLE, GEOTHERMAL ENERGY RESEARCH, DEVELOPMENT AND DEMONSTRATION ACT OF 1973, 1974.  
 \*AUTHOR, US-HOUSE.  
 \*SOURCE, HEARINGS BEFORE THE SUBCOMMITTEE ON ENERGY OF THE COMMITTEE ON SCI AND ASTRONAUTICS, US HOUSE OF REP, FEB-MAY 1974, 544 PP.  
 \*KEYWORDS, GEOTHERMAL, ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 740200

## ABSTRACT 1176

- \*TITLE, SOLAR GREENHOUSE DESIGN FEATURES.
- \*AUTHOR, ANON.
- \*SOURCE, SOLAR SUSTENANCE TEAM, ROUTE 1, BOX 107AA, SANTA FE, NM 87501, 1978, 21 PP.
- \*KEYWORDS, GREENHOUSE, INSOLATION.
- \*NOTES, FILED. SUPPLEMENTED WITH MATERIAL BY THE INGHAM COUNTY COOPERATIVE EXTENSION SERVICE.
- \*DATE, 780000

## ABSTRACT 1177

- \*TITLE, BUILDING HOBBY GREENHOUSES.
- \*AUTHOR, BAILEY W A, LIU R C, KLUETER H H.
- \*SOURCE, AGR INFO BULLETIN 357, USDA, MARCH 1973, 19 PP.
- \*KEYWORDS, GREENHOUSE, BUILDINGS, VENTILATION.
- \*NOTES, FILED.
- \*DATE, 730300

## ABSTRACT 1178

- \*TITLE, GREENHOUSE SOLAR HEATING SYSTEM UTILIZING UNDERBENCH ROCK STORAGE.
- \*AUTHOR, BAIRD C D, WATERS W E, MEARS D R.
- \*SOURCE, ASAE PAPER 77-4012, 1977, 18PP.
- \*KEYWORDS, GREENHOUSE, SOLAR, DESIGN, STORAGE.
- \*NOTES, FILED. PRESENTED IS THE DESIGN AND OPERATION OF A FULL-SCALE GREENHOUSE SOLAR HEATING SYSTEM, UTILIZING AN INTEGRAL SOLAR AIR HEATER AND THERMAL ROCK STORAGE. SAMPLE PERFORMANCE DATA IS GIVEN.
- \*DATE, 770000

## ABSTRACT 1179

- \*TITLE, CONSERVING HEAT IN GLASS GREENHOUSES WITH SURFACE-MOUNTED AIR-INFLATED PLASTIC.
- \*AUTHOR, BAUERLE W L, SHORT T H.
- \*SOURCE, CIRCULAR 101, OHIO AGR RESEARCH AND DEV CENTER, WOOSTER, OH, JAN 1977, 7PP.
- \*KEYWORDS, GREENHOUSE, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770100

## ABSTRACT 1180

- \*TITLE, SOLAR ENERGY UTILIZATION IN A BULK CURING/GREENHOUSE SYSTEM.
- \*AUTHOR, BOWERS C G, HUANG B K, ABRAMS C F.
- \*SOURCE, ASAE PAPER 75-3504, 21 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1181

- \*TITLE, ENERGY FROM GREENHOUSES AND AIR SOLAR COLLECTOR TO HEAT GREENHOUSES.
- \*AUTHOR, CARNEGIE E J, AMATO T.
- \*SOURCE, ASAE PAPER 78-4516, DEC 1978, 7 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR, HEAT.
- \*NOTES, FILED.
- \*DATE, 781200

## ABSTRACT 1182

- \*TITLE, PLANT PRODUCTIVITY - NEW APPROACHES TO EFFICIENT LIGHT SOURCES AND ENVIRONMENTAL CONTROL.
- \*AUTHOR, CATHEY H M, CAMPBELL L E.
- \*SOURCE, ASAE PAPER 75-7501, 21 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR, PHOTOSYNTHESIS.
- \*NOTES, FILED.
- \*DATE, 750000



- TITLE, PREDICTING THE EFFECTS OF ORIENTATION AND INSULATION ON GREENHOUSE ENVIRONMENT.
- AUTHOR, CHANDRA P, BRITTON M G.
- SOURCE, ASAE PAPER 76-4008, 27-30 JUNE 1976, 24 PP.
- KEYWORDS, GREENHOUSE, CONSERVATION.
- NOTES, FILED. A THEORETICAL ANALYSIS WAS UNDERTAKEN TO EVALUATE THE EFFECT OF GREENHOUSE ORIENTATION AND INSULATING THE NORTH FACING SURFACE OF DOUBLE LAYER PLASTIC GREENHOUSES ON THEIR HEAT LOSS CHARACTERISTICS.
- DATE, 760627

## ABSTRACT 1184

- TITLE, DYNAMIC THERMAL ANALYSIS OF A SOLAR RESIDENCE--GREENHOUSE DESIGN.
- AUTHOR, CRANE A B, ZORNIG H F, GODBEY L C.
- SOURCE, ASAE PAPER 77-4019, 1977, 15PP.
- KEYWORDS, GREENHOUSE, SOLAR, DESIGN.
- NOTES, FILED. PROGRESS IN THE DEVELOPMENT OF A SIMULATION MODEL OF THE THERMODYNAMICS OF A SOLAR RESIDENCE/GREENHOUSE DESIGN IS PRESENTED. A DESCRIPTION OF THE HOUSE, AN OVERVIEW OF THE MODEL AND THE COMPUTER PROGRAM ARE GIVEN.
- DATE, 770000

## ABSTRACT 1185

- TITLE, SIMULATION OF SOLAR ENERGY AVAILABILITY, UTILIZATION, AND STORAGE IN GREENHOUSES.
- AUTHOR, DUNCAN G A, LOEYER O J, COLLIVER O G.
- SOURCE, ASAE PAPER 76-4010, 43 PP.
- KEYWORDS, GREENHOUSE, SOLAR, MODELS, CONSERVATION, STORAGE.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 1186

- TITLE, GROWING ROOMS.
- AUTHOR, ELECTRICITY COUNCIL.
- SOURCE, GROW ELECTRIC HANDBOOK 1, OCT 1975, 78 PP, THE ELECTRICITY COUNCIL, FARM-ELECTRIC CENTRE, NATIONAL AGR CENTRE, KENILWORTH, WARWICKSHIRE CV8 2LS.
- KEYWORDS, GREENHOUSE, AGRICULTURE, ELECTRICAL.
- NOTES, FILED.
- DATE, 751000

## ABSTRACT 1187

- TITLE, LIGHTING IN GREENHOUSES.
- AUTHOR, ELECTRICITY COUNCIL.
- SOURCE, GROW ELECTRIC HANDBOOK 2, SEPT 1973, 98 PP, THE ELECTRICITY COUNCIL, 30 MILLBANK, LONDON SW1P 4RO.
- KEYWORDS, GREENHOUSE, AGRICULTURE.
- NOTES, FILED.
- DATE, 730900

## ABSTRACT 1188

- TITLE, VENTILATION FOR GREENHOUSES.
- AUTHOR, ELECTRICITY COUNCIL.
- SOURCE, GROW ELECTRIC HANDBOOK 3, MARCH 1975, 82 PP, THE ELECTRICITY COUNCIL, FARM-ELECTRIC CENTRE, NATIONAL AGR CENTRE, KENILWORTH, WARWICKSHIRE CV8 2LS.
- KEYWORDS, GREENHOUSE, AGRICULTURE.
- NOTES, FILED.
- DATE, 750300

## ABSTRACT 1189

- TITLE, THE FOOD AND HEAT PRODUCING SOLAR GREENHOUSE - DESIGN, CONSTRUCTION, OPERATION.
- AUTHOR, FISHER R, YANDA B.
- SOURCE, PO BOX 613, SANTA FE, NM 87501/JOHN MUIR PUBLICATIONS, AUG 1977, 161 PP.
- KEYWORDS, GREENHOUSE, SOLAR, DESIGN.
- NOTES, FILED.
- DATE, 770800

## ABSTRACT 1190

- \*TITLE, DEVELOPMENT OF GREENHOUSE BULK DRYING SYSTEMS FOR SOLAR ENERGY UTILIZATION AND PLANTBED MECHANIZATION.
- \*AUTHOR, HUANG B K. ET AL.
- \*SOURCE, ASAE PAPER 75-1018, 22 JUNE 1975, 19 PP.
- \*KEYWORDS, GREENHOUSE, DRYING, SOLAR, MECHANIZATION.
- \*NOTES, FILED.
- \*DATE, 750622

## ABSTRACT 1191

- \*TITLE, THE EFFECT OF SOLAR RADIATION ON THE ENERGY BALANCE OF A CONTROLLED-ENVIRONMENT GREENHOUSE.
- \*AUTHOR, KUDRET S M.
- \*SOURCE, THE AMER SOC OF MECHANICAL ENGINEERS, UNITED ENGR CENTER, NEW YORK.
- \*KEYWORDS, GREENHOUSE, SOLAR.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1192

- \*TITLE, THE ROLE OF SOLAR ENERGY IN HEATING GREENHOUSES IN QUEBEC.
- \*AUTHOR, LAWAND T A, ALWARD R, MAGHSOOD J, MALIK M A S.
- \*SOURCE, REPRINT NO R71, BRACE RESEARCH INST, JAN 1973.
- \*KEYWORDS, GREENHOUSE, SOLAR.
- \*NOTES, NAS.
- \*DATE, 730100

## ABSTRACT 1193

- \*TITLE, SAVING ENERGY (AND DOLLARS) IN GREENHOUSE HEATING.
- \*AUTHOR, LOGEE T, STOUT B A.
- \*SOURCE, AEIS 356, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, SEPT 1976, 4 PP.
- \*KEYWORDS, GREENHOUSE, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 1194

- \*TITLE, A LARGE SCALE NORTHERN CLIMATE SOLAR GARDEN.
- \*AUTHOR, MAES R E.
- \*SOURCE, ENVIR RESEARCH INST OF MICH, BOX 8618, ANN ARBOR, MI 48107, JUNE 1978, 6 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR.
- \*NOTES, FILED.
- \*DATE, 780603

## ABSTRACT 1195

- \*TITLE, DEVELOPMENT OF A GREENHOUSE SOLAR HEATING DEMONSTRATION.
- \*AUTHOR, HEARS D R, ROBERTS W J, KENDALL P W.
- \*SOURCE, ASAE PAPER 78-4512, 1978, 9 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR, HEAT, ACCOUNTING.
- \*NOTES, FILED. IN A 0.54 HECTARE GREENHOUSE, HEATED BY SOLAR ENERGY, THE FLOOR SERVES AS THE PRIMARY HEAT EXCHANGE SURFACE AND PROVIDES THERMAL STORAGE. MOVABLE PLASTIC CURTAINS PROVIDE INSULATION AT NIGHT. WATER IS HEATED BY 1,000 SQ M OF AIR-INFLATED PLASTIC FILM SOLAR COLLECTORS.
- \*DATE, 780000

## ABSTRACT 1196

- \*TITLE, INTERNAL-EXTERNAL SOLAR COLLECTORS FOR GREENHOUSE HEATING.
- \*AUTHOR, MILBURN W F, ALDRICH R A, WHITE J W.
- \*SOURCE, ASAE PAPER 77-4008, 1977, 11PP.
- \*KEYWORDS, GREENHOUSE, SOLAR, HEAT, DESIGN.
- \*NOTES, FILED. AN AIR HEATING SOLAR COLLECTING SYSTEM WAS ASSEMBLED WITH FEATURES OF LOW INITIAL COST, SIMPLICITY OF INSTALLATION AND OPERATION AND HIGH UTILIZATION.
- \*DATE, 770000

## ABSTRACT 1197

- \*TITLE, SIMULATION OF BURIED WARM WATER PIPES BENEATH A GREENHOUSE.
- \*AUTHOR, PARKER J J, HAMDY M Y, CURRY R B, ROLLER W L.
- \*SOURCE, OARDC PROJECT SS-210, OHIO AGR RESEARCH AND DEV CENTER, WOOSTER, 1976, 12 PP.
- \*KEYWORDS, GREENHOUSE, AGRICULTURE, MODELS.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1198

- \*TITLE, REDUCING NIGHT HEAT LOSSES AND DAYTIME SOLAR EXTREMES IN GREENHOUSES.
- \*AUTHOR, PERRY R L.
- \*SOURCE, ASAE PAPER 75-4021, 22 JUNE 1975, 25 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR, HEAT, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 750622

## ABSTRACT 1199

- \*TITLE, AN OPERATIONAL GREENHOUSE UTILIZING REJECT HEAT FOR ENVIRONMENTAL CONTROL.
- \*AUTHOR, FIFE R S, BURNS E R, MADEWELL C E.
- \*SOURCE, ASAE PAPER 76-4548, 1976, 23 PP.
- \*KEYWORDS, GREENHOUSE, HEAT.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1200

- \*TITLE, GREENHOUSE ENERGY DEMAND AND POTENTIAL FOR CONSERVATION.
- \*AUTHOR, PRICE D R, GORTZIG C F, GOOD D L.
- \*SOURCE, 33RD ANNUAL PROGRESS REPORT TO THE NEW YORK FARM ELECTRIFICATION COUNCIL, MAY 1976, PP 72-83.
- \*KEYWORDS, GREENHOUSE, AGRICULTURE, CONSERVATION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 1201

- \*TITLE, SOLAR HEATING OF GREENHOUSES IN THE NORTHEAST.
- \*AUTHOR, PRICE D R, WILSON G E, FROELICH D P, CRUMP R W.
- \*SOURCE, 33RD ANNUAL PROGRESS REPORT TO THE NEW YORK FARM ELECTRIFICATION COUNCIL, MAY 1976 PP 51-67.
- \*KEYWORDS, GREENHOUSE, SOLAR, HEAT, STORAGE.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 1202

- \*TITLE, INTERNAL CURTAINS FOR ENERGY CONSERVATION IN GREENHOUSES.
- \*AUTHOR, REBUCK S M, ALDRICH R A, WHITE J W.
- \*SOURCE, ASAE PAPER 76-4009, 12 PP.
- \*KEYWORDS, GREENHOUSE, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1203

- \*TITLE, CONTROL SYSTEM FOR A SOLAR HEATED GREENHOUSE.
- \*AUTHOR, ROBERTS W J, HEARS D R.
- \*SOURCE, ASAE PAPER 78-5015, 1978, 11 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR.
- \*NOTES, FILED. CONTROL SYSTEMS FOR TWO RESEARCH PROTOTYPE AND ONE COMMERCIAL DEMONSTRATION GREENHOUSE ARE PRESENTED. CONTROLS FOR VENTILATION, MOVABLE INSULATION, SOLAR COLLECTION, HEAT EXCHANGE AND BACKUP HEATING SYSTEMS ARE COVERED FOR EACH OF THE THREE CASES. SEPARATE CONTROL OF FLOOR HEATING AND AIR HEATING SYSTEMS IS PROVIDED.
- \*DATE, 780000

## ABSTRACT 1204

- \*TITLE, AN ENERGY SAVING NATURALLY VENTILATED PLASTIC GREENHOUSE.
- \*AUTHOR, ROBERTS W J.
- \*SOURCE, ASAE PAPER 76-4013, 27-30 JUNE 1976, 10 PP.
- \*KEYWORDS, GREENHOUSE.
- \*NOTES, FILED.
- \*DATE, 760637

- \*TITLE, USING SOLAR ENERGY TO HEAT POLYETHYLENE FILM GREENHOUSES.
- \*AUTHOR, ROBERTS W J, SIMPKINS J C, KENDALL P W.
- \*SOURCE, ASAE PAPER 76-4011, 27-30 JUNE 1976, 21 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR.
- \*NOTES, FILED. POLYETHYLENE GREENHOUSES HAVE BECOME MORE POPULAR AND FUNCTIONAL SINCE THE DEV OF THE DOUBLE COVERING SYSTEM USING LOW PRESSURE AIR TO SEPARATE TWO FILM LAYERS. LOW COST COLLECTORS, STORAGE, AND HEAT EXCHANGERS ARE DISCUSSED.
- \*DATE, 760627

## ABSTRACT 1206

- \*TITLE, ENERGY REQUIREMENTS FOR GLASSHOUSE HEATING IN BRITIAN.
- \*AUTHOR, SHEARD G F.
- \*SOURCE, SPAN, 18(1)/27-29, 1975.
- \*KEYWORDS, GREENHOUSE, UNITED KINGDOM, HEAT, REQUIREMENTS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1207

- \*TITLE, COMPUTER SIMULATION OF WARM FLOOR GREENHOUSE HEATING.
- \*AUTHOR, SHEN H, MEARS D R.
- \*SOURCE, ASAE PAPER 77-4532, 1977, 9 PP.
- \*KEYWORDS, GREENHOUSE, HEAT, MODELS
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1208

- \*TITLE, A DOUBLE-PLASTIC HEAT CONSERVATION SYSTEM FOR GLASS GREENHOUSES.
- \*AUTHOR, SHORT T H, BAUERLE W L.
- \*SOURCE, ASAE PAPER 77-4528, 1977, 10 PP.
- \*KEYWORDS, GREENHOUSE, HEAT, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1209

- \*TITLE, A SOLAR POND FOR HEATING GREENHOUSES AND RURAL RESIDENCES.
- \*AUTHOR, SHORT T H, BADGER P C, ROLLER W L.
- \*SOURCE, J SERIES 84-77, OHIO AGR RESEARCH AND DEV CENTER, WOOSTER, OH, 14 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR, HOME.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1210

- \*TITLE, THE GREENHOUSE AS A SOLAR COLLECTOR.
- \*AUTHOR, SMITH J, ALDRICH R A, WHITE J W, DUDA J L.
- \*SOURCE, ASAE PAPER 76-4052, 10 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1211

- \*TITLE, SOLAR HEATING OF A GREENHOUSE--RESIDENCE COMBINATION.
- \*AUTHOR, SMITH C C.
- \*SOURCE, ASAE PAPER 77-4007, 1977, 6PP.
- \*KEYWORDS, GREENHOUSE, SOLAR, HEAT, DESIGN, EFFICIENCY.
- \*NOTES, FILED. SOLAR HEATING OF A GREENHOUSE/RESIDENCE COMBINATION CAN BE MORE EFFECTIVE THAN SOLAR HEATING OF EITHER INDEPENDENTLY.
- \*DATE, 770000

## ABSTRACT 1212

- \*TITLE, SOLAR ENERGY FOR HEATING GREENHOUSES AND GREENHOUSE-RESIDENCE COMBINATIONS.
- \*AUTHOR, SMITH C C. ED.
- \*SOURCE, PROC OF THE THIRD ANNUAL CONF ON SOLAR ENERGY FOR HEATING GREENHOUSES AND GREENHOUSE-RESIDENCE COMBINATIONS, US DEPT OF ENERGY, USDA, ASAE, FORT COLLINS, CO, 2-5 APRIL 1978, 117 PP.
- \*KEYWORDS, GREENHOUSE, SOLAR, HOME.
- \*NOTES, FILED.
- \*DATE, 780402



## ABSTRACT 1213

\*TITLE, COLLECTION OF EXCESS SOLAR HEAT WITHIN A FIBERGLASS GREENHOUSE.  
 \*AUTHORS, TECZA J, ALDRICH R A, WHITE J W.  
 \*SOURCE, ASAE PAPER 77-3547, 1977, 10 PP.  
 \*KEYWORDS, GREENHOUSE, SOLAR.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1214

\*TITLE, CONTINUOUS - TYPE HEAT STORAGE BIN FOR DIRECT - HEAT SOIL PASTEURIZATION.  
 \*AUTHOR, WAGGONER S A, SHAW L N.  
 \*SOURCE, ASAE PAPER 75-1019, 22 JUNE 1975, 10 PP.  
 \*KEYWORDS, GREENHOUSE, HEAT, STORAGE.  
 \*NOTES, FILED.  
 \*DATE, 750522

## ABSTRACT 1215

\*TITLE, HEAT LOSS FROM HEATED GREENHOUSE SOIL BEDS.  
 \*AUTHOR, WELLS L G, WARD A D, WALKER J N, BUXTON J W.  
 \*SOURCE, ASAE PAPER 77-4529, 1977, 13 PP.  
 \*KEYWORDS, GREENHOUSE, MODELS.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1216

\*TITLE, THERMAL BLANKETS FOR CONSERVATION IN GREENHOUSES.  
 \*AUTHOR, WHITE J W.  
 \*SOURCE, SOLAR AGE, 3(3)/31-33, MARCH 1978.  
 \*KEYWORDS, GREENHOUSE.  
 \*NOTES, FILED.  
 \*DATE, 780300

## ABSTRACT 1217

\*TITLE, A SOLAR ENERGY STORAGE SYSTEM FOR GREENHOUSES.  
 \*AUTHOR, WILLITS D H, BOWERS C G, NELSON P V, HUANG B K.  
 \*SOURCE, ASAE PAPER 76-3507, 1976, 13 PP.  
 \*KEYWORDS, GREENHOUSE, DESIGN.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1218

\*TITLE, INCREASING THE EFFECTIVENESS OF THE GREENHOUSE AS A SOLAR COLLECTOR.  
 \*AUTHOR, WILSON G E, PRICE D R, LANGHANS R W.  
 \*SOURCE, ASAE PAPER 77-4527, 1977, 15 PP.  
 \*KEYWORDS, GREENHOUSE, SOLAR, EFFICIENCY.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1219

\*TITLE, REDUCING FUEL COSTS WITH SOLAR ENERGY.  
 \*AUTHOR, WOODS C.  
 \*SOURCE, SUNSHINE STATE AGR RESEARCH REPORT FOR FALL, 1975, PP 3-5.  
 \*KEYWORDS, GREENHOUSE, SOLAR.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 1220

\*TITLE, ANALYTICAL DETERMINATION OF THE EFFECTS OF USING NIGHT CURTAINS IN GREENHOUSES.  
 \*AUTHOR, CHANDRA P, ALBRIGHT L D.  
 \*SOURCE, ASAE PAPER 78-4514, 1978, 26 PP.  
 \*KEYWORDS, GREENHOUSES, HEAT, CONSERVATION, MODELS.  
 \*NOTES, FILED. A THEORETICAL PROCEDURE, USING ENERGY BALANCE PRINCIPLES, HAS BEEN DEVELOPED FOR ESTIMATING THE EFFECT ON THE HEAT REQUIREMENT OF USING A NIGHT CURTAIN IN A GREENHOUSE. THE PROCEDURE HAS BEEN FOUND TO ESTIMATE THE EFFECTIVENESS OF A CURTAIN ADEQUATELY BY COMPARING THE RESULTS OF THE ANALYSIS WITH PUBLISHED EXPERIMENTAL DATA.  
 \*DATE, 780000

- \*TITLE, COMPARING HEAT LOSS FROM GREENHOUSE GLAZING MATERIALS.
- \*AUTHOR, HELICKSON M L.
- \*SOURCE, ASAE PAPER 78-4513, 1978, 9 PP.
- \*KEYWORDS, GREENHOUSES, CONSERVATION.
- \*NOTES, FILED. COMPARISON OF OVERALL HEAT TRANSFER COEFFICIENTS FOR CORRUGATED AND FLAT FIBERGLASS CUBIC CORRAGATIONS. DIFFERENCES IN OVERALL HEAT TRANSMISSION WERE PROPORTIONAL TO INCREASED SURFACE AREA OVER PROJECTED AREA.
- \*DATE, 780000

## HEAT PUMPS 1222 -- 1229

### ABSTRACT 1222

- \*TITLE, SOLAR-ASSISTED HEAT PUMP FOR RESIDENTIAL HOUSING.
- \*AUTHOR, CHRISTIANSON L L, SHANKLIN M D.
- \*SOURCE, ASAE PAPER 78-4533, 1978, 17 PP.
- \*KEYWORDS, HEAT PUMPS, SOLAR, HOME.
- \*NOTES, FILED. A LOW-COST SOLAR SYSTEM WAS DESIGNED TO AUGMENT HEAT PUMP EFFICIENCY FOR A HOME NEAR COLUMBIA, MISSOURI.
- \*DATE, 780000

### ABSTRACT 1223

- \*TITLE, HEAT PUMPS.
- \*AUTHOR, HIRNING M J, WOELL R.
- \*SOURCE, ELECTRIC FARM POWER 73, FALL 1977, 4 PP.
- \*KEYWORDS, HEAT PUMPS.
- \*NOTES, FILED.
- \*DATE, 770000

### ABSTRACT 1224

- \*TITLE, EXPERIENCES WITH A SOLAR ASSISTED HEAT PUMP FOR LIVESTOCK HOUSING.
- \*AUTHOR, HOLMES B J, VAUGHAN D H, BELL E S.
- \*SOURCE, ASAE PAPER 78-4534, 1978, 7 PP.
- \*KEYWORDS, HEAT PUMPS, SOLAR, BUILDINGS, SWINE.
- \*NOTES, FILED. A SOLAR ASSISTED HEAT PUMP SYSTEM WAS USED TO HEAT A PIG NURSERY DURING THE WINTER OF 77-78. THIS PAPER DISCUSSES SOME OF THE PROBLEMS ENCOUNTERED DURING THE CONSTRUCTION AND OPERATION OF THE SYSTEM. SOME SOLUTIONS ARE ALSO PRESENTED.
- \*DATE, 780000

### ABSTRACT 1225

- \*TITLE, ECONOMIC EVALUATION OF HEAT PUMPS.
- \*AUTHOR, KERNAN G, BRADY J.
- \*SOURCE, ENERGY RESEARCH, 1(2)/115-125, APRIL-JUNE 1977.
- \*KEYWORDS, HEAT PUMPS, ECONOMICS, EFFICIENCY.
- \*NOTES, FILED. AN ECONOMIC EVALUATION OF HEAT PUMPS IS PRESENTED WHICH COMPARES THE RUNNING COSTS AND DISCOUNTED CAPITAL COSTS OF CENTRAL-HEATING SYSTEMS BASED ON OIL-FIRED BOILERS AND HEAT PUMPS.
- \*DATE, 770400

### ABSTRACT 1226

- \*TITLE, PEANUT DRYING WITH HEAT PUMP SYSTEMS.
- \*AUTHOR, PERSON N K, JASKA E H, NEWMAN J S.
- \*SOURCE, ASAE PAPER 77-2536, 1977, 33 PP.
- \*KEYWORDS, HEAT PUMPS, DRYING.
- \*NOTES, FILED.
- \*DATE, 770000

- \*TITLE, A SOLAR ASSISTED HEAT PUMP SYSTEM.
- \*AUTHOR, SMITH N, HILL R C.
- \*SOURCE, ASAE PAPER, 76-4018, 8 PP.
- \*KEYWORDS, HEAT PUMPS, SOLAR.
- \*NOTES, FILED.
- \*DATE, 760003

## ABSTRACT 1228

- \*TITLE, THE HEAT THAT COMES IN FROM THE COLD.
- \*AUTHOR, STELLON P.
- \*SOURCE, UNDERCURRENTS NO 6, MARCH-APRIL 1974, PP 13-17.
- \*KEYWORDS, HEAT PUMPS, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE, 740303

## ABSTRACT 1229

- \*TITLE, SOLAR ENERGY COLLECTION WITH LAGOON STORAGE FOR HEAT PUMPS.
- \*AUTHOR, VAUGHAN D M, BELL E S, HUGHES M A.
- \*SOURCE, ASAE PAPER 76-4053, 17 PP.
- \*KEYWORDS, HEAT PUMPS, SOLAR, STORAGE, ENVIRONMENT.
- \*NOTES, FILED.
- \*DATE, 760000

## HOME 1230 -- 1334

## ABSTRACT 1230

- \*TITLE, MODEL CODE FOR ENERGY CONSERVATION IN NEW BUILDING CONSTRUCTION.
- \*AUTHOR, ANON.
- \*SOURCE, CONTRACT E(04-3) 1230, ERDA, JAN 1977, 47 PP.
- \*KEYWORDS, HOME, DESIGN, CONSERVATION, BUILDINGS.
- \*NOTES, FILED.
- \*DATE, 770160

## ABSTRACT 1231

- \*TITLE, SAFETY IMPLICATIONS OF AUTOMATIC VENT DAMPERS.
- \*AUTHOR, ANON.
- \*SOURCE, FIRE JOURNAL, JULY 1977, PP 63,64,69,73.
- \*KEYWORDS, HOME, SAFETY.
- \*NOTES, FILED. THE FUNCTION OF AN AUTOMATIC VENT DAMPER IN PREVENTING HAZARDOUS SITUATIONS IS DISCUSSED.
- \*DATE, 770700

## ABSTRACT 1232

- \*TITLE, TIPS FOR ENERGY SAVERS.
- \*AUTHOR, ANON.
- \*SOURCE, TIPS FOR ENERGY SAVERS, ENERGY CONSERVATION NOW, PEUBLO, CO 81069, 1977, 43PP.
- \*KEYWORDS, HOME, CONSERVATION.
- \*NOTES, FILED. ENERGY SAVING TIPS FOR IN AND AROUND THE HOME, ON THE ROAD AND IN THE MARKETPLACE.
- \*DATE, 770000

## ABSTRACT 1233

- \*TITLE, HOME HEATING IN AN EMERGENCY.
- \*AUTHOR, BARKER F V, BILMAN F E, NICKERSON D A.
- \*SOURCE, COOPERATIVE EXTENSION SERVICE, UNIV OF NEW HAMPSHIRE, OURHAM, 15 PP, UNDATED.
- \*KEYWORDS, HOME, HEAT.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1234

\*TITLE, HOME HEATING MAJOR TARGET IN BATTLE TO SAVE ENERGY.  
 \*AUTHOR, BICKERT W G, BAKKER-ARKEMA F W.  
 \*SOURCE, MICHIGAN FARMER, 2 MARCH 1974, PP 53-54.  
 \*KEYWORDS, HOME, ECONOMICS, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 740302

## ABSTRACT 1235

\*TITLE, WHY NOT JUST BUILD THE HOUSE RIGHT IN THE FIRST PLACE.  
 \*AUTHOR, BLISS R W.  
 \*SOURCE, BULLETIN OF THE ATOMIC SCIENTIST, 32(3)/32-40, MARCH 1976.  
 \*KEYWORDS, HOME, SOLAR, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 760300

## ABSTRACT 1236

\*TITLE, EFFICIENT, ECONOMICAL, AND AFFORDABLE.  
 \*AUTHOR, BOURDETTE V R.  
 \*SOURCE, AGR RESEARCH, APRIL 1977, PP 10-13.  
 \*KEYWORDS, HOME, EFFICIENCY, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 770400

## ABSTRACT 1237

\*TITLE, ARE YOU CONSERVING ENERGY.  
 \*AUTHOR, BOYD J S.  
 \*SOURCE, AEIS 294, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING,  
 MI 48824, MAY 1974, 5 PP.  
 \*KEYWORDS, HOME, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 740500

## ABSTRACT 1238

\*TITLE, HOW TO CONSERVE ENERGY IN THE HOME.  
 \*AUTHOR, BOYD J S.  
 \*SOURCE, AEIS 295, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING,  
 MI 48824, MAY 1974, 5 PP.  
 \*KEYWORDS, HOME, CONSERVATION, INSULATION, APPLIANCES.  
 \*NOTES, FILED.  
 \*DATE, 740500

## ABSTRACT 1239

\*TITLE, WEATHERPROFFING MICHIGAN HOUSES.  
 \*AUTHOR, BOYD J S.  
 \*SOURCE, AEIS NO 304, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, AUG 1974,  
 8 PP.  
 \*KEYWORDS, HOME, INSULATION, HEAT, RVALUE.  
 \*NOTES, FILED.  
 \*DATE, 740800

## ABSTRACT 1240

\*TITLE, KEEPING COOL.  
 \*AUTHOR, BOYD J S.  
 \*SOURCE, AEIS NO 300, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, SEPT 1974,  
 3 PP.  
 \*KEYWORDS, HOME, REFRIGERATION.  
 \*NOTES, FILED.  
 \*DATE, 740900

## ABSTRACT 1241

\*TITLE, INSULATE YOUR UNFINISHED ATTIC.  
 \*AUTHOR, BOYD J S.  
 \*SOURCE, BULLETIN 1103, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING,  
 MI, 1977, 4 PP.  
 \*KEYWORDS, HOME, INSULATION.  
 \*NOTES, FILED. DO IT YOURSELF INSTRUCTIONS ON ATTIC INSULATION.  
 \*DATE, 770300



- TITLE, WEATHERSTRIP YOUR DOORS AND WINDOWS.
- AUTHOR, BOYD J S.
- SOURCE, BULLETIN 1104, AGR ENGR DEPT, HUMAN ENVIR AND DESIGN, MICH STATE UNIV, EAST LANSING, MI, 1977, 6PP.
- KEYWORDS, HOME, INSULATION.
- NOTES, FILED. DO IT YOURSELF INSTRUCTIONS ON WEATHERSTRIPPING. INSTALLATION OF STORM WINDOWS AND DOORS.
- DATE, 77000C

## ABSTRACT 1243

- TITLE, INSULATE YOUR BASEMENT WALLS.
- AUTHOR, BOYO J S.
- SOURCE, BULLETIN 1105, AGR ENGR DEPT, HUMAN ENVIR AND DESIGN, MICH STATE UNIV, EAST LANSING, MI, 1977, 6PP.
- KEYWORDS, HOME, INSULATION.
- NOTES, FILED. DO IT YOURSELF INSTRUCTIONS ON FLOOR, CRAWLSPACE, AND BASEMENT WALL INSULATION. ALSO VENTILATION OF CRAWL SPACE.
- DATE, 770000

## ABSTRACT 1244

- TITLE, CONDENSATION CONTROL FOR ALASKAN HOMES.
- AUTHOR, BRANTON C I, FARNSTOCK C R, EATON E O.
- SOURCE, PUB NO 52, COOPERATIVE EXTENSION SERVICE, UNIV OF ALASKA, JUNE 1972, 19 PP.
- KEYWORDS, HOME, ALASKA.
- NOTES, FILED.
- DATE, 720603

## ABSTRACT 1245

- TITLE, SIMULATION MODELS OF TRANSIENT ENERGY REQUIREMENTS FOR HEATING AND COOLING BUILDINGS.
- AUTHOR, BUFFINGTON D E.
- SOURCE, ASAE PAPER 75-4522, 10 PP.
- KEYWORDS, HOME, MODELS, BUILDINGS, HEAT, COOLING.
- NOTES, FILED.
- DATE, 750003

## ABSTRACT 1246

- TITLE, HOW MUCH INSULATION - A STUDY OF COST EFFECTIVENESS.
- AUTHOR, BURGNER M L, GOODWIN S E.
- SOURCE, ASAE PAPER 78-4544, 1978, 14 PP.
- KEYWORDS, HOME, INSULATION, ECONOMICS.
- NOTES, FILED. AN ANALYSIS OF THE ECONOMICS OF WALL INSULATION MUST CONSIDER THE DYNAMICS OF HEAT FLOW AND THE MASS OF THE WALL.
- DATE, 780000

## ABSTRACT 1247

- TITLE, COMPARATIVE INSULATION VALUES AND WEIGHTS OF TYPICAL WALL SECTIONS.
- AUTHOR, CARLSON A R.
- SOURCE, BUILDING IN ALASKA HSC 17, COOPERATIVE EXTENSION SERVICE, UNIV OF ALASKA, FEB 1972, 1 P.
- KEYWORDS, HOME, INSULATION.
- NOTES, FILED.
- DATE, 72020C

## ABSTRACT 1248

- TITLE, EFFECT OF WALL FRAMING ON HEAT LOSS.
- AUTHOR, CARLSON A R.
- SOURCE, BUILDING IN ALASKA HSC 16, COOPERATIVE EXTENSION SERVICE, UNIV OF ALASKA, FEB 1972, 1 PP.
- KEYWORDS, HOME, INSULATION.
- NOTES, FILED.
- DATE, 720200

## ABSTRACT 1249

- TITLE, HEAT LOSS AND CONDENSATION IN NORTHERN RESIDENTIAL CONSTRUCTION.
- AUTHOR, CARLSON A R.
- SOURCE, BUILDING IN ALASKA PUB NO P-558, COOPERATIVE EXTENSION SERVICE, UNIV OF ALASKA, NOV 1972, 4 PP.
- KEYWORDS, HOME, HEAT, WOOD, ALASKA.
- NOTES, FILED.
- DATE, 721100

- \*TITLE, HEAT LOSS COEFFICIENTS OF BUILDING MATERIAL.
- \*AUTHOR, CARLSON A R.
- \*SOURCE, BUILDING IN ALASKA PUB NO P-258, COOPERATIVE EXTENSION SERVICE, UNIV OF ALASKA, NOV 1972, 2 PP.
- \*KEYWORDS, HOME, HEAT, RVALUE.
- \*NOTES, FILED.
- \*DATE, 721100

## ABSTRACT 1251

- \*TITLE, SPECIAL CONSIDERATIONS FOR BUILDING IN ALASKA.
- \*AUTHOR, CARLSON A R.
- \*SOURCE, BUILDING IN ALASKA PUB NO P-952, COOPERATIVE EXTENSION SERVICE, UNIV OF ALASKA, AUG 1972, 5 PP.
- \*KEYWORDS, HOME, ALASKA.
- \*NOTES, FILED.
- \*DATE, 720800

## ABSTRACT 1252

- \*TITLE, WARM FLOORS ARE ESSENTIAL FOR COMFORT.
- \*AUTHOR, CARLSON A R.
- \*SOURCE, BUILDING IN ALASKA PUB NO P-456, COOPERATIVE EXTENSION SERVICE, UNIV OF ALASKA, NOV 1972, 7 PP.
- \*KEYWORDS, HOME, ALASKA, HEAT.
- \*NOTES, FILED.
- \*DATE, 721100

## ABSTRACT 1253

- \*TITLE, WINDOWS REGULATE RELATIVE HUMIDITY.
- \*AUTHOR, CARLSON A R.
- \*SOURCE, BUILDING IN ALASKA PUB NO 457, COOPERATIVE EXTENSION SERVICE, UNIV OF ALASKA, MAY 1971, 3 PP.
- \*KEYWORDS, HOME, ALASKA.
- \*NOTES, FILED.
- \*DATE, 719500

## ABSTRACT 1254

- \*TITLE, USING THE PROPER AMOUNT OF INSULATION IN MISSOURI HOMES.
- \*AUTHOR, CHRISTIANSON L L.
- \*SOURCE, SCI AND TECH GUIDE, 1722, UNIV OF MISSOURI-COLUMBIA EXTENSION DIV, 8 DEC 1976, 4 PP.
- \*KEYWORDS, HOME, INSULATION, MISSOURI.
- \*NOTES, FILED.
- \*DATE, 761208

## ABSTRACT 1255

- \*TITLE, THERMAL RESISTANCE MEASUREMENT OF WALLS USING A LOW-COST DIGITAL ELECTRONIC DEVICE.
- \*AUTHOR, CHRISTIANSON L L; GEORGE R M.
- \*SOURCE, ASAE PAPER 78-4546, 1978, 17 PP.
- \*KEYWORDS, HOME, DESIGN, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. USING THE INSTRUMENT DESCRIBED IN THIS PAPER YOU CAN MEASURE THE WALL THERMAL RESISTIVITY WITHOUT DISTURBING THE WALL SURFACES.
- \*DATE, 780000

## ABSTRACT 1256

- \*TITLE, ENERGY CONSERVATION IN THE HOME.
- \*AUTHOR, CLINARD L.
- \*SOURCE, TECHNICAL INFO CENTER, US DEPT OF ENERGY, PO BOX 62, OAK RIDGE, TN 37830, OCT 1977, 319 PP.
- \*KEYWORDS, HOME, CONSERVATION, ENERGY FLOW.
- \*NOTES, FILED. DESIGNED AS A GUIDE FOR HOME ECON TEACHERS, THE BOOK IS A COMBINATION OF, A COMPREHENSIVE OVERVIEW OF THE ENERGY SITUATION AND IMPORTANT BACKGROUND MATERIAL ON ENERGY CONCEPTS AND TERMINOLOGY, AND A COMPLETE GUIDE TO THE ENERGY USES AND PRACTICES IN THE HOME, WITH EMPHASIS ON MEASURES WHICH COULD BE TAKEN TO CONSERVE ENERGY.
- \*DATE, 771000

## ABSTRACT 1257

- \*TITLE, A SIMULATION MODEL FOR DETERMINING THE ENERGY BUDGET OF A USER DEFINED HUMAN DWELLING.
- \*AUTHOR, COLLIVER D G, LOEYER O J, DUNCAN G A.
- \*SOURCE, ASAE PAPER 76-4553, 1976, 33 PP.
- \*KEYWORDS, HOME, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1258

- TITLE, ENERGY-SAVING TIPS - HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS.
- AUTHOR, CONSUMER POWER CO.
- SOURCE, CONSUMER POWER CO, ENERGY CONSULTING SERVICES DEPT, 26 FEB 1974, 6 PP.
- KEYWORDS, HOME, HEAT, COOLING, CONSERVATION.
- NOTES, FILED.
- DATE, 740276

## ABSTRACT 1259

- TITLE, A NATION OF ENERGY EFFICIENT BUILDINGS BY 1990.
- AUTHOR, DALY L A. ET AL.
- SOURCE, AMER INST OF ARCHITECTS, 1735 NEW YORK AVE N W, WASHINGTON D C, 1972, 26 PP.
- KEYWORDS, HOME, EFFICIENCY, ECONOMICS.
- NOTES, FILED.
- DATE, 720000

## ABSTRACT 1260

- TITLE, HOW TO INSULATE YOUR HOME FOR WISE AND EFFICIENT USE OF ENERGY.
- AUTHOR, DETROIT EDISON CO.
- SOURCE, DETROIT EDISON, 2000 SECOND AVE, DETROIT, MI, APRIL 1974, 25 PP.
- KEYWORDS, HOME, INSULATION.
- NOTES, FILED.
- DATE, 740400

## ABSTRACT 1261

- TITLE, SAVE ENERGY - SAVE MONEY.
- AUTHOR, ECCLIE, ECCLIS F.
- SOURCE, COMMUNITY SERVICES ADMINISTRATION PAMPHLET 6143-5, PUB NO 2, JAN 1975, 40 PP.
- KEYWORDS, HOME, HEAT, CONSERVATION.
- NOTES, FILED.
- DATE, 750100

## ABSTRACT 1262

- TITLE, STATEWIDE PROGRAM INVOLVING A COMPUTERIZED ANALYSIS OF HOME ENERGY REDUCTION.
- AUTHOR, FEHR R L, TURNER G M, DUNCAN G A.
- SOURCE, ASAE PAPER 77-4547, 1977, 17 PP.
- KEYWORDS, HOME, CONSERVATION.
- NOTES, FILED.
- DATE, 770000

## ABSTRACT 1263

- TITLE, HOMEOWNERS ACCEPTANCE OF A COMPUTERIZED HOME INSULATION EVALUATION.
- AUTHOR, FEHR R L, TURNER G M, HERMAN G M.
- SOURCE, ASAE PAPER 78-5005, 1978, 31 PP.
- KEYWORDS, HOME, INSULATION, KENTUCKY.
- NOTES, FILED. A SURVEY OF 375 USERS OF A COMPUTERIZED HOME ENERGY ANALYSIS WAS MADE TO DETERMINE WHETHER OR NOT THE AVERAGE HOME OWNER UNDERSTANDS AND MAKES USE OF THIS TYPE OF ANALYSIS. THE RESULTS OF THIS SURVEY ARE PRESENTED ALONG WITH A DISCUSSION OF HOW THIS TYPE OF ANALYSIS COULD BE USED.
- DATE, 780000

## ABSTRACT 1264

- TITLE, INSULATING THE HOME.
- AUTHOR, GILMAN F E.
- SOURCE, NRAES FS-3, RILEY-ROBB HALL, CORNELL UNIV, ITHACA, NY 14853, NOV 1976, 4 PP.
- KEYWORDS, HOME, INSULATION.
- NOTES, FILED.
- DATE, 761100

## ABSTRACT 1265

- \*TITLE, HOME INSULATION AND VAPOR BARRIERS - THEIR SELECTION AND INSTALLATION.
- \*AUTHOR, GILMAN F E.
- \*SOURCE, ENERGY-SAVING SERIES 1, UNIV OF NEW HAMPSHIRE, DURHAM, NH, 6PP.
- \*KEYWORDS, HOME, INSULATION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1266

- \*TITLE, HOW SOLAR HEAT CAN COOL YOUR HOME - THE ABSORPTION CYCLE, THE RANKINE CYCLE.
- \*AUTHOR, GILMORE C P, LINOSLEY E F.
- \*SOURCE, POPULAR SCIENCE, SEPT 1975, PP 68-71.
- \*KEYWORDS, HOME, SOLAR, HEAT, COOLING.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 1267

- \*TITLE, IMPACTS OF RISING PRICES UPON RESIDENTIAL ENERGY CONSUMPTION, ATTITUDES, AND CONSERVATION POLICY ACCEPTANCE.
- \*AUTHOR, GLAUGHART P M, ZUICHES J J, MORRISON B M.
- \*SOURCE, IN THE BOOK ENERGY IN AMERICA - SOCIAL AND BEHAVIORAL DIMENSIONS, SEYMOUR MARKOR, ED, PRAEGER, IN PRESS.
- \*KEYWORDS, HOME, MICHIGAN, ENERGY CONSUMPTION, CONSERVATION, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1268

- \*TITLE, HOME ENERGY HOW-TO.
- \*AUTHOR, HANCOCK A J.
- \*SOURCE, NEW YORK, NY/HARPER AND ROW, 1977, 258 PP.
- \*KEYWORDS, HOME, ENERGY CONSUMPTION, CONSERVATION, ALTERNATIVES, COOLING, INSULATION, SOLAR, WATER POWER, WIND, WOOD, DESIGN, METHANE, METHANOL.
- \*NOTES, FILED. A COMPLETE GUIDE TO SAVING AND PRODUCING HOME ENERGY.
- \*DATE, 770000

## ABSTRACT 1269

- \*TITLE, DESIGNING A TRUSS-FRAME HOUSE FOR ENERGY EFFICIENCY.
- \*AUTHOR, HANS G E, TUOHIMÄKI R L, STITH D J.
- \*SOURCE, ASAE PAPER 77-4548, 1977, 15 PP.
- \*KEYWORDS, HOME, BUILDINGS, DESIGN, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1270

- \*TITLE, ENERGY CONSERVATION - WISE USE OF APPLIANCES.
- \*AUTHOR, HANSEN R.
- \*SOURCE, WRAES - OREGON STATE UNIV, CORVALLIS, OR 97331 - 62/9-10, AUG 1977.
- \*KEYWORDS, HOME, CONSERVATION, APPLIANCES.
- \*NOTES, FILED.
- \*DATE, 770800

## ABSTRACT 1271

- \*TITLE, HOME HEATING ENERGY AND DOLLAR CONSERVATION.
- \*AUTHOR, HINKLE C N, PARSONS S D.
- \*SOURCE, ASAE PAPER 78-4545, 1978, 9 PP.
- \*KEYWORDS, HOME, HEAT, CONSERVATION, MODELS.
- \*NOTES, FILED. THIS IS A FACTS PROGRAM DESIGNED TO SHOW INDIANA RESIDENTS HOW THEY CAN SAVE BOTH ENERGY AND DOLLARS ON THEIR HOME HEATING BILLS. TOTAL HEAT LOSS AND FUEL COST PER BUILDING COMPONENT ARE COMPUTED.
- \*DATE, 780000



- \*TITLE, A METHODOLOGY FOR PRESENTING DOLLAR SAVINGS BY INSULATION.
- \*AUTHOR, HINKLE C N.
- \*SOURCE, ASAE PAPER 78-4557, 1978, 8 PP.
- \*KEYWORDS, HOME, BUILDINGS, R VALUE, INSULATION.
- \*NOTES, FILED. A SIMPLE PROBLEM IS USED TO SHOW THE TOTAL HEAT LOSS AND ITS COST FOR THE SEVERAL COMPONENTS OF A BUILDING. A METHOD IS DESCRIBED THAT CAN THEN BE USED TO SHOW LOGICAL MODIFICATIONS IN COMPONENT R-VALUES AND AN ESTIMATE OF THE TOTAL ENERGY COST SAVED TO PAY FOR THE CHANGE IN INSULATION LEVEL.
- \*DATE, 780000

## ABSTRACT 1273

- \*TITLE, ENERGY BALANCE.
- \*AUTHOR, HIRNING H J, WOELL P.
- \*SOURCE, PUBLICATION 70, ELECTRIC FARM COUNCIL, WINTER 1976, 4 PP.
- \*KEYWORDS, HOME, ENERGY FLOW.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1274

- \*TITLE, HOME INSULATION.
- \*AUTHOR, HIRNING H J, WOELL R.
- \*SOURCE, PUBLICATION 72, ELECTRIC FARM POWER, SUMMER 1977, 4 PP.
- \*KEYWORDS, HOME, INSULATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1275

- \*TITLE, HOME WINTERIZATION.
- \*AUTHOR, HIRNING H J, WOELL R.
- \*SOURCE, PUBLICATION 74, ELECTRIC FARM POWER, WINTER 1977, 4 PP.
- \*KEYWORDS, HOME, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1276

- \*TITLE, RESIDENTIAL ENERGY USE ALTERNATIVES--1976 TO 2000
- \*AUTHOR, HIRST E.
- \*SOURCE, SCIENCE, 194(4271)/1247-1252, 17 DEC 1976.
- \*KEYWORDS, HOME, EFFICIENCY, APPLIANCES.
- \*NOTES, FILED. A VIGOROUS CONSERVATION PROGRAM COULD REDUCE ENERGY USE GROWTH TO ALMOST ZERO THROUGH THE YEAR 2000.
- \*DATE, 761217

## ABSTRACT 1272

- \*TITLE, A METHODOLOGY FOR PRESENTING DOLLAR SAVINGS BY INSULATION.
- \*AUTHOR, HINKLE C N.
- \*SOURCE, ASAE PAPER 78-4557, 1978, 8 PP.
- \*KEYWORDS, HOME, BUILDINGS, R VALUE, INSULATION.
- \*NOTES, FILED. A SIMPLE PROBLEM IS USED TO SHOW THE TOTAL HEAT LOSS AND ITS COST FOR THE SEVERAL COMPONENTS OF A BUILDING. A METHOD IS DESCRIBED THAT CAN THEN BE USED TO SHOW LOGICAL MODIFICATIONS IN COMPONENT R-VALUES AND AN ESTIMATE OF THE TOTAL ENERGY COST SAVED TO PAY FOR THE CHANGE IN INSULATION LEVEL.
- \*DATE, 780000

## ABSTRACT 1273

- \*TITLE, ENERGY BALANCE.
- \*AUTHOR, HIRNING H J, WOELL P.
- \*SOURCE, PUBLICATION 70, ELECTRIC FARM COUNCIL, WINTER 1976, 4 PP.
- \*KEYWORDS, HOME, ENERGY FLOW.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1274

- \*TITLE, HOME INSULATION.
- \*AUTHOR, HIRNING H J, WOELL R.
- \*SOURCE, PUBLICATION 72, ELECTRIC FARM POWER, SUMMER 1977, 4 PP.
- \*KEYWORDS, HOME, INSULATION.
- \*NOTES, FILED.
- \*DATE, 770000

\*TITLE, HOME WINTERIZATION.  
 \*AUTHOR, HIRNING H J, WOELL R.  
 \*SOURCE, PUBLICATION 74, ELECTRIC FARM POWER, WINTER 1977, 4 PP.  
 \*KEYWORDS, HOME, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1276

\*TITLE, RESIDENTIAL ENERGY USE ALTERNATIVES--1976 TO 2000  
 \*AUTHOR, HIRST E.  
 \*SOURCE, SCIENCE, 194(4271)/1247-1252, 17 DEC 1976.  
 \*KEYWORDS, HOME, EFFICIENCY, APPLIANCES.  
 \*NOTES, FILED. A VIGOROUS CONSERVATION PROGRAM COULD REDUCE ENERGY USE  
 GROWTH TO ALMOST ZERO THROUGH THE YEAR 2000.  
 \*DATE, 761217

## ABSTRACT 1277

\*TITLE, TEMPERATURES AND ENERGY USE IN A HOUSE WITH UNDERFLOOR PLENUM HEATING  
 SYSTEM.  
 \*AUTHOR, HUFF E R.  
 \*SOURCE, ASAE PAPER 76-4036, 23 PP.  
 \*KEYWORDS, HOME, HEAT.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1278

\*TITLE, ENGINEERED HOUSING REDUCES INITIAL COST/ACCOMODATES SOLAR HEATING.  
 \*AUTHOR, HURST H T, ZETTERSTEN S J.  
 \*SOURCE, ASAE PAPER 76-4007, 9 PP.  
 \*KEYWORDS, HOME, SOLAR.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1279

\*TITLE, MAKING THE MOST OF YOUR ENERGY DOLLARS IN HOME HEATING AND COOLING.  
 \*AUTHOR, JACOBS M, PETERSEN S R.  
 \*SOURCE, NBS CONSUMER INFO SERIES 8, JUNE 1975, 16 PP.  
 \*KEYWORDS, HOME, INSULATION.  
 \*NOTES, FILED.  
 \*DATE, 750600

## ABSTRACT 1280

\*TITLE, RECYCLING ENERGY BY BUILDING HEAT EXCHANGE SYSTEMS.  
 \*AUTHOR, JOHNSON C A.  
 \*SOURCE, ASAE PAPER 76-4035, 24 PP.  
 \*KEYWORDS, HOME, ECONOMICS, SOLAR, WIND.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1281

\*TITLE, HOW TO REDUCE YOUR HOME ENERGY USE.  
 \*AUTHOR, JONES K, HARP S.  
 \*SOURCE, PUBLICATION 2, ENERGY MANAGEMENT LEAFLET, OKLAHOMA STATE UNIV,  
 STILLWATER, OK, 2 PP.  
 \*KEYWORDS, HOME, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 1282

\*TITLE, PROSPECTS FOR DISTRICT HEATING IN THE UNITED STATES.  
 \*AUTHOR, KARKHECK J, POWELL J, BEARDSWORTH E.  
 \*SOURCE, SCIENCE, 195(4282)/948-955, 11 MARCH 1977.  
 \*KEYWORDS, HOME, HEAT, USA, CONSERVATION.  
 \*NOTES, FILED. DISTRICT HEATING CAN EFFECT A SIGNIFICANT REDUCTION IN  
 FOSSIL FUEL CONSUMPTION.  
 \*DATE, 770311

\*TITLE, LIVING WITH THE ENERGY CRISIS.  
 \*AUTHOR, KONZO S, SHICK W L.  
 \*SOURCE, C1 5, SMALL HOMES COUNCIL - BUILDING RESEARCH COUNCIL,  
 UNIV OF ILL, 1 E ST MARYS ROAD, CHAMPAIGN, IL 61820, 1973, 8 PP.  
 \*KEYWORDS, HOME, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 730000

ABSTRACT 1284

\*TITLE, YEAR ROUND ENERGY CONSERVATION IN A TYPICAL TWO-STORY RESIDENCE.  
 \*AUTHOR, LONG C H, LUONI J.  
 \*SOURCE, ASAE PAPER 77-4545, 1977, 15 PP.  
 \*KEYWORDS, HOME, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 770000

ABSTRACT 1285

\*TITLE, INSULATION.  
 \*AUTHOR, MADDEX R L, HALL F W.  
 \*SOURCE, AGR ENGR FACTS NO 24, MICH STATE UNIV, EAST LANSING, JULY 1974, 2 PP.  
 \*KEYWORDS, HOME, INSULATION.  
 \*NOTES, FILED.  
 \*DATE, 740700

ABSTRACT 1286

\*TITLE, INSULATION PAYS.  
 \*AUTHOR, MAHONEY G W A, HARP S.  
 \*SOURCE, OSU EXTENSION FACTS 1664, OKLAHOMA STATE UNIV,  
 STILLWATER, OK, 3 PP.  
 \*KEYWORDS, HOME, INSULATION.  
 \*NOTES, FILED.  
 \*DATE,

ABSTRACT 1287

\*TITLE, MOISTURE PROBLEMS IN THE HOME.  
 \*AUTHOR, MAHONEY G W A, HARP S.  
 \*SOURCE, OSU EXTENSION FACTS 1658, OKLAHOMA STATE UNIV,  
 STILLWATER, OK, 4 PP.  
 \*KEYWORDS, HOME, VENTILATION.  
 \*NOTES, FILED.  
 \*DATE,

ABSTRACT 1288

\*TITLE, SELECTING CAULKING COMPOUNDS FOR HOME AND FARM.  
 \*AUTHOR, MAHONEY G W A, HARP S.  
 \*SOURCE, OSU EXTENSION FACTS 1666, OKLAHOMA STATE UNIV,  
 STILLWATER, OK, 4 PP.  
 \*KEYWORDS, HOME.  
 \*NOTES, FILED.  
 \*DATE,

ABSTRACT 1289

\*TITLE, WEATHERPROOFING THE HOME.  
 \*AUTHOR, MAHONEY G W A, HARP S.  
 \*SOURCE, OSU EXTENSION FACTS 1660, OKLAHOMA STATE UNIV,  
 STILLWATER, OK, 4 PP.  
 \*KEYWORDS, HOME, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE,

ABSTRACT 1290

\*TITLE, HOME COOLING COSTS FOR OKLAHOMA.  
 \*AUTHOR, MAHONEY G W A, GARDON J E, HARP S.  
 \*SOURCE, OSU EXTENSION FACTS 1662, OKLAHOMA STATE UNIV,  
 STILLWATER, OK, 4 PP.  
 \*KEYWORDS, HOME, COOLING, OKLAHOMA, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 1291

- \*TITLE, HOME HEATING COSTS IN OKLAHOMA.
- \*AUTHOR, MAHONEY G W A, GARTON J E, HARP S.
- \*SOURCE, OSU EXTENSION FACTS 1663, OKLAHOMA STATE UNIV, STILLWATER, OK, 4 PP.
- \*KEYWORDS, HOME, HEAT, OKLAHOMA, ECONOMICS.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1292

- \*TITLE, ELECTRICITY FOR CONDITIONING RURAL RESIDENCES - FACT OR FICTION.
- \*AUTHOR, MAYBERRY J A.
- \*SOURCE, FARM ELECTRIFICATION COUNCIL, FOOD AND ENERGY SYMPOSIUM, WASHINGTON DC, 20 AUG 1975, 3 PP.
- \*KEYWORDS, HOME, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 730820

## ABSTRACT 1293

- \*TITLE, HEATING, VENTILATION, AIR CONDITIONING AND LIGHTING - ENERGY MANAGEMENT HANDBOOK FOR SMALL AND MEDIUM SIZED BUSINESS.
- \*AUTHOR, MICHIGAN DEPARTMENT OF COMMERCE.
- \*SOURCE, MICH DEPT OF COMMERCE, OFFICE OF ECON EXPANSION, 4TH FLOOR LAW BLDG, LANSING, MI, APRIL 1975, 14 PP.
- \*KEYWORDS, HOME, CONSERVATION, BUILDINGS.
- \*NOTES, FILED.
- \*DATE, 750400

## ABSTRACT 1294

- \*TITLE, SOLAR AND THE FARMERS HOME.
- \*AUTHOR, MORGAN E.
- \*SOURCE, SOLAR AGE, 3(3)/34-37, MARCH 1978.
- \*KEYWORDS, HOME, SOLAR.
- \*NOTES, FILED.
- \*DATE, 780300

## ABSTRACT 1295

- \*TITLE, RESIDENTIAL ENERGY CONSUMPTION - SOCIO-PHYSICAL DETERMINANTS OF ENERGY USE IN SINGLE FAMILY DWELLINGS.
- \*AUTHOR, MORRISON B M.
- \*SOURCE, PAPER PREPARED FOR THE ENVIRONMENTAL DESIGN RESEARCH ASSOC, 7TH ANNUAL MEETING, VANCOUVER, BRITISH COLUMBIA, 25-28 MAY 1976, 7 PP.
- \*KEYWORDS, HOME, ENERGY CONSUMPTION, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 1296

- \*TITLE, ENERGY AND FAMILIES - THE CRISIS AND THE RESPONSE.
- \*AUTHOR, MORRISON B M, GLADHART P M.
- \*SOURCE, J OF HOME ECONOMICS, JAN 1976, PP 15-18.
- \*KEYWORDS, HOME, ENERGY CONSUMPTION, SOCIAL IMPLICATIONS, CONSERVATION, POLICY.
- \*NOTES, FILED.
- \*DATE, 760100

## ABSTRACT 1297

- \*TITLE, IMPACTS ON HOUSEHOLD ENERGY CONSUMPTION - AN EMPIRICAL STUDY OF MICHIGAN FAMILIES.
- \*AUTHOR, MORRISON B M, KEITH J G, ZUICHES J J.
- \*SOURCE, IN THE BOOK SOCIOPOLITICAL IMPACTS OF ENERGY USE AND POLICY CONTENTS, THE NAT ACADEMY OF SCI, IN PRESS.
- \*KEYWORDS, HOME, MICHIGAN, ENERGY CONSUMPTION, CONSERVATION, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1298

- \*TITLE, THE MIT REPORT, CONSUMER APPLIANCES - THE REAL COST.
- \*AUTHOR, NATIONAL SCIENCE FOUNDATION.
- \*SOURCE, NSF-RA-X-74-013, RANN DOCUMENT CENTER, NSF, WASHINGTON D C, 32 PP.
- \*KEYWORDS, HOME, APPLIANCES, ECONOMICS.
- \*NOTES, FILED.
- \*DATE,



- TITLE, HEATING AND AIR CONDITIONING STUDY OF A WOOD-FRAME AND A MASONRY STRUCTURE.
- AUTHOR, NATIONAL FOREST PRODUCTS ASSOCIATION.
- SOURCE, TECH REPORT 2, NATIONAL FOREST ASSOC, WASHINGTON DC, 1961, 19 PP.
- KEYWORDS, HOME, ENERGY CONSUMPTION, HEAT, COOLING.
- NOTES, FILED.
- DATE, 610000

## ABSTRACT 1300

- TITLE, INSULATION OF WOOD-FRAME STRUCTURES.
- AUTHOR, NATIONAL FOREST PRODUCTS ASSOCIATION.
- SOURCE, WOOD CONSTRUCTION DATA 7, NATIONAL FOREST PRODUCTS ASSOC, WASHINGTON D C, 1964, 20 PP.
- KEYWORDS, HOME, INSULATION.
- NOTES, FILED.
- DATE, 640000

## ABSTRACT 1301

- TITLE, PASSIVE DESIGN IDEAS FOR THE ENERGY CONSCIOUS ARCHITECT.
- AUTHOR, NATIONAL SOLAR HEATING AND COOLING INFORMATION CENTER.
- SOURCE, NATIONAL SOLAR HEATING AND COOLING INFO CENTER, PO BOX 1607, ROCKVILLE, MD 20850, 71 PP.
- KEYWORDS, HOME, BUILDINGS, CONSERVATION, DESIGN.
- NOTES, FILED.
- DATE, .

## ABSTRACT 1302

- TITLE, EFFECT OF WINDOW AREAS ON ENERGY USE.
- AUTHOR, NEUGAUER L V.
- SOURCE, ASAE PAPER 77-4546, 1977, 12 PP.
- KEYWORDS, HOME, BUILDINGS.
- NOTES, FILED.
- DATE, 770000

## ABSTRACT 1303

- TITLE, DESIGN CONSIDERATIONS FOR BELOW-GRADE-LEVEL HOUSES.
- AUTHOR, NEWMAN J, GOBBEY L C, DAVIS M A.
- SOURCE, ASAE PAPER 78-4551, 1978, 16 PP.
- KEYWORDS, HOME, REQUIREMENTS, TECHNOLOGY ASSESSMENT.
- NOTES, FILED. POTENTIAL DESIGN CONSIDERATIONS ARE IDENTIFIED AND THE MERIT OF SEVERAL CHOICES ARE DISCUSSED.
- DATE, 780000

## ABSTRACT 1304

- TITLE, HOW MANY KILOWATT HOURS ARE YOU USING.
- AUTHOR, NICKERSON D A.
- SOURCE, UNIV OF NEW HAMPSHIRE, DURHAM, NH, 3 PP, UNDATED.
- KEYWORDS, HOME, ENERGY CONSUMPTION.
- NOTES, FILED.
- DATE, .

## ABSTRACT 1305

- TITLE, OPTIMUM INSULATION THICKNESS IN WOOD-FRAMED HOMES.
- AUTHOR, OVIATT A E.
- SOURCE, USDA FOREST SERVICE GENERAL TECH REPORT PNW-32, 1975, 37 PP.
- KEYWORDS, HOME, INSULATION, CONSERVATION, ECONOMICS.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 1306

- TITLE, PORTABLE GENERATORS FOR THE HOME.
- AUTHOR, PALMER E L.
- SOURCE, CRM-12, COOPERATIVE EXTENSION SERVICE, UNIV OF CONNECTICUT, STORRS, MARCH 1974, 10 PP.
- KEYWORDS, HOME, ELECTRICAL.
- NOTES, FILED.
- DATE, 740300

## ABSTRACT 1307

- \*TITLE, CONTINUOUS RIDGE-AND-SOFFIT ATTIC VENTILATION.
- \*AUTHOR, PERRINE L G.
- \*SOURCE, TEXAS ENERGY AND MINERAL RESOURCES, 3(2), TEXAS A AND M UNIV, DEC 1976.
- \*KEYWORDS, HOME, TEXAS, CONSERVATION, AIR CONDITIONING.
- \*NOTES, FILED.
- \*DATE, 761200

## ABSTRACT 1308

- \*TITLE, CONSERVING ENERGY IN YOUR MOBILE HOME.
- \*AUTHOR, PLOWMAN F T.
- \*SOURCE, ENERGY CONSERVATION FACT SHEET EC-11, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 1976, 2 PP.
- \*KEYWORDS, HOME, CONSERVATION, INSULATION, AWARENESS.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1309

- \*TITLE, AIR CONDITIONING WITH LESS ENERGY.
- \*AUTHOR, PLOWMAN F T.
- \*SOURCE, FACT SHEET EC-7, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL 32611, 1976, 2 PP.
- \*KEYWORDS, HOME, CONSERVATION, COOLING.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1310

- \*TITLE, PERFORMANCE OF RESIDENTIAL FIREPLACES.
- \*AUTHOR, POCHOP L O, BORRELLI J, MCNAMEE M A.
- \*SOURCE, ASAE PAPER 78-4548, 1978, 14 PP.
- \*KEYWORDS, HOME, HEAT, EFFICIENCY.
- \*NOTES, FILED. OVERALL EFFICIENCIES AND OTHER FACTORS AFFECTING THE PERFORMANCE OF SEVERAL FIREPLACES, DETERMINED BY CONDUCTING IN-HOME TESTS, ARE DISCUSSED.
- \*DATE, 780000

## ABSTRACT 1311

- \*TITLE, HOW TO KEEP YOUR APPLIANCES ON AN ENERGY BUDGET.
- \*AUTHOR, POWELL E.
- \*SOURCE, POPULAR SCIENCE, NOV 1975, PP 106-108, 148.
- \*KEYWORDS, HOME, APPLIANCES.
- \*NOTES, FILED.
- \*DATE, 751100

## ABSTRACT 1312

- \*TITLE, YOU CAN INCREASE FIREPLACE EFFICIENCY.
- \*AUTHOR, POWELL E.
- \*SOURCE, POPULAR SCIENCE, NOV 1975, PP 110-111, 138.
- \*KEYWORDS, HOME, HEAT.
- \*NOTES, FILED.
- \*DATE, 751100

## ABSTRACT 1313

- \*TITLE, SAVE ENERGY--SAVE DOLLARS.
- \*AUTHOR, PRICE D R. ET AL.
- \*SOURCE, BULLETIN 125, NY STATE COLLEGE OF HUMAN ECOLOGY AND THE NY STATE COLLEGE OF AGR AND LIFE SCI, CORNELL UNIV, ITHACA, NY, 1977, 95PP.
- \*KEYWORDS, HOME, HEAT, COOLING, INSULATION, VENTILATION, APPLIANCES, CONSERVATION, EFFICIENCY.
- \*NOTES, FILED. EFFICIENT ENERGY MANAGEMENT FOR CONSUMERS FROM COOPERATIVE EXTENSION NEW YORK STATE.
- \*DATE, 770000

## ABSTRACT 1314

- \*TITLE, CUTTING HOME ELECTRIC BILLS.
- \*AUTHOR, SHACKELFORD P S.
- \*SOURCE, FACT SHEET EC-33, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE 32611, 1976, 4 PP.
- \*KEYWORDS, HOME, ELECTRICAL, AWARENESS.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1315

- \*TITLE, PROJECT RETROTECH - ENERGY CONSERVATION FOR EXISTING RESIDENCES.
- \*AUTHOR, SMITH N, KITTRIDGE C W, HILL R C.
- \*SOURCE, ASAE PAPER 78-4001, 1978, 20 PP.
- \*KEYWORDS, HOME, CONSERVATION.
- \*NOTES, FILED. A METHOD FOR ENERGY AUDIT OF EXISTING BUILDINGS USED IN PROJECT RETROTECH IS PRESENTED WITH AN ACCOMPANYING METHOD OF EVALUATING THE RELATIVE BENEFITS OF PROPOSED ENERGY CONSERVATION MEASURES.
- \*DATE, 780000

## ABSTRACT 1316

- \*TITLE, ENERGY CONSERVATION IN NEW HOUSING DESIGN.
- \*AUTHOR, SNELL J E, ACHENBACH P R, PETERSEN S R.
- \*SOURCE, SCIENCE, 192(4246)/1305-1311, 25 JUNE 1976.
- \*KEYWORDS, HOME, CONSERVATION, DESIGN, FUEL CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760625

## ABSTRACT 1317

- \*TITLE, ANNUAL TEMPERATURE CONTROL BY PASSIVE SOLAR DESIGN.
- \*AUTHOR, STARR G, NEUBAUER L, MELZER B.
- \*SOURCE, ASAE PAPER 78-4003, 1978, 22 PP.
- \*KEYWORDS, HOME, SOLAR, EFFICIENCY.
- \*NOTES, FILED. THE GOAL OF THIS PROJECT WAS TO MINIMIZE RESOURCE CONSUMPTION, TEST AN ECONOMICAL AND EFFICIENT PASSIVE (DIRECT) SOLAR HOUSE, WITH CONCRETE FLOOR AND SPECIAL WINDOW SHADES, AND REDUCE HEATING AND COOLING COSTS, IN A COMFORTABLE HOME ACTUALLY OCCUPIED BY FOUR PERSONS, USING NATURAL CONDITIONS AND PRACTICES ACCEPTABLE TO THE GENERAL PUBLIC.
- \*DATE, 780000

## ABSTRACT 1318

- \*TITLE, HOW TO FIGURE HEAT LOSSES AND FUEL COST.
- \*AUTHOR, SMITH D J, BREVIK T J, BROCKS L A.
- \*SOURCE, A1844, UNIV OF WISC, AGR BULLETIN BUILDING, 1535 OBSERVATORY DRIVE, MADISON, WI 53706, NOV 1976, 13PP.
- \*KEYWORDS, HOME, HEAT, INSULATION.
- \*NOTES, FILED.
- \*DATE, 761100

## ABSTRACT 1319

- \*TITLE, CHECKLIST FOR ENERGY CONSERVATION IN THE HOME.
- \*AUTHOR, TENNESSEE ENERGY OFFICE.
- \*SOURCE, TENN ENERGY OFFICE, 250 CAPITAL HILL BLDG, NASHVILLE, TN, 7 PP.
- \*KEYWORDS, HOME, CONSERVATION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1320

- \*TITLE, LOCATION OF WINDBREAKS TO CONSERVE ENERGY ON FARMSTEADS - A MODEL ANALYSIS.
- \*AUTHOR, THEAKSTON F H.
- \*SOURCE, ASAE PAPER 78-4536, 1978, 13 PP.
- \*KEYWORDS, HOME, WIND, MODELS.
- \*NOTES, FILED.
- \*DATE, 780000

## ABSTRACT 1321

- \*TITLE, SOLVING THE ENERGY PROBLEM, A FAMILY AFFAIR. . .
- \*AUTHOR, UNIVERSITY OF FLORIDA.
- \*SOURCE, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, FL, UNDATED, 19 PP.
- \*KEYWORDS, HOME, AWARENESS.
- \*NOTES, FILED. NARRATIVE OF A SLIIDE SET.
- \*DATE,

## ABSTRACT 1322

- \*TITLE, DRESSING CHILDREN FOR COLO WEATHER.
- \*AUTHOR, UNIVERSITY OF ALASKA.
- \*SOURCE, PUBL 83, COOPERATIVE EXTENSION SERVICE, UNIV OF ALASKA, SEPT 1973, 11 PP.
- \*KEYWORDS, HOME, HEAT, HUMAN ENERGY.
- \*NOTES, FILED.
- \*DATE, 730900

\*TITLE, WHAT TO DO BEFORE INVESTING IN HOME INSULATION.  
 \*AUTHOR, UNIVERSITY OF WISCONSIN.  
 \*SOURCE, E 2928, COOPERATIVE EXTENSION PROGRAMS, UNIV OF WISCONSIN,  
 MADISON, WI 53706, MARCH 1978, 5 PP.  
 \*KEYWORDS, HOME, INSULATION.  
 \*NOTES, FILED.  
 \*DATE, 780300

## ABSTRACT 1324

\*TITLE, THE ECAP REPORT.  
 \*AUTHOR, UNIVERSITY OF MASSACHUSETTS.  
 \*SOURCE, ENERGY CONSERVATION ANALYSIS PROJECT, COOPERATIVE EXTENSION  
 SERVICE, UNIV OF MASS, AMHERST, MA 01003, MARCH 1977, 5 PP.  
 \*KEYWORDS, HOME, PETROLEUM, INSULATION.  
 \*NOTES, FILED.  
 \*DATE, 770300

## ABSTRACT 1325

\*TITLE, IN THE BANK. . . OR UP THE CHIMNEY.  
 \*AUTHOR, US-DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.  
 \*SOURCE, DEPT OF HUD, US GOVT PRINTING OFFICE, WASHINGTON DC 20402,  
 APRIL 1975, 73 PP.  
 \*KEYWORDS, HOME, INSULATION, ECONOMICS, AWARENESS.  
 \*NOTES, FILED.  
 \*DATE, 750400

## ABSTRACT 1326

\*TITLE, RETROFITTING EXISTING HOUSING FOR ENERGY CONSERVATION - AN ECONOMIC  
 ANALYSIS.  
 \*AUTHOR, US-DEPARTMENT OF COMMERCE.  
 \*SOURCE, BUILDING SERIES 64, 613.29/ 2/64, US DEPT OF COMMERCE.  
 \*KEYWORDS, HOME, CONSERVATION, ECONOMICS, STATISTICS.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 1327

\*TITLE, MAKING THE MOST OF YOUR ENERGY DOLLARS IN HOME HEATING AND COOLING.  
 \*AUTHOR, US-DEPARTMENT OF COMMERCE, NATIONAL BUREAU OF STANDARDS.  
 \*SOURCE, C13538, CONSUMERS GUIDE, US DEPT OF COMMERCE,  
 NATIONAL BUREAU OF STANDARDS, WASHINGTON DC 20234, 16 PP.  
 \*KEYWORDS, HOME, INSULATION, COOLING.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 1328

\*TITLE, HOME ENRGY SAVERS WORKBOOK.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, STOCK NO 041-018-00116-8, FEA, US GOVT PRINTING OFFICE,  
 WASHINGTON DC 20402, APRIL 1977, 29 PP.  
 \*KEYWORDS, HOME, ENERGY BUDGET, CONSERVATION.  
 \*NOTES, FILED. THE WORKBOOK GUIDES HOMEOWNERS IN DETERMINING WHAT  
 MEASURES WILL MAKE THEIR HOMES MORE ENERGY EFFICIENT, AND WHAT THEY  
 CAN EXPECT TO SAVE IN HOME HEATING AND COOLING COSTS BY TAKING  
 THESE MEASURES.  
 \*DATE, 770400

## ABSTRACT 1329

\*TITLE, TIPS FOR ENERGY SAVERS - IN AND AROUND THE HOME, ON THE ROAD,  
 IN THE MARKETPLACE.  
 \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.  
 \*SOURCE, FEA/D-76/513, FEA, CONSERVATION AND ENVIRONMENT,  
 WASHINGTON DC 20461, MAY 1977, 43 PP.  
 \*KEYWORDS, HOME, CONSERVATION, AUTOMOBILE, APPLIANCES, ELECTRICAL,  
 INSULATION.  
 \*NOTES, FILED.  
 \*DATE, 770500

## ABSTRACT 1330

\*TITLE, FIREPLACES--FRIENDS OR FOES.  
 \*AUTHOR, VIRGINIA FARM AND HOME ELECTRIFICATION COUNCIL, WEST VIRGINIA  
 FARM AND HOME ELECTRIC ENERGY COUNCIL.  
 \*SOURCE, FACT SHEET EM-1, VIRGINIA FARM AND HOME ELECTRIFICATION COUNCIL AND  
 WEST VIRGINIA FARM AND HOME ELECTRIC ENERGY COUNCIL, DEC 1976, 2 PP.  
 \*KEYWORDS, HOME, HEAT, EFFICIENCY.  
 \*NOTES, FILED.  
 \*DATE, 761200



- \*TITLE, THE TRUTH ABOUT HEAT LOSSES.
- \*AUTHOR, WATKINS A M.
- \*SOURCE, MECHANIX ILLUSTRATED, JAN 1976, PP 84, 99.
- \*KEYWORDS, HOME, HEAT.
- \*NOTES, FILED.
- \*DATE, 760100

## ABSTRACT 1332

- \*TITLE, HOUSEHOLD ENERGY CONSUMPTION SURVEY.
- \*AUTHOR, WEEKS S A.
- \*SOURCE, 33RD ANNUAL PROGRESS REPORT TO THE NEW YORK FARM ELECTRIFICATION COUNCIL, MAY 1976, PP 68-71.
- \*KEYWORDS, HOME, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 1333

- \*TITLE, THE WHY, WHAT AND HOW OF HOME INSULATION.
- \*AUTHOR, WHEARY C D, TRICE R H.
- \*SOURCE, VIRGINIA FARM AND HOME ELECTRIFICATION COUNCIL, BLACKSBURG, VA, APRIL 1975, 13 PP.
- \*KEYWORDS, HOME, INSULATION, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 750400

## ABSTRACT 1334

- \*TITLE, ENERGY AND THE FAMILY.
- \*AUTHOR, ZUICHES J J.
- \*SOURCE, MICHIGAN FARM ECON NO 390, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, JULY 1975, 4 PP.
- \*KEYWORDS, HOME, MODELS.
- \*NOTES, FILED.
- \*DATE, 750700

## HUMAN ENERGY 1335 --- 1343

## ABSTRACT 1335

- \*TITLE, ERGONOMIC ASPECTS OF TRADITIONAL AND MODERN CULTIVATION TASKS IN UGANDA.
- \*AUTHOR, BOSHOFF U H.
- \*SOURCE, IV INTERNATIONAL CONGRESS OF RURAL MEDICINE - JAPAN, 1970, PP 99-101.
- \*KEYWORDS, HUMAN ENERGY, UGANDA, LABOR, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 700300

## ABSTRACT 1336

- \*TITLE, TO EVALUATE LABOR ENERGY IN FOOD PRODUCTION.
- \*AUTHOR, FLUCK R C.
- \*SOURCE, AGR ENGR, JAN 1976, PP 31-32.
- \*KEYWORDS, HUMAN ENERGY, PRODUCTION, LABOR, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 760100

## ABSTRACT 1337

- \*TITLE, A BICYCLE OPERATED PTO UNIT FOR SMALL FARMS.
- \*AUTHOR, GHOSH B N.
- \*SOURCE, ASAE PAPER 76-1011, 4 PP.
- \*KEYWORDS, HUMAN ENERGY.
- \*NOTES, FILED.
- \*DATE, 760000

- TITLE, THE MAN-MACHINE CONCEPT AS A GUIDELINE TO THE INTRODUCTION AND THE DEVELOPMENT OF SMALL IMPLEMENTS IN INDIA.
- AUTHOR, KAUL R W, SPLINTER W E.
- SOURCE, ASAE PAPER 64-128, 21 JUNE 1964, 35 PP.
- KEYWORDS, HUMAN ENERGY, INDIA, MECHANIZATION, SOCIAL IMPLICATIONS.
- NOTES, FILED.
- DATE, 640621

ABSTRACT 1339

- TITLE, HUMAN ENERGY EXPENDITURE.
- AUTHOR, PASSMORE R, DURIN J V G A.
- SOURCE, PHYSIOLOGICAL REVIEWS, 35/801-840, OCT 1955.
- KEYWORDS, HUMAN ENERGY, ENERGETICS.
- NOTES, FILED.
- DATE, 551000

ABSTRACT 1340

- TITLE, SOME PHYSIOLOGICAL RESPONSES OF MAN TO WORKLOAD AND ENVIRONMENT.
- AUTHOR, SUGGS C W, SPLINTER W E.
- SOURCE, J OF APPLIED PHYSIOLOGY, 16(3)/413-420, 1961.
- KEYWORDS, HUMAN ENERGY, LABOR, ENVIRONMENT.
- NOTES, FILED.
- DATE, 610000

ABSTRACT 1341

- TITLE, EFFECT OF ENVIRONMENT ON THE ALLOWABLE WORK LOAD OF MAN.
- AUTHOR, SUGGS C W, SPLINTER W E.
- SOURCE, TRANSACTIONS OF THE ASAE, 1961, PP 48-51.
- KEYWORDS, HUMAN ENERGY, ENVIRONMENT, LABOR.
- NOTES, FILED.
- DATE, 610000

ABSTRACT 1342

- TITLE, TIME AND ENERGY ANALYSIS OF AGRICULTURAL TASKS.
- AUTHOR, SUGGS C W, SPLINTER W E.
- SOURCE, TRANSACTIONS OF THE ASAE, 1(1)/50-52, 1958.
- KEYWORDS, HUMAN ENERGY, AGRICULTURE.
- NOTES, FILED.
- DATE, 580000

ABSTRACT 1343

- TITLE, THE ENERGETIC COST OF MOVING ABOUT.
- AUTHOR, TUCKER V A.
- SOURCE, AMER SCIENTIST, 63/413-419, JULY-AUG 1975.
- KEYWORDS, HUMAN ENERGY, LABOR, ENERGETICS.
- NOTES, FILED.
- DATE, 750700

## HYDROGEN 1344 -- 1358

ABSTRACT 1344

- TITLE, HYDROGEN - LIKELY FUEL OF THE FUTURE.
- AUTHOR, ANON.
- SOURCE, CHEMICAL AND ENGR NEWS, 26 JUNE 1972, PP 14-17.
- KEYWORDS, HYDROGEN.
- NOTES, FILED.
- DATE, 720626

ABSTRACT 1345

- TITLE, HYDROGEN - A VERSITILE ELEMENT.
- AUTHOR, BAMBERGER C E, BRAUNSTEIN J.
- SOURCE, AMER SCIENTIST, 63/438-447, JULY-AUG 1975.
- KEYWORDS, HYDROGEN, PRODUCTION, INDUSTRY, THERMOCHEMICAL, TRANSPORTATION.
- NOTES, FILED.
- DATE, 750700

- \*TITLE, THE WIND OF HYDROGEN AND OF CHANGE BLEW GENTLE, CLEAN AND PERSISTENT AT MIAMI.
- \*AUTHOR, CAHN R W.
- \*SOURCE, NATURE, 248/628-629, 19 APRIL 1974.
- \*KEYWORDS, HYDROGEN.
- \*NOTES, NAS.
- \*DATE, 740415

## ABSTRACT 1347

- \*TITLE, HYDROGEN - TOMORROWS FUEL.
- \*AUTHOR, CHOPEY N P.
- \*SOURCE, CHEMICAL ENGR, 25 DEC 1972, PP 24-26.
- \*KEYWORDS, HYDROGEN.
- \*NOTES, NAS.
- \*DATE, 721225

## ABSTRACT 1348

- \*TITLE, HYDROGEN AND OXYGEN FROM WATER.
- \*AUTHOR, FLETCHER E A, MOEN R L.
- \*SOURCE, SCIENCE, 197/1050-1056, 9 SEPT 1977.
- \*KEYWORDS, HYDROGEN, SOLAR, THERMOCHEMICAL.
- \*NOTES, FILED. THE USE OF SOLAR ENERGY IN A ONE STEP EFFUSIONAL PROCESS IS CONSIDERED.
- \*DATE, 77C909

## ABSTRACT 1349

- \*TITLE, THE PRODUCTION OF HYDROGEN FROM NUCLEAR ENERGY.
- \*AUTHOR, GREGORY D P.
- \*SOURCE, INST OF GAS TECH, 3424 S STATE ST, IIT CENTER, CHICAGO, OCT 1975, 17 PP
- \*KEYWORDS, HYDROGEN, PRODUCTION, NUCLEAR, THERMOCHEMICAL.
- \*NOTES, FILED. PRESENTED AT SEVENTH SYNTHETIC PIPELINE GAS SYMPOSIUM, CHICAGO, 27-29 OCT 1975.
- \*DATE, 751000

## ABSTRACT 1350

- \*TITLE, THE STATUS OF THE HYDROGEN - ENERGY SYSTEM CONCEPT.
- \*AUTHOR, GREGORY D P.
- \*SOURCE, INST OF GAS TECH, 3424 S STATE ST, IIT CENTER, CHICAGO, JUNE 1976, 25 PP.
- \*KEYWORDS, HYDROGEN, GENERAL.
- \*NOTES, FILED. PAPER PRESENTED AT 13TH WORLD GAS CONF, LONDON, 7-11 JUNE 1976.
- \*DATE, 760600

## ABSTRACT 1351

- \*TITLE, HYDROGEN - A CARRIER OF ENERGY.
- \*AUTHOR, GREGORY D P.
- \*SOURCE, INST OF GAS TECH, 3424 S STATE ST, IIT CENTER, CHICAGO, FEB 1974, 11 PP
- \*KEYWORDS, HYDROGEN, PRODUCTION, TRANSMISSION, STORAGE.
- \*NOTES, FILED. PRESENTED AT AAAS SAN FRANCISCO MEETING, 24 FEB - 1 MARCH 1974.
- \*DATE, 740200

## ABSTRACT 1352

- \*TITLE, THE HYDROGEN ECONOMY.
- \*AUTHOR, GREGORY D P.
- \*SOURCE, SCIENTIFIC AMER, 228(1)/13-21, JAN 1973.
- \*KEYWORDS, HYDROGEN.
- \*NOTES, NAS.
- \*DATE, 736100

## ABSTRACT 1353

- \*TITLE, HYDROGEN PRODUCTION BY ELECTROLYSIS - PRESENT AND FUTURE.
- \*AUTHOR, KONOPKA A J, GREGORY D P.
- \*SOURCE, INST OF GAS TECH, 3424 S STATE ST, IIT CENTER, CHICAGO, AUG 1975, 10 PP
- \*KEYWORDS, HYDROGEN, PRODUCTION.
- \*NOTES, FILED. PRESENTED AT THE 10TH INTERSOCIETY ENERGY CONVERSION ENGR CONF, UNIV OF DELAWARE, NEWARK, 18-22 AUG 1975.
- \*DATE, 750800

- \*TITLE, STORABLE, RENEWABLE HYDROGEN POWER, KEY TO UNLOCKING ENERGY FROM THE SUN, WIND, TIDES.
- \*AUTHOR, LINDSLEY E F.
- \*SOURCE, POPULAR SCI, MARCH 1975, PP 88-90, 145.
- \*KEYWORDS, HYDROGEN, STORAGE.
- \*NOTES, FILED.
- \*DATE, 750300

## ABSTRACT 1355

- \*TITLE, HYDROGEN - SYNTHETIC FUEL OF THE FUTURE.
- \*AUTHOR, MAUGH T H.
- \*SOURCE, SCIENCE, 178/849-852, 24 NOV 1972.
- \*KEYWORDS, HYDROGEN.
- \*NOTES, NAS.
- \*DATE, 721124

## ABSTRACT 1356

- \*TITLE, THE HYDROGEN ECONOMY.
- \*AUTHOR, MCAULIFFE C A.
- \*SOURCE, CHEMISTRY AND INDUSTRY, 6 SEPT 1975, PP 725-728.
- \*KEYWORDS, HYDROGEN, COAL.
- \*NOTES, FILED.
- \*DATE, 750966

## ABSTRACT 1357

- \*TITLE, HYDROGEN AGE ROLLS FORWARD.
- \*AUTHOR, WALTERS S.
- \*SOURCE, MECHANICAL ENGR, MARCH 1974, PP 40-41.
- \*KEYWORDS, HYDROGEN.
- \*NOTES, FILED.
- \*DATE, 740300

## ABSTRACT 1358

- \*TITLE, THERMOCHEMICAL HYDROGEN GENERATION.
- \*AUTHOR, WENTORF R H, HANNEMAN R E.
- \*SOURCE, SCIENCE, 785(4148)/311-319, 26 JULY 1974.
- \*KEYWORDS, HYDROGEN, PRODUCTION, THERMOCHEMICAL, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 740726

## HYDROPOWER 1359 -- 1371

## ABSTRACT 1359

- \*TITLE, HOW TO EFFICIENTLY RUN SMALL POWER STATIONS.
- \*AUTHOR, ANON.
- \*SOURCE, SHANGHAI/SHANGHAI PEOPLES PRESS, 1971.
- \*KEYWORDS, HYDROPOWER, CHINA.
- \*NOTES,
- \*DATE, 710000

## ABSTRACT 1360

- \*TITLE, SMALL LOW-HEAD HYDROELECTRIC POWER.
- \*AUTHOR, ANON.
- \*SOURCE, PROC OF THE MIDWEST REGIONAL CONF ON SMALL LOW-HEAD HYDROELECTRIC POWER, MICH STATE UNIV, E LANSING, MI 48824, 23-25 MAY 1978, 476 PP.
- \*KEYWORDS, HYDROPOWER, HISTORICAL, POLICY, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. SMALL LOW-HEAD HYDROELECTRIC POWER IS AN ENERGY RESOURCE WHICH IS CURRENTLY UNDERUTILIZED. REHABILITATION OF ABANDONEO SITES AND GENERATION OF POWER AT DAMS WHICH WERE CONSTRUCTED FOR NON-POWER PURPOSES COULD ADD TO THE SUPPLY OF ELECTRIC ENERGY AND AID LOCAL ECONOMICS. THESE CONFERENCE PROCEEDINGS COVER THE SPECTRUM OF ISSUES WHICH SURROUND THE SUBJECT.
- \*DATE, 780523



\*TITLE, YOUR OWN WATER-POWER PLANT.  
 \*AUTHOR, BASSETT C D.  
 \*SOURCE, MOTHER EARTH NEWS NO 13 AND 14, JAN 1972 AND MARCH 1972, PP 25-31.  
 \*KEYWORDS, HYDROPOWER.  
 \*NOTES, HAS, FILED.  
 \*DATE, 720100

ABSTRACT 1362

\*TITLE, ENERGY FROM FALLING WATER.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES 14, BATTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS, OH, SEPT 1974, 6 PP.  
 \*KEYWORDS, HYDROPOWER.  
 \*NOTES, FILED.  
 \*DATE, 740900

ABSTRACT 1363

\*TITLE, RURAL HYDROELECTRIC STATIONS.  
 \*AUTHOR, CHINA BUREAU OF WATER CONSERVANCY AND ELECTRIC POWER.  
 \*SOURCE, BUREAU OF WATER CONSERVANCY AND ELECTRIC POWER, HUNAN PEOPLES PRESS, 1974.  
 \*KEYWORDS, HYDROPOWER, CHINA.  
 \*NOTES, IN CHINESE.  
 \*DATE, 740000

ABSTRACT 1364

\*TITLE, RURAL SMALL-SCALE HYDROELECTRIC STATIONS.  
 \*AUTHOR, EAST CHINA COLLEGE OF WATER CONSERVANCY.  
 \*SOURCE, EDITORIAL PUBL GROUP, EAST CHINA COLLEGE OF WATER CONSERVANCY, NAM KING, SHANGHAI/SHANGHAI PEOPLES PRESS, 1973.  
 \*KEYWORDS, HYDROPOWER, CHINA.  
 \*NOTES,  
 \*DATE, 730000

ABSTRACT 1365

\*TITLE, LOW COST DEVELOPMENT OF SMALL WATER-POWER SITES.  
 \*AUTHOR, HAMM H W.  
 \*SOURCE, VITA.  
 \*KEYWORDS, HYDROPOWER.  
 \*NOTES, HAS.  
 \*DATE,

ABSTRACT 1366

\*TITLE, THE CONSTRUCTION OF MILL DAMS.  
 \*AUTHOR, JAMES LAFFEL AND CO.  
 \*SOURCE, SPRINGFIELD, OH/JAMES LAFFEL AND CO, 1874.  
 \*KEYWORDS, HYDROPOWER.  
 \*NOTES, FILED. REPRINTED IN 1970.  
 \*DATE, 700000

ABSTRACT 1367

\*TITLE, HYDROPOWER.  
 \*AUTHOR, MACKILLOP A.  
 \*SOURCE, WADEBRIDGE ECOLOGICAL CENTRE, 73 MOLESWORTH ST, WADEBRIDGE, CORNWALL, ENGLAND, 74 PP.  
 \*KEYWORDS, HYDROPOWER, GENERAL.  
 \*NOTES, FILED.  
 \*DATE,

ABSTRACT 1368

\*TITLE, WATER POWER DEVELOPMENT (VOL 2).  
 \*AUTHOR, MOSONYI E.  
 \*SOURCE, HUNGARIAN ACADEMY OF SCI, BUDAPEST, HUNGARY, 869PP.  
 \*KEYWORDS, HYDROPOWER, HUNGARY.  
 \*NOTES,  
 \*DATE,

\*TITLE, WAVE POWER.  
 \*AUTHOR, SALTER S H.  
 \*SOURCE, NATURE, 249/720-724, 21 JUNE 1974.  
 \*KEYWORDS, HYDROPOWER.  
 \*NOTES, NAS.  
 \*DATE, 740621

\*TITLE, WATER POWER.  
 \*AUTHOR, SURBROOK T C, FRIEDLE J E, DORIN W L.  
 \*SOURCE, AEIS NO 351, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MAY 1976.  
 \*KEYWORDS, HYDROPOWER, WATER POWER.  
 \*NOTES, FILED.  
 \*DATE, 760500

\*TITLE, WATER RUNNING WILD.  
 \*AUTHOR, WOOLSTON G.  
 \*SOURCE, UNDERCURRENTS 16, MARCH 1974, PP 31-34.  
 \*KEYWORDS, HYDROPOWER.  
 \*NOTES, FILED.  
 \*DATE, 740300

## INTERNATIONAL

1372 -- 1456

\*TITLE, ENERGY ALTERNATIVES FOR BRAZIL.  
 \*AUTHOR, ABELSON P M.  
 \*SOURCE, SCIENCE, 189(4201)/ 8 AUG 1975.  
 \*KEYWORDS, INTERNATIONAL, BRAZIL, ALTERNATIVES, SOLAR, NUCLEAR, ORGANIC, ALCOHOL  
 \*NOTES, FILED.  
 \*DATE, 750806

\*TITLE, BANGLADESH ENERGY STUDY.  
 \*AUTHOR, ANON.  
 \*SOURCE, META SYSTEMS INC, 10 HOLWORTHY ST, CAMBRIDGE, MASS, APRIL 1976, 79 PP.  
 \*KEYWORDS, INTERNATIONAL, BANGLADESH.  
 \*NOTES, AID. REPORT TO ASIAN DEV BANK, PO BOX 789, MANILA, PHILIPPINES, BY  
 MONTREAL ENGINEERING-SNAMPROGETTI JOINT VENTURE, PO BOX 777, PLACE  
 BONAVENTURE, MONTREAL, CANADA.  
 \*DATE, 760400

\*TITLE, US SURVEY OF ENERGY R AND D IN JAPAN.  
 \*AUTHOR, ANON.  
 \*SOURCE, REPORT OF A TECH DELEGATIONS VISIT TO JAPAN, 3-12 AUG 1974.  
 \*KEYWORDS, INTERNATIONAL, JAPAN.  
 \*NOTES, AID. ABOUT 3/4 INCHES THICK.  
 \*DATE, 740803

\*TITLE, ENERGY PROBLEMS PECULIAR TO DEVELOPING COUNTRIES.  
 \*AUTHOR, ANON.  
 \*SOURCE, PUBLIC UTILITIES REPORT NO DUN 13, IBRD, PRESENTED AT THE 9TH WORLD  
 ENERGY CONF, DETROIT, SEPT 1974, 26 PP.  
 \*KEYWORDS, INTERNATIONAL.  
 \*NOTES, AID. INCLUDES STATEMENTS FROM CHINA, MALAYSIA, IRELAND, IRAN, GHANA,  
 NICARAGUA.  
 \*DATE, 740900

- TITLE, OIL AND THE PODR COUNTRIES.
- AUTHOR, ANON.
- SOURCE, ENVIRONMENT, 16(2)/10-14.
- KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, ECONOMICS, INDIA.
- NOTES,
- DATE,

## ABSTRACT 1377

- TITLE, APPROPRIATE TECHNOLOGIES FOR SEMIARID AREAS - WIND AND SOLAR ENERGY FOR WATER SUPPLY.
- AUTHOR, ANON.
- SOURCE, CONF NOTES, 15-20 SEPT 1975, WEST BERLIN.
- KEYWORDS, INTERNATIONAL, PUMPS, SOLAR, WIND, DEVELOPING COUNTRIES, IRRIGATION.
- NOTES,
- DATE, 750915

## ABSTRACT 1378

- TITLE, ENERGY AND NATURAL RESOURCES.
- AUTHOR, ANON.
- SOURCE, CERES, 7(6)/1-66, NOV-DEC 1974.
- KEYWORDS, INTERNATIONAL, ENVIRONMENT, ENERGY SOURCES.
- NOTES, FILED.
- DATE, 741100

## ABSTRACT 1379

- TITLE, PROBLEMAS DE ENERGIA NO BRASIL.
- AUTHOR, ANON.
- SOURCE, INSTITUTO DE PESQUISAS, ESTUDOS E ASSESSORIA DO CONGRESSO, 1976, 150 PP.
- KEYWORDS, INTERNATIONAL, BRAZIL, SOLAR, NUCLEAR, PETROLEUM, ECONOMICS, COAL, ALCOHOL, PHOTOSYNTHESIS.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 1380

- TITLE, ENERGY FOR AGRICULTURE IN THE DEVELOPING COUNTRIES.
- AUTHOR, ANON.
- SOURCE, REPRINT FROM MONTHLY BULLETIN OF AGR ECON AND STATISTICS, 25(2)/8 PP, FEB 1976.
- KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, AGRICULTURE.
- NOTES, FILED.
- DATE, 760200

## ABSTRACT 1381

- TITLE, AN OVERVIEW OF ALTERNATIVE ENERGY SOURCES FOR LDC S.
- AUTHOR, ARTHUR D LITTLE INC.
- SOURCE, REPORT TO AID, TAB, OFFICE OF SCI AND TECH, 7 AUG 1974, 140 PP.
- KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, TIDAL, GEOTHERMAL, ORGANIC, ALCOHOL, COAL GASIFICATION, SOLAR, NUCLEAR, WIND, PYROLYSIS.
- NOTES, FILED.
- DATE, 740807

## ABSTRACT 1382

- TITLE, FUEL AND POWER IN KENYA.
- AUTHOR, BRADLEY D.
- SOURCE, TECH REPORT #70/1, DEPT OF MECHANICAL ENGR, UNIV OF NAIROBI, SEPT 1970, 25 PP.
- KEYWORDS, INTERNATIONAL, KENYA, ENERGY SOURCES, ELECTRICAL, GEOTHERMAL, NUCLEAR, SOLAR, WIND.
- NOTES, FILED.
- DATE, 700900

## ABSTRACT 1383

- TITLE, LES DIVERSES SOURCES DENERGIE - LEURS APPLICATIONS AUX PAYS EN VOIE DE DEVELOPPEMENT.
- AUTHOR, BRAGUAVAL R.
- SOURCE, INDUSTRIES ET TRAVAUX DOUTRE-MER, DEC 1974, PP 1051-1057.
- KEYWORDS, INTERNATIONAL, AFRICA, SOLAR, WIND, GEOTHERMAL, HYDROPOWER, GEOTHERMAL.
- NOTES, FILED.
- DATE, 741200

- \*TITLE, BALANCO ENERGETICO NACIONAL.
- \*AUTHOR, BRAZIL MINISTERIO DAS MINAS E ENERGIA.
- \*SOURCE, MINISTERIO DAS MINAS E ENERGIA, REPUBLICA FEDERATIVA DO BRASIL, 1977, 103 PP.
- \*KEYWORDS, INTERNATIONAL, BRAZIL, ENERGY CONSUMPTION, COAL, POLICY, NATURAL GAS, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1385

- \*TITLE, ENERGY FOR RURAL DEVELOPMENT - RENEWABLE RESOURCES AND ALTERNATIVE TECHNOLOGIES FOR DEVELOPING COUNTRIES.
- \*AUTHOR, BROWN N. ED.
- \*SOURCE, NATIONAL ACADEMY OF SCI, WASHINGTON, D C, 1976, 306 PP.
- \*KEYWORDS, INTERNATIONAL, ALTERNATIVES, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1386

- \*TITLE, SOLAR ENERGY FOR VILLAGE DEVELOPMENT.
- \*AUTHOR, BROWN N L, HOWE J W.
- \*SOURCE, SCIENCE, 199(4329)/651-657, 10 FEB 1978.
- \*KEYWORDS, INTERNATIONAL, SOLAR, DIESEL, TANZANIA, DEVELOPING COUNTRIES.
- \*NOTES, FILED. THE NAS HELD A JOINT WORKSHOP WITH THE GOVT OF TANZANIA ON THE POTENTIAL SOLAR ENERGY FOR THE VILLAGES OF THAT COUNTRY. COSTS OF FIVE SOLAR TECHNOLOGIES WERE COMPARED WITH COSTS OF DIESEL-GENERATED ELECTRICITY AND WITH ELECTRICITY FROM THE NATIONAL GRID.
- \*DATE, 780210

## ABSTRACT 1387

- \*TITLE, SOLAR ENERGY FOR VILLAGE DEVELOPMENT.
- \*AUTHOR, BROWN NL, HOWE J W.
- \*SOURCE, REPRINT SERIES, SCIENCE, 199/651-657, 10 FEB 1978.
- \*KEYWORDS, INTERNATIONAL, SOLAR, ECONOMICE, PHOTOVOLTAIC, HYDROPOWER, WIND, REFRIGERATION, DIESEL, TANZANIA, ORGANIC, METHANE.
- \*NOTES, FILED. COSTS OF FIVE SOLAR TECHNOLOGIES ARE COMPARED WITH THE COSTS OF DIESEL-GENERATED ELECTRICITY AND WITH ELECTRICITY FROM THE NATIONAL GRID (IN TANZANIA).
- \*DATE, 780210

## ABSTRACT 1388

- \*TITLE, HOW INDUSTRIAL SOCIETIES USE ENERGY - A COMPARATIVE ANALYSIS.
- \*AUTHOR, DARMSTADTER J, DUNKERLEY J, ALTERMAN J.
- \*SOURCE, BALTIMORE, MC/THE JOHN HOPKINS UNIV PRESS, 1977, 282 PP.
- \*KEYWORDS, INTERNATIONAL, ENERGY CONSUMPTION, TRANSPORTATION, INDUSTRY, HOME.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1389

- \*TITLE, ENERGY DEVELOPMENT IN LATIN AMERICA - SCIENTIFIC AND TECHNOLOGICAL ASPECTS.
- \*AUTHOR, DEVECCHI B, WILKES J D.
- \*SOURCE, ORGANIZATION OF AMER STATES, INTER AMER COMMITTEE ON SCI AND TECH, WASHINGTON, 13 NOV 1973, 75 PP.
- \*KEYWORDS, INTERNATIONAL, LATIN AMERICA.
- \*NOTES, AID.
- \*DATE, 731113

## ABSTRACT 1390

- \*TITLE, AGRICULTURES UNCERTAIN CLAIM ON WORLD ENERGY RESOURCES.
- \*AUTHOR, DEWIT C T.
- \*SOURCE, SPAN, 18(1)/2-4, 1975.
- \*KEYWORDS, INTERNATIONAL, NETHERLANDS, AUSTRALIA, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 750000



\*TITLE, ENERGIA.  
 \*AUTHOR, DIETSZCH O. ED.  
 \*SOURCE, SOCIEDADE BRASILEIRA DE FISICA, BOLETIM ESPECIAL,  
 NO 4, AND 8, 1977, 127 PP.  
 \*KEYWORDS, INTERNATIONAL, BRAZIL, NUCLEAR, ELECTRICAL, ALCOHOL,  
 SOLAR, BIOMASS.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1392

\*TITLE, ENERGY AND THE DEVELOPING COUNTRIES.  
 \*AUTHOR, DUNN P D.  
 \*SOURCE, FROM THE BOOK ASPECTS OF ENERGY CONVERSION, I M BLAIR, B D JONES,  
 A J VAN HORN, PERGAMON PRESS, 1976, PP 621-641.  
 \*KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, EFFICIENCY, CONSERVATION,  
 ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1393

\*TITLE, ENERGY REQUIREMENTS AND EFFICIENCY FOR CROP PRODUCTION.  
 \*AUTHOR, FAIDLEY L W.  
 \*SOURCE, ASAE PAPER 77-5528, 1977, 19 PP.  
 \*KEYWORDS, INTERNATIONAL, AGRICULTURE, ENERGY CONSUMPTION.  
 \*NOTES, FILED. PAPER SUMMARIZES, FOR DEVELOPED AND DEVELOPING REGIONS  
 OF THE WORLD, THE COMMERCIAL ENERGY INPUT FOR FARM MACHINERY,  
 FERTILIZER, IRRIGATION AND PESTICIDES AND SUGGESTS METHODS FOR MORE  
 EFFICIENT UTILIZATION.  
 \*DATE, 770000

## ABSTRACT 1394

\*TITLE, ENERGY USE AND AGRICULTURAL PRODUCTION IN DEVELOPING AREAS.  
 \*AUTHOR, FREDERICK K D.  
 \*SOURCE, CHANGING RESOURCE PROBLEMS OF THE FOURTH WORLD, WASHINGTON D C/  
 RESOURCES FOR THE FUTURE, PP 90-123.  
 \*KEYWORDS, INTERNATIONAL, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 760200

## ABSTRACT 1395

\*TITLE, FINANCING OF POWER EXPANSION FOR DEVELOPING COUNTRIES.  
 \*AUTHOR, FRIEDMANN E.  
 \*SOURCE, INTERNATIONAL ATOMIC ENERGY AGENCY BULLETIN, 17(6)/13-23, DEC 1975.  
 \*KEYWORDS, INTERNATIONAL, ECONOMICS.  
 \*NOTES, AID.  
 \*DATE, 751200

## ABSTRACT 1396

\*TITLE, SMALL-SCALE POWER SUPPLIES FOR RURAL COMMUNITIES IN DEVELOPING  
 COUNTRIES.  
 \*AUTHOR, GENERAL ELECTRIC CO.  
 \*SOURCE, GENERAL ELECTRIC CO, NEW YORK, NY, MARCH 1963.  
 \*KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 630300

## ABSTRACT 1397

\*TITLE, DISCUSSION PAPERS ON THE PROBLEMS OF SCIENCE AND TECHNOLOGY.  
 \*AUTHOR, GEORGIA INSTITUTE OF TECHNOLOGY.  
 \*SOURCE, ECON DEV LAB, ENGR EXPT STA, GEORGIA INST OF TECH, DEC 1975, 129 PP.  
 \*KEYWORDS, INTERNATIONAL, TECHNOLOGY ASSESSMENT, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 751200

## ABSTRACT 1398

\*TITLE, ENERGIA NO BRASIL.  
 \*AUTHOR, GOLDEMBERG J. ED.  
 \*SOURCE, PUBLICACAO ACIESP NO 2, ACADEMIA DE CIENCIAS, ESTADO DE  
 SAO PAULO, SAO PAULO, BRASIL, 1975, 158 PP.  
 \*KEYWORDS, INTERNATIONAL, BRAZIL, SOLAR, GEOTHERMAL, TIDAL, NUCLEAR,  
 ALCOHOL, NATURAL GAS, HYDROPOWER.  
 \*NOTES, FILED.  
 \*DATE, 760000

- \*TITLE, BRAZIL - ENERGY OPTIONS AND CURRENT OUTLOOK.
- \*AUTHOR, GOLDBERG J.
- \*SOURCE, SCIENCE, 200/158-164, 14 APRIL 1978.
- \*KEYWORDS, INTERNATIONAL, BRAZIL, ENERGY SOURCES.
- \*NOTES, FILED. BRAZILS ENERGY OPTIONS AND CURRENT OUTLOOK ARE EXAMINED, AND A SUMMARY OF KNOWN RESERVES OF FOSSIL AND RENEWABLE RESOURCES IS GIVEN. BRAZIL HAS ABUNDANT RENEWABLE ENERGY RESOURCES BUT VERY MODEST RESERVES OF FOSSIL FUELS. CONSEQUENTLY, THE EMPHASIS IN THE FUTURE WILL HAVE TO BE ON THE UTILIZATION OF SOLAR ENERGY, HYDROELECTRIC POWER, AND BIOMASS IN A PROGRAM DESIGNED TO PRESERVE LOCAL TRADITIONS AND CULTURE.
- \*DATE, 780414

## ABSTRACT 1400

- \*TITLE, ITEMS FOR INFORMATION - NON-CONVENTIONAL AND NON-POLLUTING SOURCES OF ENERGY.
- \*AUTHOR, GREY J.
- \*SOURCE, ADVISORY COMMITTEE ON THE APPLICATION OF SCI AND TECH TO DEV, UNITED NATIONS, GENEVA, 1 NOV 1975.
- \*KEYWORDS, INTERNATIONAL, FOSSIL FUELS, NUCLEAR, SOLAR, WIND, GEOTHERMAL, CONVERSION, FUEL CELL.
- \*NOTES, FILED.
- \*DATE, 751101

## ABSTRACT 1401

- \*TITLE, UNCONVENTIONAL ENERGY SOURCES-BRAZIL LOOKS FOR APPLICATIONS.
- \*AUTHOR, HAMMOND A L.
- \*SOURCE, SCIENCE, 195(4281)/862-863, 4 MARCH 1977.
- \*KEYWORDS, INTERNATIONAL, BRAZIL, SOLAR, HYDROGEN.
- \*NOTES, FILED.
- \*DATE, 770304
- \*DATE, 760000

## ABSTRACT 1402

- \*TITLE, ENERGY - A RENEWED CHALLENGE TO ENGINEERS.
- \*AUTHOR, HAWTHORNE W.
- \*SOURCE, PROC OF THE INST OF MECHANICAL ENGINEERS, 189/445-460, 1975.
- \*KEYWORDS, INTERNATIONAL, SUPPLY DEMAND, PETROLEUM, NATURAL GAS, CONSERVATION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1403

- \*TITLE, THE US AND THE DEVELOPING WORLD - AGENDA FOR ACTION.
- \*AUTHOR, HOWE J P.
- \*SOURCE, NEW YORK, NY/PRAEGER PUBL, 1974.
- \*KEYWORDS, INTERNATIONAL.
- \*NOTES,
- \*DATE, 740000

## ABSTRACT 1404

- \*TITLE, ENERGY FOR THE VILLAGES OF AFRICA.
- \*AUTHOR, HOWE J W, ET AL.
- \*SOURCE, THE OVERSEAS DEV COUNCIL, 25 FEB 1977, 163 PP.
- \*KEYWORDS, INTERNATIONAL, AFRICA, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 770225

## ABSTRACT 1405

- \*TITLE, ENERGY FOR DEVELOPING COUNTRIES.
- \*AUTHOR, HOWE J W, BEVER J A, KNOWLAND W E, TARRANT J J.
- \*SOURCE, A REPORT TO THE ROCKEFELLER FOUNDATION BY THE OVERSEAS DEV COUNCIL, WASHINGTON DC, 31 OCT 1977, PRELIMINARY DRAFT, 153 PP.
- \*KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, FOSSIL FUELS, SOLAR, NUCLEAR, HYDROPOWER.
- \*NOTES, FILED.
- \*DATE, 771131

- TITLE, ENERGY AND DEVELOPMENT - AN INTERNATIONAL APPROACH.
- AUTHOR, HOWE J W, KNOWLAND W E.
- SOURCE, COMMUNIQUE ON DEV ISSUES 31, OVERSEAS DEV COUNCIL WASHINGTON DC 20036, DEC 1976, 5 PP.
- KEYWORDS, INTERNATIONAL, POLICY, USA, DEVELOPING COUNTRIES.
- NOTES, FILED.
- DATE, 761200

## ABSTRACT 1407

- TITLE, ENERGY FOR RURAL AFRICA - THE POTENTIAL OF SMALL-SCALE RENEWABLE ENERGY TECHNIQUES.
- AUTHOR, HOWE J W, KNOWLAND W E.
- SOURCE, INTERNATIONAL DEV REVIEW, FOCUS, FALL 1977, PP 18-21.
- KEYWORDS, INTERNATIONAL, AFRICA, RENEWABLE ENERGY.
- NOTES, FILED.
- DATE, 770000

## ABSTRACT 1408

- TITLE, INVENTORY OF NATURAL RESOURCES.
- AUTHOR, INTERNATIONAL RICE RESEARCH INSTITUTE.
- SOURCE, TECH REPORT VOL IX, AGR ENGR DEPT, THE INTERNATIONAL RICE RESEARCH INST, PO BOX 933, MANILA, PHILIPPINES, 110 PP.
- KEYWORDS, INTERNATIONAL, ENERGY SOURCES, PHILIPPINES.
- NOTES, FILED.
- DATE,

## ABSTRACT 1409

- TITLE, NON-CONVENTIONAL SOURCES OF ENERGY FOR THE DEVELOPING COUNTRIES.
- AUTHOR, JOHNSON A L.
- SOURCE, UN ADVISORY COMMITTEE ON THE APPLICATION OF SCI AND TECH TO DEV, JULY 1974.
- KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES.
- NOTES, FILED.
- DATE, 740700

## ABSTRACT 1410

- TITLE, LAFRIQUE DANS LE CADRE DE LA GEOGRAPHIE MONDIALE DE LENERGIE.
- AUTHOR, KARST J.
- SOURCE, INDUSTRIES ET TRAVAUX DOUTRE-MER, DEC 1974, PP 1058-1063.
- KEYWORDS, INTERNATIONAL, AFRICA, RESOURCES.
- NOTES, FILED.
- DATE, 741200

## ABSTRACT 1411

- TITLE, ENERGY RESOURCES, DEMAND AND CONSERVATION WITH SPECIAL REFERENCE TO INDIA.
- AUTHOR, KASHKARI C.
- SOURCE, NEW DELHI/TATA MCGRAW-HILL PUB CO LTD, JULY 1975, 231 PP.
- KEYWORDS, INTERNATIONAL, INDIA, ENERGY SOURCES, SUPPLY DEMAND, SOLAR, INDUSTRY, CONSERVATION, ENERGY CONSUMPTION, FOSSIL FUELS, TRANSPORTATION, ELECTRICAL, NUCLEAR, GEOTHERMAL, WIND.
- NOTES, FILED.
- DATE, 750700

## ABSTRACT 1412

- TITLE, NEPAL - THE ENERGY SECTOR.
- AUTHOR, KASHKARI C.
- SOURCE, THE UNIV OF AKRON, DEPT OF E E, AKRON, OHIO, MARCH 1976, 110 PP.
- KEYWORDS, INTERNATIONAL, NEPAL.
- NOTES, AID. REPORT PREPARED BY KASHKARI FOR THE ENERGY R AND D GROUP IN NEPAL.
- DATE, 760300

## ABSTRACT 1413

- TITLE, ALTERNATE POWER SOURCES FOR DEVELOPING COUNTRIES.
- AUTHOR, KEAN S.
- SOURCE, UNPUBLISHED, AUG 1973, 29 PP.
- KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, ALTERNATIVES.
- NOTES, FILED.
- DATE, 730800

## ABSTRACT 1414

- \*TITLE, THE ENERGY CRISIS AND WORLD ORDER.
- \*AUTHOR, KISSINGER H A.
- \*SOURCE, REMARKS GIVEN BEFORE THE ANNUAL MEETING OF THE NATIONAL CONF-OF STATE LEGISLATORS, DETROIT, MI, 3 AUG 1977, 14 PP.
- \*KEYWORDS, INTERNATIONAL, GENERAL.
- \*NOTES, FILED.
- \*DATE, 770803

## ABSTRACT 1415

- \*TITLE, AN OVERVIEW OF ALTERNATIVE ENERGY SOURCES FOR LDC S.
- \*AUTHOR, KREES W A W. ET AL.
- \*SOURCE, REPORT TO AID, TAB, OFFICE OF SCI AND TECH, BY ARTHUR D. LITTLE INC, 7 AUG 1974.
- \*KEYWORDS, INTERNATIONAL, AGRICULTURE, DEVELOPING COUNTRIES, TIDAL, GEOTHERMAL, ORGANIC, ALCOHOL, COAL GASIFICATION, SOLAR, NUCLEAR, WIND, PYROLYSIS.
- \*NOTES, FILED. PROFILES OF 14 COUNTRIES.
- \*DATE, 740807

## ABSTRACT 1416

- \*TITLE, ENERGY FOR DEVELOPMENT.
- \*AUTHOR, LEVISTE J P. ED.
- \*SOURCE, SECTORAL REPORTS OF THE ENERGY COMMITTEE PRESENTED AT THE INTERNATIONAL CONFERENCE ON THE SURVIVAL OF HUMANKIND/THE PHILIPPINE EXPERIMENT, PHILIPPINE INTERNATIONAL CONVENTION CENTER, METROPOLITAN MANILA, PHILIPPINES, 6-10 SEPT 1976, 101 PP.
- \*KEYWORDS, INTERNATIONAL, PETROLEUM, COAL, HYDROPOWER, GEOTHERMAL, NUCLEAR, SOLAR, POLICY, PHILIPPINES.
- \*NOTES, FILED.
- \*DATE, 760910

## ABSTRACT 1417

- \*TITLE, ENERGY AND AGRICULTURE IN POOR COUNTRIES.
- \*AUTHOR, LIPTON M.
- \*SOURCE, SPAN, 18(1)/17-18, 1975.
- \*KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, AFRICA, ASIA, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1418

- \*TITLE, INTERNATIONAL WORKSHOP ON ENERGY, RESOURCES AND THE ENVIRONMENT.
- \*AUTHOR, MALAYSIAN CENTER FOR DEVELOPMENT STUDIES, MITRE CORP.
- \*SOURCE, SPONSORED BY THE MALAYSIAN CENTER FOR DEV STUDIES IN ASSOC WITH THE MITRE CORP, 21-23 FEB 1975, 185 PP.
- \*KEYWORDS, INTERNATIONAL, MALAYSIA, LAND USE.
- \*NOTES, FILED.
- \*DATE, 750223

## ABSTRACT 1419

- \*TITLE, THE CONCEPT OF VILLAGE TECHNOLOGY IN EASTERN AFRICA.
- \*AUTHOR, MCDOWELL J.
- \*SOURCE, UNICEF EARO, NAIROBI, 26 AUG 1974.
- \*KEYWORDS, INTERNATIONAL, TECHNOLOGY ASSESSMENT, AFRICA.
- \*NOTES, FILED.
- \*DATE, 740826

## ABSTRACT 1420

- \*TITLE, TOTAL ENERGY AND ENERGY SUBSTITUTION.
- \*AUTHOR, NATIONAL PRODUCTIVITY COUNCIL.
- \*SOURCE, SEMINAR PROC PUBLISHED BY THE NATIONAL PRODUCTIVITY COUNCIL, NEW DELHI, INDIA, 28-30 MARCH 1973, 282 PP.
- \*KEYWORDS, INTERNATIONAL, INDIA, INDUSTRY, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 730330



- TITLE, REPORT OF THE FUEL AND POWER SECTOR.
- AUTHOR, NATIONAL COMMITTEE ON SCIENCE AND TECHNOLOGY.
- SOURCE, SUBMITTED TO THE NATIONAL COMMITTEE ON SCI AND TECH. TECHNOLOGY BHAWAN, NEW MEHRAULI ROAD, NEW DELHI 110029, 1974, 851 PP.
- KEYWORDS, INTERNATIONAL, BIBLIOGRAPHY, SOLAR, WIND, GEOTHERMAL, ELECTRICAL, COAL, TIDAL, WMD, ENERGY SOURCES, FUEL CELL, ENERGY CONSUMPTION, INDIA.
- NOTES, FILED.
- DATE, 740030

## ABSTRACT 1422

- TITLE, ENERGY NEEDS, USES AND RESOURCES IN DEVELOPING COUNTRIES.
- AUTHOR, PALMEDO P F, ET AL.
- SOURCE, POLICY ANALYSIS DIV, NAT CENTER FOR ANALYSIS OF ENERGY SYSTEMS, BROOKHAVEN NAT LAB, ASSOC UNIV, INC, UPTON, NY 11973, MARCH 1978, 143 PP.
- KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, SUPPLY DEMAND, USA.
- NOTES, FILED.
- DATE, 780300

## ABSTRACT 1423

- TITLE, ENERGY NEEDS, USES AND RESOURCES IN DEVELOPING COUNTRIES.
- AUTHOR, PALMEOS P F, NATHANS R, BEARDSWORTH E, MALE S.
- SOURCE, NTIS, US DEPT OF COMMERCE, 5285 PORT ROYAL RD, SPRINGFIELD, VA 22161, MARCH 1978, 143 PP.
- KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, ENERGY CONSUMPTION, ENERGY SOURCES.
- NOTES, FILED. REPORT IDENTIFIES THE ENERGY NEEDS, USES, AND RESOURCES IN THE DEVELOPING COUNTRIES OF THE WORLD AND EXAMINES THE ENERGY OPTIONS AVAILABLE TO THEM FOR THEIR CONTINUED SOCIAL AND ECON GROWTH.
- DATE, 780300

## ABSTRACT 1424

- TITLE, INDIA'S FUEL NEEDS AND OPTIONS.
- AUTHOR, PARIKH K S.
- SOURCE, INDIAN STATISTICAL INST, NEW DELHI, 43 PP, UNDATED.
- KEYWORDS, INTERNATIONAL, INDIA.
- NOTES, FILED.
- DATE,

## ABSTRACT 1425

- TITLE, WORLD FOOD, ENERGY, MAN AND ENVIRONMENT.
- AUTHOR, PIMENTEL D.
- SOURCE, PAPER PRESENTED AT THE ENERGY FORUM ENTITLED THE ROLE OF ELECTRIC POWER IN TOTAL ENERGY NEEDS, CORNELL UNIV, ITHACA, N Y, 14 JAN 1975.
- KEYWORDS, INTERNATIONAL, POPULATION, AGRICULTURE, IRRIGATION.
- NOTES, FILED.
- DATE, 750114

## ABSTRACT 1426

- TITLE, SONNENKRAFTWERK LANDWIRTSCHAFT.
- AUTHOR, REHRL K.
- SOURCE, PRAKTISCHE LANOTECHNIK 10, 28 JAHRGANG, 10 OCT 1975.
- KEYWORDS, INTERNATIONAL, ENERGY FLOW, GERMANY.
- NOTES, FILED.
- DATE, 751010

## ABSTRACT 1427

- TITLE, ENERGY USE IN RURAL INDIA.
- AUTHOR, REVELLE R.
- SOURCE, SCIENCE, 192/969-975, 4 JUNE 1976.
- KEYWORDS, INTERNATIONAL, HUMAN ENERGY, USA.
- NOTES, FILED.
- DATE, 760604

## ABSTRACT 1428

- \*TITLE, CHANGING RESOURCE PROBLEMS OF THE FOURTH WORLD.
- \*AUTHOR, RIDKER R G.
- \*SOURCE, WASHINGTON D C/RESOURCES FOR THE FUTURE INC, 1976, 158 PP.
- \*KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 76G000

## ABSTRACT 1429

- \*TITLE, EFFICIENT ENERGY USE AND WELL-BEING--THE SWEDISH EXAMPLE.
- \*AUTHOR, SCHIPPER L, LICHTENBERG A J.
- \*SOURCE, SCIENCE, 194(4269)/1001-1013, 3 DEC 1976.
- \*KEYWORDS, INTERNATIONAL, SWEDEN, USA, ENERGY CONSUMPTION.
- \*NOTES, FILED. SWEDES USE LESS THAN TWO-THIRDS AS MUCH ENERGY PER CAPITA AS AMERICANS, AT THE SAME STANDARD OF LIVING.
- \*DATE, 761203

## ABSTRACT 1430

- \*TITLE, ENERGY PROBLEMS FACING INDIA.
- \*AUTHOR, SEMGAL N K.
- \*SOURCE, ENERGY REVIEW, NATURE VOL 259, 21 JUNE 1974.
- \*KEYWORDS, INTERNATIONAL, INDIA.
- \*NOTES, FILED. 465-R MODEL TOWN, JULLUNDUR 144003, PUNJAB, INDIA.
- \*DATE, 740621

## ABSTRACT 1431

- \*TITLE, RELATIONS BETWEEN FARM MECHANIZATION AND CROP YIELD FOR A FARMING DISTRICT IN INDIA.
- \*AUTHOR, SINGH G, CHANCELLOR W J.
- \*SOURCE, TRANSACTIONS OF THE ASAE, 1974, PP 808-813.
- \*KEYWORDS, INTERNATIONAL, MECHANIZATION, INDIA.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 1432

- \*TITLE, CHANGES IN ENERGY USE PATTERNS FROM 1971 TO 1974 ON THE SELECTED FARMS IN A FARMING DISTRICT IN NORTHERN INDIA.
- \*AUTHOR, SINGH G, CHANCELLOR W J.
- \*SOURCE, AGR MECHANIZATION IN ASIA, WINTER 1975, PP 21-24.
- \*KEYWORDS, INTERNATIONAL, INDIA.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1433

- \*TITLE, ENERGY INPUTS AND AGRICULTURAL PRODUCTION UNDER VARIOUS REGIMES OF MECHANIZATION IN NORTHERN INDIA.
- \*AUTHOR, SINGH G, CHANCELLOR W J.
- \*SOURCE, ASAE PAPER 74-5038.
- \*KEYWORDS, INTERNATIONAL, AGRICULTURE, MECHANIZATION, INDIA.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 1434

- \*TITLE, ENERGY AND RESOURCES.
- \*AUTHOR, SORENSEN B.
- \*SOURCE, SCIENCE, 189(4199)/255-260, 25 JULY 1975.
- \*KEYWORDS, INTERNATIONAL, DENMARK, ENERGY SOURCES, SOLAR, WIND, POLICY, ECONOMICS, REQUIREMENTS.
- \*NOTES, FILED.
- \*DATE, 750725

## ABSTRACT 1435

- \*TITLE, ENERGY AND MINERAL RESOURCES (SAHEL-SUDAN ZONES).
- \*AUTHOR, SOUSSOU J E.
- \*SOURCE, MIT CENTER FOR POLICY ALTERNATIVES, CAMBRIDGE, MASS, 20 SEPT 1974, 97 PP.
- \*KEYWORDS, INTERNATIONAL, AFRICA.
- \*NOTES, AID.
- \*DATE, 740920

## ABSTRACT 1436

\*TITLE, AN OVERVIEW OF ENERGY IN DEVELOPING COUNTRIES.  
 \*AUTHOR, STOUT B A, MYERS C A.  
 \*SOURCE, ASAE PAPER 77-5527, 1977, 17 PP.  
 \*KEYWORDS, INTERNATIONAL, AGRICULTURE, USA, FRANCE, SENEGAL,  
 ENERGY FLOW, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1437

\*TITLE, ENERGY AND THE LESS DEVELOPED COUNTRIES - NEED FOR ADDITIONAL RESEARCH.  
 \*AUTHOR, STROUT A.  
 \*SOURCE, CHANGING RESOURCE PROBLEMS OF THE FOURTH WORLD, WASHINGTON D C/  
 RESOURCES FOR THE FUTURE INC, 1976, PP 124-158.  
 \*KEYWORDS, INTERNATIONAL, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 1438

\*TITLE, POWER FOR REMOTE AREAS.  
 \*AUTHOR, TABOR H Z.  
 \*SOURCE, INTERNATIONAL SCI AND TECH, MAY 1967, PP 52-59.  
 \*KEYWORDS, INTERNATIONAL.  
 \*NOTES, NAS.  
 \*DATE, 670500

## ABSTRACT 1439

\*TITLE, UNUSED RESOURCES IN AGRICULTURE.  
 \*AUTHOR, TAKEDA S. ET AL.  
 \*SOURCE, SOC OF AGR MACHINERY, TOKYO UNIV, BUNKYO, TOKYO, JAPAN,  
 SEPT 1977, 44 PP.  
 \*KEYWORDS, INTERNATIONAL, AGRICULTURE, COOLING, HEAT, WASTES, SOLAR.  
 \*NOTES, FILED.  
 \*DATE, 770900

## ABSTRACT 1440

\*TITLE, THE ROLE OF ENERGY IN UNDERDEVELOPED AREAS.  
 \*AUTHOR, THACKER M S.  
 \*SOURCE, UNESCO DISCUSSION THEME, ENERGY IN THE SERVICE OF MAN, 1951.  
 \*KEYWORDS, INTERNATIONAL.  
 \*NOTES,  
 \*DATE, 510000

## ABSTRACT 1441

\*TITLE, ENERGY RESEARCH IN AGRICULTURE CANADA - A 1978 REVIEW.  
 \*AUTHOR, TIMBERS G E, MUNROE J A, JACKSON H A.  
 \*SOURCE, ASAE PAPER NA 78-012, 1978, 16 PP.  
 \*KEYWORDS, INTERNATIONAL, AGRICULTURE, CONSERVATION, DRYING, SOLAR,  
 ORGANIC, GREENHOUSE, WIND, CANADA.  
 \*NOTES, FILED. AGRICULTURE CANADA HAS A CONTRACT RESEARCH PROGRAM WHICH  
 COVERS SEVERAL AREAS OF ENERGY RESEARCH. THESE INCLUDE DATA BASE  
 STUDIES ON ENERGY USE IN THE CANADIAN FARM SECTOR, WORK ON RENEWABLE  
 ENERGY RESOURCES INCLUDING BIOMASS STUDIES AND SOLAR APPLICATIONS,  
 A PROGRAM ON SOLAR ADAPTED GREENHOUSES IS BEING EXPANDED, AND A LIMITED  
 FEASIBILITY STUDY FOR THE APPLICATION OF WIND ENERGY IS BEING CONTRACTED.  
 \*DATE, 780000

## ABSTRACT 1442

\*TITLE, INTERACTION OF ENERGY AND FOOD PRICES IN LESS DEVELOPED COUNTRIES.  
 \*AUTHOR, TIMMER C P.  
 \*SOURCE, AMER J AGR ECON, 57(2)/219-224, MAY 1975.  
 \*KEYWORDS, INTERNATIONAL, ECONOMICS, INDIA.  
 \*NOTES, AID.  
 \*DATE, 750500

## ABSTRACT 1443

- \*TITLE, APPRAISAL OF CURRENT ENERGY SITUATION AND FUTURE PROSPECTS IN AFRICA.
- \*AUTHOR, UN-ECONOMIC AND SOCIAL COUNCIL.
- \*SOURCE, UNITED NATIONS ECON AND SOCIAL COUNCIL, ECON COMMISSION FOR AFRICA, SECOND AFRICAN MEETING ON ENERGY, ACCRA, GHANA, 1-12 MARCH 1976, 22 PP.
- \*KEYWORDS, INTERNATIONAL, AFRICA, ENERGY SOURCES, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 760301

## ABSTRACT 1444

- \*TITLE, INCREASED ENERGY ECONOMY AND EFFICIENCY IN THE ECE REGION.
- \*AUTHOR, UN-ECONOMIC COMMISSION FOR EUROPE.
- \*SOURCE, E/ECE/883/REV1, UN, NY, 1976, 101 PP.
- \*KEYWORDS, INTERNATIONAL, ECONOMICS, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1445

- \*TITLE, PROCEEDINGS OF THE SECOND SESSION OF THE COMMITTEE ON NATURAL RESOURCES.
- \*AUTHOR, UN-ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC.
- \*SOURCE, ENERGY RESOURCES DEV SERIES 15, SALES NO-E/76/II/F/11, UN, NY, 1976, 111 PP.
- \*KEYWORDS, INTERNATIONAL, ELECTRICAL, ENERGY SOURCES, ECONOMICS, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 1446

- \*TITLE, PROCEEDINGS OF THE TWELFTH SESSION OF THE SUB-COMMITTEE ON ENERGY RESOURCES AND ELECTRIC POWER.
- \*AUTHOR, UN-ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC.
- \*SOURCE, ENERGY RESOURCES DEV SERIES 11, SALES NO E/74/II/F/14, UN, NY, 1974, 316 PP.
- \*KEYWORDS, INTERNATIONAL, ELECTRICAL, NUCLEAR, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 1447

- \*TITLE, THE ROLE OF ENERGY IN THE DEVELOPMENT OF HUMAN SETTLEMENTS IN AFRICA.
- \*AUTHOR, UN-EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION.
- \*SOURCE, UNESCO, ECON COMMISSION FOR AFRICA, AFRICA REGIONAL CONF ON HUMAN SETTLEMENTS, CAIRO, EGYPT, 21-26 JUNE 1975, 15 PP.
- \*KEYWORDS, INTERNATIONAL, AFRICA.
- \*NOTES, FILED.
- \*DATE, 750621

## ABSTRACT 1448

- \*TITLE, THE USE OF ENERGY IN EUROPEAN AGRICULTURE.
- \*AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.
- \*SOURCE, ECA/20/76(5), TWENTIETH SESSION, EUROPEAN COMMISSION ON AGR, UN FAO, ROME, ITALY, 17-23 JUNE 1976, 10 PP.
- \*KEYWORDS, INTERNATIONAL, POLICY.
- \*NOTES, FILED.
- \*DATE, 760617

## ABSTRACT 1449

- \*TITLE, ENERGY - AN INTERNATIONAL APPROACH.
- \*AUTHOR, UN-INSTITUTE FOR TRAINING AND RESEARCH.
- \*SOURCE, TECH AND DEV, UNITAR NEWS, 6(4)/35-44, 1974.
- \*KEYWORDS, INTERNATIONAL, DEVELOPING COUNTRIES, ENVIRONMENT, ECONOMICS, ENERGY SOURCES, RESOURCES.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 1450

- \*TITLE, A HUNGRY WORLD - THE CHALLENGE TO AGRICULTURE.
- \*AUTHOR, UNIVERSITY OF CALIFORNIA.
- \*SOURCE, FOOD TASK FORCE, DIV OF AGR SCI, UNIV OF CALIF, JULY 1974.
- \*KEYWORDS, INTERNATIONAL, ENERGY CONSUMPTION, LAND USE, SUPPLY DEMAND, PETROLEUM, COAL, FOSSIL FUELS, GEOTHERMAL, POPULATION, ANIMAL, ENVIRONMENT, SOCIAL IMPLICATIONS, HISTORICAL.
- \*NOTES, FILED.
- \*DATE, 740700



- \*TITLE, CHINA - ROLE OF SMALL PLANTS IN ECONOMIC DEVELOPMENT.
- \*AUTHOR, US-CENTRAL INTELLIGENCE AGENCY.
- \*SOURCE, DOCUMENT EXPEDITING PROJECT, EXCHANGE AND GIFT DIV, LIBRARY OF CONGRESS, WASHINGTON DC 20540, MAY 1974, 18 PP.
- \*KEYWORDS, INTERNATIONAL, CHINA, ECONOMICS, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 740500

## ABSTRACT 1452

- \*TITLE, THE INTERNATIONAL ENERGY SITUATION--OUTLOOK TO 1985.
- \*AUTHOR, US-CENTRAL INTELLIGENCE AGENCY.
- \*SOURCE, STOCK NO 041-015-00084-5, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, APRIL 1977, 18 PP.
- \*KEYWORDS, INTERNATIONAL, SUPPLY DEMAND.
- \*NOTES, FILED. AN EXAMINATION OF WORLD OIL DEMAND AND SUPPLY BETWEEN NOV AND 1985. ESTIMATED TOTAL ENERGY DEMAND FOR MAJOR CONSUMING COUNTRIES IS GIVEN BASED ON RATES OF ECONOMIC GROWTH AND THE EFFECTS OF CONSERVATION. PREDICTED ENERGY PRODUCTION IS COMPARED.
- \*DATE, 770400

## ABSTRACT 1453

- \*TITLE, ENERGY AND WORLD AGRICULTURE.
- \*AUTHOR, US-DEPARTMENT OF AGRICULTURE.
- \*SOURCE, FOREIGN AGR, USDA, 8 APRIL 1974.
- \*KEYWORDS, INTERNATIONAL, AGRICULTURE, PETROLEUM, ECONOMICS, FERTILIZER, TRANSPORTATION.
- \*NOTES, FILED.
- \*DATE, 74040E

## ABSTRACT 1454

- \*TITLE, EXPECTED DEVELOPMENTS OF THE POWER-LABOR RATIO IN AGRICULTURE THROUGH INTERCOUNTRY COMPARISON.
- \*AUTHOR, WEBER A.
- \*SOURCE, INST FUR AGRARPOLITICK UND MARKTLEHRE DER CHRISTIAN - ALBRECHTS-UNIV, 23 KIEL, HOLZKOPPELWEG 14, FEDERAL REPUBLIC OF GERMANY, 7 PP, UNDATED.
- \*KEYWORDS, INTERNATIONAL, AGRICULTURE, PRODUCTION, MODELS, POLICY, LABOR.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1455

- \*TITLE, SOME ASPECTS OF ENERGY RESOURCE DEVELOPMENT IN INDONESIA TO THE YEAR 2000.
- \*AUTHOR, WIJARSO.
- \*SOURCE, 1975, 12 PAGE DOCUMENT.
- \*KEYWORDS, INTERNATIONAL, INDONESIA.
- \*NOTES, AID.
- \*DATE, 750000

## ABSTRACT 1456

- \*TITLE, SYSTEMS AND ENERGY IN TROPICAL FARMING.
- \*AUTHOR, WIJEWARDENE R.
- \*SOURCE, ASAE PAPER 78-1511, 1978, 14 PP.
- \*KEYWORDS, INTERNATIONAL, AGRICULTURE, ENVIRONMENT, TILLAGE.
- \*NOTES, FILED. A SYSTEMS APPROACH IS TAKEN TO ANALYSING AND RESOLVING PRIME CONSTRAINTS TO SMALL FARMER PRODUCTIVITY IN THE HUMID TROPICS. APPROPRIATE TOOLS ARE DEVELOPED TO COMPLEMENT THE SYSTEMS EVOLVED AND THEIR PERFORMANCE IS ASSESSED AT THE HANDS OF FARMERS.
- \*DATE, 780000

## IRRIGATION 1457 -- 1505

## ABSTRACT 1457

- \*TITLE, FACTORS AFFECTING THE EFFICIENCY OF NATURAL GAS POWERED PUMPING PLANTS.
- \*AUTHOR, ABERNATHY G H, COOK H D.
- \*SOURCE, ASAE PAPER 77-2017, 1977, 9PP.
- \*KEYWORDS, IRRIGATION, PUMPS, NATURAL GAS, EFFICIENCY.
- \*NOTES, FILED. THE RESULTS OF AN ON-FARM PUMPING PLANT TESTING PROGRAM HAS SHOWN THE EFFICIENCY OF NATURAL GAS ENGINES.
- \*DATE, 770000

- \*TITLE, CAN SUNSHINE POWER THE IRRIGATION PUMP.
- \*AUTHOR, ABERNATHY G H, MANCINI T R.
- \*SOURCE, AGR ENGR, 58(10)/39-40, OCT 1977.
- \*KEYWORDS, IRRIGATION, SOLAR.
- \*NOTES, FILED. ASPECTS OF AN EXPERIMENTAL SOLAR POWERED PUMPING PLANT ARE PRESENTED.
- \*DATE, 771000

## ABSTRACT 1459

- \*TITLE, DESIGN AND INSTALLATION OF A SOLAR-POWERED IRRIGATION PUMP.
- \*AUTHOR, ABERNATHY G H, MANCINI T R.
- \*SOURCE, ASAE PAPER 77-4020, 1977, 7PP.
- \*KEYWORDS, IRRIGATION, SOLAR, PUMPS.
- \*NOTES, FILED. A 25 HP IRRIGATION PUMP DRIVEN BY SOLAR ENERGY HAS BEEN DESIGNED, INSTALLED AND OPERATION BEGUN.
- \*DATE, 770000

## ABSTRACT 1460

- \*TITLE, ELECTRIC WATER PUMPS ON THE FARM.
- \*AUTHOR, ALTMAN L B.
- \*SOURCE, USDA LEAFLET NO 436, JAN 1972, 3 PP.
- \*KEYWORDS, IRRIGATION, PUMPS.
- \*NOTES, FILED.
- \*DATE, 720100

## ABSTRACT 1461

- \*TITLE, SCHEDULING IRRIGATION BY TEMPERATURE TO MANAGE ELECTRIC LOADS.
- \*AUTHOR, ANSCHUTZ J A, LIPPER R.
- \*SOURCE, ASAE PAPER 77-3045, 1977, 8PP.
- \*KEYWORDS, IRRIGATION, ELECTRICAL, EFFICIENCY.
- \*NOTES, FILED. THREE SINGLE TOWER CENTER-PIVOT IRRIGATION SYSTEMS WERE SCHEDULED (TWO BY A SINGLE THERMCSTAT AND THE OTHER MANUALLY) TO DETERMINE EFFECTS TEMPERATURE CONTROL WOULD HAVE ON PEAK ELECTRICAL DEMANDS AND CROP YIELDS.
- \*DATE, 770000

## ABSTRACT 1462

- \*TITLE, SCHEDULING IRRIGATION FOR ELECTRIC LOAD MANAGEMENT.
- \*AUTHOR, ANSCHUTZ J A.
- \*SOURCE, DEPT OF AGR ENGR, KANSAS STATE UNIV, MANHATTAN, KS, 1978, 7 PP.
- \*KEYWORDS, IRRIGATION, ELECTRICAL.
- \*NOTES, FILED. IN THE REPORT OF THE 53RD ANNUAL MEETING OF THE KANSAS COMMITTEE ON THE RELATION OF ELECTRICITY TO AGRICULTURE.
- \*DATE, 780000

## ABSTRACT 1463

- \*TITLE, EXPERIENCES WITH IRRIGATION SCHEDULING FOR ELECTRIC LOAD.
- \*AUTHOR, ANSCHUTZ J A, GINTHER C, LIPPER R I.
- \*SOURCE, ASAE PAPER 78-501, 1978, 9 PP.
- \*KEYWORDS, IRRIGATION, ELECTRICAL.
- \*NOTES, FILED. IN THE REPORT OF THE FIFTY-THIRD ANNUAL MEETING OF THE KANSAS COMMITTEE ON THE RELATION OF ELECTRICITY OF AGRICULTURE.
- \*DATE, 780000

## ABSTRACT 1464

- \*TITLE, IMPACTS OF INCREASING ENERGY SCARCITY IN IRRIGATED AGRICULTURE - AN EMPIRICAL STUDY FROM THE ARID SOUTHWEST.
- \*AUTHOR, AYER H W, CORMIER D J.
- \*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ENERGY USE MANAGEMENT VOL I, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 709-718.
- \*KEYWORDS, IRRIGATION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 771024

- \*TITLE, ENERGY INPUTS TO IRRIGATION.
- \*AUTHOR, BATTY J C, HAMEO S H, KELLER J.
- \*SOURCE, J IRRIGATION AND DRAINAGE DIV, ASAE, 131(IR4)/293-307, 1975.
- \*KEYWORDS, IRRIGATION.
- \*NOTES,
- \*DATE, 750000

## ABSTRACT 1466

- \*TITLE, MINIMUM ENERGY DESIGNS FOR SELECTED IRRIGATION SYSTEMS.
- \*AUTHOR, CHEN K L, WOLFE J W, WENSINK R B, KIZER M A.
- \*SOURCE, ASAE PAPER 76-2037, 22 PP.
- \*KEYWORDS, IRRIGATION, MODELS, REQUIREMENTS.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1467

- \*TITLE, A MODEL TO PREDICT TOTAL ENERGY REQUIREMENTS AND ECONOMIC COSTS OF IRRIGATION SYSTEMS.
- \*AUTHOR, CHEN K L, WENSINK R B, WOLFE J W.
- \*SOURCE, ASAE PAPER 76-2527, 1976.
- \*KEYWORDS, IRRIGATION, MODELS, ECONOMICS.
- \*NOTES,
- \*DATE, 760000

## ABSTRACT 1468

- \*TITLE, MODELING ENERGY SUPPLIES FOR IRRIGATION.
- \*AUTHOR, CLARK S J.
- \*SOURCE, AGR ENGR DEPT, KANSAS STATE UNIV, MANHATTAN, KS, 1978, 12 PP.
- \*KEYWORDS, IRRIGATION, MODELS.
- \*NOTES, FILED. IN THE REPORT OF THE 53RD ANNUAL MEETING OF THE KANSAS COMMITTEE ON THE RELATION OF ELECTRICITY TO AGRICULTURE.
- \*DATE, 780000

## ABSTRACT 1469

- \*TITLE, ENERGY AND WATER IN CALIFORNIA - HIGHLIGHTS OF A STUDY BY U.C. WATER SCIENTISTS.
- \*AUTHOR, COPPOCK R, DSTERLI V P.
- \*SOURCE, NO 29, WATER RESOURCES CENTER, UNIV OF CALIF, DAVIS, JAN-FEB 1976, 11 PP.
- \*KEYWORDS, IRRIGATION, CALIFORNIA.
- \*NOTES, FILED.
- \*DATE, 760100

## ABSTRACT 1470

- \*TITLE, IRRIGATION ENERGY REQUIREMENTS IN THE 17 WESTERN STATES.
- \*AUTHOR, DVOSKIN D, NICOL K, HEADY E O.
- \*SOURCE, CENTER FOR AGR AND RURAL DEV, IOWA STATE UNIV, MAY 1975, 15 PP.
- \*KEYWORDS, IRRIGATION, REQUIREMENTS.
- \*NOTES, FILED.
- \*DATE, 750500

## ABSTRACT 1471

- \*TITLE, ENERGY REQUIREMENTS OF IRRIGATED CROPS IN THE WESTERN UNITED STATES.
- \*AUTHOR, DVOSKIN D, HEADY E O.
- \*SOURCE, CENTER FOR AGR AND RURAL DEVELOPMENT, IOWA STATE UNIV, AMES, NOV 1976, 33 PP.
- \*KEYWORDS, IRRIGATION, USA, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 761100

## ABSTRACT 1472

- \*TITLE, WHEN IRRIGATING, HERES HOW TO SAVE WATER AND ENERGY.
- \*AUTHOR, FISCHBACH P E, SOMERHALDER B R.
- \*SOURCE, FARM AND POWER EQUIPMENT, MARCH 1975, PP 22-24.
- \*KEYWORDS, IRRIGATION, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 750300

- \*TITLE, COMPARISON OF ENERGY REQUIRED FOR PUMPING IRRIGATION WATER AND FOR OPERATING THE IRRIGATION SYSTEM.
- \*AUTHOR, FISCHBACH P E.
- \*SOURCE, NEBRASKA IRRIGATION SHORT COURSE, UNIV OF NEBRASKA CENTER FOR CONTINUING EDUCATION, 33RD AND HOLDREGE STREETS, LINCOLN, NE, 24-25 JAN 1977, PP 63-67.
- \*KEYWORDS, IRRIGATION, LABOR, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 770124

## ABSTRACT 1474

- \*TITLE, IRRIGATION MANAGEMENT TO SAVE WATER AND ENERGY.
- \*AUTHOR, FISCHBACH P E, SOMERHALDER B R.
- \*SOURCE, 1974 ANNUAL TECH CONF PROC, SPRINKLER IRRIGATION ASSOC, 13975 CONNECTICUT AVE, SUITE 310, SILVER SPRING, MD 20906, 1974, PP 41-47.
- \*KEYWORDS, IRRIGATION, DESIGN, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 1475

- \*TITLE, SCHEDULING IRRIGATIONS HELPS CONSERVE WATER AND ENERGY.
- \*AUTHOR, FISCHBACH P E, THOMPSON T L.
- \*SOURCE, PAPER PREPARED FOR IRRIGATION SHORT COURSE, AGR ENGR DEPT, UNIV OF NEBR, LINCOLN, NE, JAN 1977, PP 94-102.
- \*KEYWORDS, IRRIGATION, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1476

- \*TITLE, HOW TO GET HIGH EFFICIENCY WITH SURFACE IRRIGATION WATER AND ENERGY.
- \*AUTHOR, FISCHBACH P E, WATTS D G.
- \*SOURCE, PAPER PREPARED FOR IRRIGATION SHORT COURSE, AGR ENGR DEPT, UNIV OF NEBR, LINCOLN, NE, JAN 1977, PP. 39-50.
- \*KEYWORDS, IRRIGATION, TECHNOLOGY ASSESSMENT, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 770100

## ABSTRACT 1477

- \*TITLE, ENERGY REDUCTION THROUGH IMPROVED IRRIGATION PRACTICES.
- \*AUTHOR, GILLEY J R, WATTS D G.
- \*SOURCE, PRESENTED AT THE ENERGY AND AGR CONF, ST LOUIS, 16-19 JUNE 1976, 26 PP.
- \*KEYWORDS, IRRIGATION, FERTILIZER, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760616

## ABSTRACT 1478

- \*TITLE, ENERGY ECONOMICS IN PIPE AND SYSTEM SELECTION.
- \*AUTHOR, KELLER J.
- \*SOURCE, 1976 ANNUAL TECH CONF PROC, SPRINKLER IRRIGATION ASSOC, 13975 CONNECTICUT AVE, SILVER SPRING, MD 20906, 1976, PP 134-145.
- \*KEYWORDS, IRRIGATION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1479

- \*TITLE, A COMPARISON OF MINIMUM ENERGY DESIGNS TO MINIMUM ECONOMIC DESIGNS FOR FARM IRRIGATION SUPPLY LINES.
- \*AUTHOR, KIZER M A, WENSINK R B, VOLFE J W.
- \*SOURCE, PROC OF THE 1976 CONF ON ENERGY AND AGRICULTURE, ST LOUIS, MISSOURI, 16-19 JUNE 1976, 20 PP.
- \*KEYWORDS, IRRIGATION, DESIGN, MODELS.
- \*NOTES, FILED.
- \*DATE, 760616



\*TITLE, IMPACT OF NATURAL GAS ON IRRIGATED AGRICULTURE.  
 \*AUTHOR, LACEWELL R D, CONDRA G D, FISH B.  
 \*SOURCE, TECH ARTICLE 12396, TEXAS AGR EXPT STA, TEXAS A AND M UNIV, COLLEGE STATION, 22 PP, UNDATED.  
 \*KEYWORDS, IRRIGATION, AGRICULTURE, NATURAL GAS, TEXAS.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 1481

\*TITLE, SOLAR ENERGY FOR IRRIGATION PUMPING.  
 \*AUTHOR, LARSON D L.  
 \*SOURCE, ASAE PAPER 77-4021, 1977, 14PP.  
 \*KEYWORDS, IRRIGATION, PUMPS, SOLAR.  
 \*NOTES, FILED. ON-FARM SOLAR POWER PLANTS COULD BE USED INDEPENDENTLY OR IN CONJUNCTION WITH SUPPLEMENTARY ENERGY SOURCES TO DRIVE IRRIGATION PUMPS. INDEPENDENT SOLAR POWER PLANT CAPACITY PROBABLY WILL NOT BE FULLY UTILIZED. SOME METHODS FOR USING THE SOLAR ENERGY EFFECTIVELY AND ECONOMICALLY ARE IN THIS PAPER.  
 \*DATE, 770000

## ABSTRACT 1482

\*TITLE, ENERGY IN IRRIGATED CROP PRODUCTION.  
 \*AUTHOR, LARSON D L, FANGMEIER D D.  
 \*SOURCE, PAPER 2791, ARIZONA AGR EXPT STA, UNIV OF ARIZONA, TUCSON, AZ 85721, 25 PP.  
 \*KEYWORDS, IRRIGATION, ENERGY CONSUMPTION.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 1483

\*TITLE, UTILIZATION OF AN ON-FARM SOLAR POWERED PUMPING PLANT.  
 \*AUTHOR, LARSON D L.  
 \*SOURCE, SERIES 2901, ARIZONA AGR EXPT STA J, 1978, 18 PP.  
 \*KEYWORDS, IRRIGATION, PUMPS, SOLAR, STORAGE, ECONOMICS.  
 \*NOTES, FILED. THIS PAPER COMPARES THE USE OF WATER STORAGE AND SOLAR SUPPLEMENTED SYSTEMS WITH A SOLAR POWER PLANT SIZED TO MEET PEAK PUMPING REQUIREMENTS. THE SMALLER PLANTS ARE FOUND TO HAVE HIGHER OUTPUT UTILIZATION AND IN SOME CASES BE MORE ECONOMICAL THAN THE PLANT SIZED TO MEET PEAK DEMAND.  
 \*DATE, 780000

## ABSTRACT 1484

\*TITLE, EVALUATION OF SOLAR ENERGY FOR IRRIGATION PUMPING.  
 \*AUTHOR, LARSON D L, SANDS C D, TOWLE C, FANGMEIER D D.  
 \*SOURCE, TRANSACTIONS OF THE ASAE, 21(1)/110-115, 118, 1978.  
 \*KEYWORDS, IRRIGATION, SOLAR, PUMPS, ECONOMICS.  
 \*NOTES, FILED. THE TECHNICAL AND ECONOMIC FEASIBILITY OF USING SOLAR ENERGY TO DRIVE IRRIGATION PUMPS HAVE BEEN STUDIED TO DETERMINE THE CONDITIONS REQUIRED FOR SERVICEABLE, COMPETITIVE USE OF SOLAR SYSTEMS. SOLAR POWER PLANT COMPONENT DEVELOPMENT, CHANGES IN IRRIGATION AND PUMPING PRACTICES, INVESTMENT INCENTIVES AND HIGHER FUEL PRICES MAY ALL BE REQUIRED FOR ECONOMICAL USE OF SOLAR ENERGY.  
 \*DATE, 780000

## ABSTRACT 1485

\*TITLE, NOTES ON CONSERVING ENERGY IN IRRIGATION.  
 \*AUTHOR, LEA D M.  
 \*SOURCE, WORKING PAPER NO 13, NRE ECON RESEARCH SERVICE, USDA, MAY 1976, 6 PP.  
 \*KEYWORDS, IRRIGATION.  
 \*NOTES, FILED.  
 \*DATE, 760500

## ABSTRACT 1486

\*TITLE, PRELIMINARY ECONOMIC ANALYSIS OF SOLAR IRRIGATION SYSTEMS (SIS) FOR SELECTED LOCATIONS.  
 \*AUTHOR, LUKENS L L, PERINS A M, VANDEVENDER S G.  
 \*SOURCE, SAND77-1403, SANDIA LABORATORIES, ALBUQUERQUE, NM 87115, NOV 1977, 53 PP.  
 \*KEYWORDS, IRRIGATION, SOLAR, ECONOMICS, EFFICIENCY.  
 \*NOTES, FILED. THIS PAPER DESCRIBES A PRELIMINARY ANALYSIS OF THE ECONOMIC FEASIBILITY OF STAND-ALONE SOLAR IRRIGATION SYSTEMS FOR CERTAIN APPLICATIONS IN VARIOUS LOCATIONS. THE ECONOMIC FEASIBILITY WAS DETERMINED BY COMPARING THE LIFE CYCLE COST (LCC) OF THE SOLAR SYSTEM TO THE LCC OF CONVENTIONAL SYSTEMS.  
 \*DATE, 771100

## ABSTRACT 1487

- \*TITLE, SAVE ENERGY WITH AN EFFICIENT WELL AND PUMPING PLANT
- \*AUTHOR, MANBECK D M.
- \*SOURCE, PAPER PREPARED FOR IRRIGATION SHORT COURSES, AGR ENGR DEPT, UNIV OF NEBR, LINCOLN, NE, JAN 1975, PP 55-61.
- \*KEYWORDS, IRRIGATION, PUMPS, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 750105

## ABSTRACT 1488

- \*TITLE, FITTING TRAVELING GUNS INTO THE ENERGY PUZZLE OR WATER TECHNIQUES CAN INCREASE YOUR YIELD.
- \*AUTHOR, MCINTOSH J P.
- \*SOURCE, 1976 ANNUAL TECH CONF PROC, SPRINKLER IRRIGATION ASSOC, 13975 CONNECTICUT AVE, SILVER SPRING, MD 20906, 1976, PP 163-166.
- \*KEYWORDS, IRRIGATION, CONSERVATION, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1489

- \*TITLE, FOOD PRODUCTION AND WORLD ENERGY SUPPLIES.
- \*AUTHOR, PIMENTEL D.
- \*SOURCE, 1974 ANNUAL TECH CONF PROC, SPRINKLER IRRIGATION ASSOC, 13975 CONNECTICUT AVE, SUITE 310, SILVER SPRING, MD 20906, 1974, PP 1-10.
- \*KEYWORDS, IRRIGATION, WORLD WIDE, POPULATION, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 1490

- \*TITLE, IRRIGATION EFFICIENCIES IN PRODUCING CALORIES AND PROTEINS - AN ANNOTATED BIBLIOGRAPHY.
- \*AUTHOR, RADA E L, BERQUIST R J.
- \*SOURCE, REPORT NO 31, CALIF WATER RESOURCES CENTER, UNIV OF CALIF, DAVIS, FEB 1975, 50 PP.
- \*KEYWORDS, IRRIGATION, BIBLIOGRAPHY, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 750200

## ABSTRACT 1491

- \*TITLE, IRRIGATION AND THE ENERGY ECONOMICS OF WATER MANAGEMENT FOR HYDROLOGIC BASINS.
- \*AUTHOR, RAWLINS S L.
- \*SOURCE, US SALINITY LAB PUBL 587, PO BOX 672, RIVERSIDE, CALIF, JUNE 1976, 16 PP.
- \*KEYWORDS, IRRIGATION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 1492

- \*TITLE, MODELING ENERGY USE IN IRRIGATION.
- \*AUTHOR, SCHMIOT G M, CLARK S J, WHITMER L.
- \*SOURCE, ASAE PAPER 78-2552, 1978, 7 PP.
- \*KEYWORDS, IRRIGATION, MODELS.
- \*NOTES, FILED. AN ANALYTICAL METHOD WAS APPLIED TO A STUDY OF IRRIGATION IN KANSAS WITH THE AID OF THE DIGITAL COMPUTER. CONSUMPTION OF FUEL AND WATER WAS CALCULATED FOR 1975, AND THE EFFECTS OF CHANGES IN DATA INPUTS WERE ANALYZED.
- \*DATE, 780000

## ABSTRACT 1493

- \*TITLE, ENERGY USED FOR PUMPING IRRIGATION WATER IN THE UNITED STATES, 1974.
- \*AUTHOR, SLOGGETT S.
- \*SOURCE, UNPUBLISHED, OKLAHOMA STATE UNIV, STILLWATER, 1974, 25 PP.
- \*KEYWORDS, IRRIGATION, USA, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 740000

\*TITLE, ENERGY AND US AGRICULTURE - IRRIGATION PUMPING, 1974.  
 \*AUTHOR, SLOGGETT G.  
 \*SOURCE, AGR ECON REPORT 376, ECON RESEARCH SERVICE, USOA,  
 WASHINGTON DC 20250, SEPT 1977, 39 PP.  
 \*KEYWORDS, IRRIGATION, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 770900

## ABSTRACT 1495

\*TITLE, YES, OUR LIVES DEPEND ON WATER AND ENERGY CONSERVATION.  
 \*AUTHOR, SMERDON E T.  
 \*SOURCE, FARM AND POWER EQUIPMENT, MARCH 1975, PP 25-27.  
 \*KEYWORDS, IRRIGATION, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 750300

## ABSTRACT 1496

\*TITLE, ENERGY CONSERVATION PRACTICES IN IRRIGATED AGRICULTURE.  
 \*AUTHOR, SMERDON E T.  
 \*SOURCE, 1974 ANNUAL TECH CONF PROC, SPRINKLER IRRIGATION ASSOC,  
 13975 CONN AVE, SUITE 310, SILVER SPRING, MD  
 20906, 1974, PP 11-15.  
 \*KEYWORDS, IRRIGATION, CONSERVATION.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1497

\*TITLE, URBAN OPEN SPACE PLANNING AND ENERGY CONSERVATION.  
 \*AUTHOR, SMITH G L.  
 \*SOURCE, 1974 ANNUAL TECH CONF PROC, SPRINKLER IRRIGATION ASSOC,  
 13975 CONN AVE, SUITE 310, SILVER SPRING, MD  
 20906, 1974, PP 91-94.  
 \*KEYWORDS, IRRIGATION, CONSERVATION, LAND USE.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1498

\*TITLE, CENTER-PIVOT IRRIGATION.  
 \*AUTHOR, SPLINTER W E.  
 \*SOURCE, SCIENTIFIC AMER, 234(6)/90-99, JUNE 1976.  
 \*KEYWORDS, IRRIGATION.  
 \*NOTES, FILED.  
 \*DATE, 760600

## ABSTRACT 1499

\*TITLE, ENERGY OPTIONS FOR THE IRRIGATOR.  
 \*AUTHOR, SPLINTER W E.  
 \*SOURCE, IRRIGATION AGE, 11(5)/50-56, FEB 1977.  
 \*KEYWORDS, IRRIGATION, FUEL CONSUMPTION, WIND, NUCLEAR, WASTES.  
 \*NOTES, FILED.  
 \*DATE, 770200

## ABSTRACT 1500

\*TITLE, FORECAST - SUNNY, DRY . . . WITH RAIN.  
 \*AUTHOR, STOUT E.  
 \*SOURCE, FARM AND POWER EQUIPMENT, MARCH 1975, PP 28-30.  
 \*KEYWORDS, IRRIGATION.  
 \*NOTES, FILED.  
 \*DATE, 750300

## ABSTRACT 1501

\*TITLE, ENERGY EFFICIENT IRRIGATION PRACTICES IN IOAHO.  
 \*AUTHOR, STROH R C, WELLS R O, BUSCH J R.  
 \*SOURCE, ASAE PAPER 78-2553, 1978, 19 PP.  
 \*KEYWORDS, IRRIGATION, PUMPS, IOAHO, EFFICIENCY.  
 \*NOTES, FILED. THE METHOD AND ORGANIZATION OF A FIRST YEAR PROGRAM  
 INVESTIGATING ENERGY USE IN IOAHO AGRICULTURE INVOLVING PUMPS IS  
 DESCRIBED. RESULTS OF PUMP EFFICIENCY, NOZZLE WEAR, AND DISTRIBUTION  
 SYSTEM INVESTIGATIONS ARE PRESENTED.  
 \*DATE, 780000

- \*TITLE, ECONOMICS OF WIND ENERGY USE FOR IRRIGATION IN INDIA.
- \*AUTHOR, TEWARI S K.
- \*SOURCE, SCIENCE, 202/481-486, 3 NOV 1978.
- \*KEYWORDS, IRRIGATION, WIND, ECONOMICS, INDIA.
- \*NOTES, FILED. THE PRODUCTION OF ENERGY FROM WINDMILLS DESIGNED SPECIFICALLY TO OPERATE IN THE LOW WIND VELOCITIES THAT USUALLY PREVAIL IN INDIA DURING THE MAIN IRRIGATION SEASON IS ESTIMATED TO BE REASONABLY ECONOMICAL FOR IRRIGATING SMALL FARMS FROM OPEN WELLS. THE CALCULATIONS MADE HERE ARE EXPECTED TO BE VALID FOR THE WINDIER 13 PERCENT OF THE LOCATIONS IDENTIFIED FROM AVAILABLE WIND SPEED RECORDS.
- \*DATE, 781103

## ABSTRACT 1503

- \*TITLE, CONSIDERATION OF IRRIGATION SYSTEMS IN THE SOLAR PHOTOVOLTAIC ENERGY PROGRAM.
- \*AUTHOR, TWERSKY M, FISCHBACK P E.
- \*SOURCE, ASAE PAPER 78-2551, 1978, 18 PP.
- \*KEYWORDS, IRRIGATION, CONSERVATION, SOLAR.
- \*NOTES, FILED. PHOTOVOLTAIC SYSTEMS ARE CONSIDERED FOR ON-FARM IRRIGATION. SOLAR CELLS CAN BE LINKED WITH REQUIREMENTS OF AUTOMATION FOR IRRIGATION AND INTEGRATED WITH OTHER LOW-ENERGY FARM USES.
- \*DATE, 780000

## ABSTRACT 1504

- \*TITLE, IRRIGATION MANAGEMENT FOR CORN.
- \*AUTHOR, VITOSH M L, KIDDER E H.
- \*SOURCE, EXTENSION BULLETIN E-853, MICH STATE UNIV, EAST LANSING, JUNE 1975, 2 PP.
- \*KEYWORDS, IRRIGATION, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 1505

- \*TITLE, AN ECONOMIC CONSIDERATION OF ENERGY USE AND ALTERNATIVES FOR PUMPING IRRIGATION WATER.
- \*AUTHOR, WILLET G S.
- \*SOURCE, FARM ELECTRIFICATION COUNCIL, FOOD AND ENERGY SYMPOSIUM, WASHINGTON D C, 20 AUG 1975, 17 PP.
- \*KEYWORDS, IRRIGATION, REQUIREMENTS, ECONOMICS, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 750820

## LP GAS 1506 -- 1520

## ABSTRACT 1506

- \*TITLE, REDUCING AIR POLLUTION WITH LP GAS.
- \*AUTHOR, BAXTER M C.
- \*SOURCE, NATIONAL LP GAS ASSOCIATION, 79 W MONROE ST, CHICAGO, SPRING 1972.
- \*KEYWORDS, LPGAS.
- \*NOTES, FILED.
- \*DATE, 720000

## ABSTRACT 1507

- \*TITLE, PROPANE OFFERS TODAY'S VEHICLES BEST REMEDY FOR POOR PERFORMANCE.
- \*AUTHOR, CLARK W W.
- \*SOURCE, BUTANE-PROPANE NEWS, NOV 1972.
- \*KEYWORDS, LPGAS.
- \*NOTES, FILED.
- \*DATE, 721100



\*TITLE, A PRACTICAL GUIDE TO LP GAS UTILIZATION.  
\*AUTHOR, CLIFFORD E A.  
\*SOURCE, LP GAS MAGAZINE, 1 E FIRST ST, DULUTH, MN, 5TH EDITION, 1973.  
\*KEYWORDS, LPGAS, GENERAL.  
\*NOTES, FILED.  
\*DATE, 730003

## ABSTRACT 1509

\*TITLE, LIQUEFIED PETROLEUM GAS - SOME THOUGHTS ON MANDATORY CONTROLS AND EFFECTIVE ALLOCATION.  
\*AUTHOR, DOERING O C, MCKENZIE B A.  
\*SOURCE, PURDUE UNIV, WEST LAFAYETTE, INDIANA, SEPT 1973, 8 PP.  
\*KEYWORDS, LPGAS, TRANSPORTATION, CONSERVATION.  
\*NOTES, FILED.  
\*DATE, 730906

## ABSTRACT 1510

\*TITLE, HOW THE RETAIL PRICE FREEZE HAS INTENSIFIED THE LIQUIFIED PETROLEUM GAS SHORTAGE.  
\*AUTHOR, DOERING O C.  
\*SOURCE, AGR ECON DEPT, PURDUE UNIV, WEST LAFAYETTE, INDIANA, AUG 1973, 12 PP.  
\*KEYWORDS, LPGAS, ECONOMICS, ALTERNATIVES.  
\*NOTES, FILED.  
\*DATE, 730860

## ABSTRACT 1511

\*TITLE, STORAGE AND HANDLING LIQUEFIED PETROLEUM GASES, 1974.  
\*AUTHOR, KEEPERS H V.  
\*SOURCE, NO 58, NATIONAL FIRE PROTECTION ASSOCIATION, 470 ATLANTIC AVE, BOSTON, MASS, 1974, 155 PP.  
\*KEYWORDS, LPGAS, AWARENESS, GENERAL, STORAGE, TRANSPORTATION.  
\*NOTES, FILED.  
\*DATE, 740000

## ABSTRACT 1512

\*TITLE, LP FUEL - DOES IT MAKE SENSE FOR YOUR CAR.  
\*AUTHOR, LINDSLEY E F.  
\*SOURCE, POPULAR SCIENCE, FEB 1975, PP 62, 66, 67.  
\*KEYWORDS, LPGAS.  
\*NOTES, FILED.  
\*DATE, 750200

## ABSTRACT 1513

\*TITLE, PROPANE AS AN ENGINE FUEL FOR CLEANER AIR.  
\*AUTHOR, NATIONAL LP GAS ASSOC.  
\*SOURCE, NATIONAL LP GAS ASSOC, 79 W MONROE ST, CHICAGO, IL, 1971.  
\*KEYWORDS, LPGAS, AWARENESS.  
\*NOTES, FILED.  
\*DATE, 710000

## ABSTRACT 1514

\*TITLE, CARE AND HANDLING OF LP GAS AS AN ENGINE FUEL.  
\*AUTHOR, NORTHERN PROPANE GAS CO.  
\*SOURCE, NORTHERN PROPANE GAS CO, 4820 EXCELSIOR BLVD, MINNEAPOLIS, MN.  
\*KEYWORDS, LPGAS, GENERAL.  
\*NOTES, FILED.  
\*DATE,

## ABSTRACT 1515

\*TITLE, REPORT ON THE USE OF LIQUEFIED PETROLEUM GAS IN INDIANA.  
\*AUTHOR, PURDUE UNIVERSITY.  
\*SOURCE, AGR ECON DEPT, PURDUE UNIV, WEST LAFAYETTE, IN 47907,  
17 SEPT 1973, 17 PP.  
\*KEYWORDS, LPGAS, INDIANA, INDUSTRY.  
\*NOTES, FILED.  
\*DATE, 730917

210

ABSTRACT 1516

\*TITLE, NATIONAL FUEL GAS COOE.  
\*AUTHOR, REED L V.  
\*SOURCE, NO 54, NATIONAL FIRE PROTECTION ASSOCIATION, 470 ATLANTIC AVE, BOSTON, MASS, 1974, 61 PP.  
\*KEYWORDS, LPGAS, HDME, APPLIANCES, INDUSTRY.  
\*NOTES, FILED.  
\*DATE, 740000

ABSTRACT 1517

\*TITLE, FACTS ABOUT LP GAS AS AN AUTOMDTIVE FUEL.  
\*AUTHOR, STANDARD OIL CO.  
\*SOURCE, TECH LETTER NO X-478, STANDARD OIL CO, MAY 1955.  
\*KEYWORDS, LPGAS, AWARENESS, TRACTOR.  
\*NOTES, FILED.  
\*DATE, 550500

ABSTRACT 1518

\*TITLE, MACHINES AND EQUIPMENT ON FARMS WITH RELATED DATA 1964 AND 1959.  
\*AUTHOR, STRICKLER P E.  
\*SOURCE, USDA, WASHINGTON D C, MAY 1967, 19 PP.  
\*KEYWORDS, LPGAS, AGRICULTURE, PETROLEUM, STATISTICS.  
\*NOTES, FILED.  
\*DATE, 670500

ABSTRACT 1519

\*TITLE, 1971 LP GAS MARKET FACTS.  
\*AUTHOR, WHITE R G.  
\*SOURCE, NATIONAL LP GAS ASSOCIATION, 79 W MONROE STREET, CHICAGO.  
\*KEYWORDS, LPGAS, PRODUCTION, TRANSPORTATION, ECONOMICS, STATISTICS.  
\*NOTES, FILED.  
\*DATE, 710000

ABSTRACT 1520

\*TITLE, WHEELS OF PROGRESS - THE ECONOMY AND MAINTENANCE FACTORS OF LP GAS OPERATION.  
\*AUTHOR, WORSHAM J H.  
\*SOURCE, NATIONAL LP GAS ASSOCIATION, 79 W MDNROE ST, CHICAGO.  
\*KEYWORDS, LPGAS, MAINTENANCE.  
\*NOTES, FILED.  
\*DATE,

MATERIALS 1521 -- 1523

ABSTRACT 1521

\*TITLE, THE COMING AGE OF SHORTAGES.  
\*AUTHOR, BENCOIT E.  
\*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(1)/6-16, JAN 1976.  
\*KEYWORDS, MATERIALS, FOSSIL FUELS, SOLAR.  
\*NOTES, FILED.  
\*DATE, 760100

ABSTRACT 1522

\*TITLE, ENERGY IMPLICATIONS OF MATERIALS PROCESSING.  
\*AUTHOR, HAYES E T.  
\*SOURCE, SCIENCE, 191/661-665, 20 FEB 1976.  
\*KEYWORDS, MATERIALS.  
\*NOTES, FILED.  
\*DATE, 760220

- \*TITLE, RAW MATERIALS - US GROWS MORE VULNERABLE TO THIRD WORLD CARTELS.
- \*AUTHOR, WADE H.
- \*SOURCE, SCIENCE, 183/185-186, 18 JAN 1974.
- \*KEYWORDS, MATERIALS, USA, INTERNATIONAL, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 740112

## MECHANIZATION 1524 -- 1527

## ABSTRACT 1524

- \*TITLE, AGRICULTURAL MECHANIZATION.
- \*AUTHOR, MERRILL W C.
- \*SOURCE, OCCASIONAL PAPER 1, ECON AND SECTOR PLANNING DIV, OFFICE OF AGR, TECH ASSISTANCE BUREAU, US AGENCY FOR INTERNATIONAL DEV, WASHINGTON DC 20523, SEPT 1975, 42 PP.
- \*KEYWORDS, MECHANIZATION, AGRICULTURE, LAND USE.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 1525

- \*TITLE, DETERMINING CAPACITIES OF FARM MACHINES.
- \*AUTHOR, WHITE R G.
- \*SOURCE, E-1216, FARMING KNOW-HOW, MICH STATE UNIV, E LANSING, MI 48824, APRIL 1978, 6 PP.
- \*KEYWORDS, MECHANIZATION, MACHINERY, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 780403

## ABSTRACT 1526

- \*TITLE, TIPS FOR BUYING A USED TRACTOR.
- \*AUTHOR, WHITE R G.
- \*SOURCE, E-1113, FARMING KNOW-HOW, MICH STATE UNIV, E LANSING, MI 48824, JUNE 1977, 4 PP.
- \*KEYWORDS, MECHANIZATION, TRACTOR.
- \*NOTES, FILED.
- \*DATE, 770600

## ABSTRACT 1527

- \*TITLE, MATCHING TRACTOR HORSEPOWER AND FARM IMPLEMENT SIZE.
- \*AUTHOR, WHITE R G.
- \*SOURCE, E-1152, FARMING KNOW-HOW, CES, MICHIGAN STATE UNIV, E LANSING, MI 48824, NOV 1977, 4 PP.
- \*KEYWORDS, MECHANIZATION, TRACTOR, REQUIREMENTS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 771100

## MHD 1528

## ABSTRACT 1528

- \*TITLE, MHD GENERATORS - SUPER BLOWTORCHES DELIVER MORE POWER WITH LESS FUEL.
- \*AUTHOR, EDELSON E.
- \*SOURCE, POPULAR SCIENCE, MARCH 1974, PP 86-88.
- \*KEYWORDS, MHD, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 740300

## ABSTRACT 1529

- \*TITLE, ENERGY AND THE MICHIGAN ECONOMY.
- \*AUTHOR, HECK G W. ET AL.
- \*SOURCE, PRODUCED BY THE HOUSE REPUBLICAN CAUCUS ENERGY NEEDS TASK FORCE, HOUSE OF REPRESENTATIVES, LANSING, MICH, JAN 1975, 128 PP.
- \*KEYWORDS, MICHIGAN, ECONOMICS, LEGISLATION.
- \*NOTES, FILED.
- \*DATE, 750100

## NATURAL GAS 1530 -- 1545

## ABSTRACT 1530

- \*TITLE, A REALISTIC VIEW OF US NATURAL GAS SUPPLY.
- \*AUTHOR, ALLEN F C, ZARESKI G K, BOYD E R.
- \*SOURCE, STAFF REPORT, FEDERAL POWER COMMISSION, BUREAU OF NATURAL GAS, WASHINGTON D C, DEC 1974, 21 PP.
- \*KEYWORDS, NATURAL GAS, USA.
- \*NOTES, FILED.
- \*DATE, 741200

## ABSTRACT 1531

- \*TITLE, THE INFECTIOUS GAS SHORTAGE.
- \*AUTHOR, ANON.
- \*SOURCE, BUSINESS WEEK, 14 FEB 1977, PP 100-104.
- \*KEYWORDS, NATURAL GAS, POLICY, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 770214

## ABSTRACT 1532

- \*TITLE, NATIONAL GAS SUPPLY AND DEMAND 1971-1990.
- \*AUTHOR, BAKER F E. ET AL.
- \*SOURCE, STAFF REPORT NO 2, FEDERAL POWER COMMISSION, BUREAU OF NATURAL GAS, WASHINGTON D C, FEB 1972, 150 PP.
- \*KEYWORDS, NATURAL GAS, SUPPLY DEMAND, WORLD WIDE, USA.
- \*NOTES, FILED.
- \*DATE, 720200

## ABSTRACT 1533

- \*TITLE, NATURAL GAS.
- \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.
- \*SOURCE, ENERGY PERSPECTIVES 2, BATTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS, OH, SEPT 1973, 5 PP.
- \*KEYWORDS, NATURAL GAS, USA.
- \*NOTES, FILED.
- \*DATE, 730900

## ABSTRACT 1534

- \*TITLE, NATURAL GAS DEREGULATION AND FOOD PRICES - RIPPLE, RIPPLE, RIPPLE.
- \*AUTHOR, BURKE C.
- \*SOURCE, NATIONAL CONSUMERS CONGRESS, 1346 CONNECTICUT AVE N W, WASHINGTON D C, 7 PP, UNDATED.
- \*KEYWORDS, NATURAL GAS, FERTILIZER, PRODUCTION, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE,



## ABSTRACT 1535

\*TITLE, NATURAL GAS IN CALIFORNIA AGRICULTURE.  
 \*AUTHOR, CERVINKA V. ET AL.  
 \*SOURCE, AGR ENGR DEPT, UNIV OF CALIF, DAVIS, CA, JULY 1978, 73 PP.  
 \*KEYWORDS, NATURAL GAS, AGRICULTURE, CALIFORNIA, FOOD PROCESSING,  
 SUPPLY DEMAND.  
 \*NOTES, FILED.  
 \*DATE, 780700

## ABSTRACT 1536

\*TITLE, THE IMPORTATION OF LIQUEFIED NATURAL GAS.  
 \*AUTHOR, DRAKE E, REIO R C.  
 \*SOURCE, SCIENTIFIC AMER, 236(4)/22-29, APRIL 1977.  
 \*KEYWORDS, NATURAL GAS, USA, STORAGE, TRANSPORTATION, RESOURCES.  
 \*NOTES, FILED.  
 \*DATE, 770460

## ABSTRACT 1537

\*TITLE, PUMPING-PLANT EFFICIENCY CHECK FOR NATURAL GAS ENGINES.  
 \*AUTHOR, MOHN C M, ABERNATHY G H.  
 \*SOURCE, GUIDE 400A-121, COOPERATIVE EXTENSION SERVICE, NEW MEXICO STATE UNIV,  
 DEC 1975, 2 PP.  
 \*KEYWORDS, NATURAL GAS, ENGINE, EFFICIENCY, PUMPS.  
 \*NOTES, FILED.  
 \*DATE, 751200

## ABSTRACT 1538

\*TITLE, EFFECTS OF NATURAL GAS CURTAILMENT IN MINNESOTA, 1973-1985.  
 \*AUTHOR, KITZMAN L.  
 \*SOURCE, MINN ENERGY AGENCY, RESEARCH DIV, 740 AMERICAN CENTER BUILDING, ST PAUL  
 MINN, SEPT 1975, 47 PP.  
 \*KEYWORDS, NATURAL GAS, MINNESOTA, SUPPLY DEMAND, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 750900

## ABSTRACT 1539

\*TITLE, POWER UNIT MODIFICATION TO ACCOMODATE INTERRUPTIBLE FLOW OF NATURAL  
 GAS.  
 \*AUTHOR, MILES J A.  
 \*SOURCE, TRANSACTIONS OF THE ASAE, 20(3)/406-407, 1977.  
 \*KEYWORDS, NATURAL GAS, DIESEL, ARIZONA, ENGINE, IRRIGATION.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 1540

\*TITLE, NATURAL GAS.  
 \*AUTHOR, MOEIL OIL CORP.  
 \*SOURCE, MOBIL OIL CORPS NATIONAL ENERGY POLICY SERIES,  
 1974, 10 PP.  
 \*KEYWORDS, NATURAL GAS, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 1541

\*TITLE, THE CONSUMER COSTS OF DEREGULATION OF THE FIELD PRICE OF NATURAL GAS.  
 \*AUTHOR, SEIDEL M R, BRYAN M G.  
 \*SOURCE, FEDERAL POWER COMMISSION, 28 APRIL 1975, 10 PP.  
 \*KEYWORDS, NATURAL GAS.  
 \*NOTES, FILED.  
 \*DATE, 750428

## ABSTRACT 1542

\*TITLE, THE CRISIS IN NATURAL GAS.  
 \*AUTHOR, UNION CARBIDE CORP.  
 \*SOURCE, UNION CARBIDE CORP, DEC 1975, 14 PP.  
 \*KEYWORDS, NATURAL GAS, LEGISLATION, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 751200

## ABSTRACT 1543

- \*TITLE, ACTIONS ON NATURAL GAS CURTAILMENTS.
- \*AUTHOR, US-FEDERAL ENERGY ADMINISTRATION.
- \*SOURCE, FEA FACT SHEET, 10 SEPT 1975, 8 PP.
- \*KEYWORDS, NATURAL GAS, LEGISLATION, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 750910

## ABSTRACT 1544

- \*TITLE, A PRELIMINARY EVALUATION OF THE COST OF NATURAL GAS DEREGULATION.
- \*AUTHOR, US-FEDERAL POWER COMMISSION.
- \*SOURCE, INTRA-AGENCY TASK FORCE, FEDERAL POWER COMMISSION, JAN 1975, 53 PP.
- \*KEYWORDS, NATURAL GAS, MODELS.
- \*NOTES, FILED.
- \*DATE, 750100

## ABSTRACT 1545

- \*TITLE, WHEN THE WELL RUNS DRY.
- \*AUTHOR, WILLIAMS R H.
- \*SOURCE, ENVIRONMENT, 14(5)/19-31, JUNE 1972.
- \*KEYWORDS, NATURAL GAS, ALTERNATIVES, SUPPLY DEMAND.
- \*NOTES, FILED.
- \*DATE, 720600

## NUCLEAR 1546 -- 1609

## ABSTRACT 1546

- \*TITLE, QUESTION AROUND THE WORLD - WHEN CAN WE GET A POWER.
- \*AUTHOR, ANON.
- \*SOURCE, US NEWS AND WORLD REPORT, 30 SEPT 1974, PP 51-52.
- \*KEYWORDS, NUCLEAR, WORLD WIDE, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 740930

## ABSTRACT 1547

- \*TITLE, HOW SAFE IS NUCLEAR POWER.
- \*AUTHOR, ANON.
- \*SOURCE, NEWSWEEK, 12 APRIL 1976, PP 70-75.
- \*KEYWORDS, NUCLEAR, ECONOMICS, GENERAL.
- \*NOTES, FILED.
- \*DATE, 760412

## ABSTRACT 1548

- \*TITLE, WORLDS WITHIN WORLDS/THE STORY OF NUCLEAR ENERGY, VOL1 - ATOMIC WEIGHTS, ENERGY, ELECTRICITY.
- \*AUTHOR, ASIMOV I.
- \*SOURCE, USERDA, OFFICE OF PUBLIC AFFAIRS, WASHINGTON D C, 1972, 62 PP.
- \*KEYWORDS, NUCLEAR, GENERAL.
- \*NOTES, FILED.
- \*DATE, 720000

## ABSTRACT 1549

- \*TITLE, WORLDS WITHIN WORLDS/THE STORY OF NUCLEAR ENERGY, VOL 2 - MASS AND ENERGY, THE NEUTRON, THE STRUCTURE OF THE NUCLEUS.
- \*AUTHOR, ASIMOV I.
- \*SOURCE, USERDA, OFFICE OF PUBLIC AFFAIRS, WASHINGTON D C, 1972, PP 65-111.
- \*KEYWORDS, NUCLEAR, GENERAL.
- \*NOTES, FILED.
- \*DATE, 720000

- \*TITLE, WORLDS WITHIN WORLDS/THE STORY OF NUCLEAR ENERGY, VOL 3 - NUCLEAR FISSION, NUCLEAR FUSION, BEYOND FUSION.
- \*AUTHOR, ASIMOV I.
- \*SOURCE, USERCA, OFFICE OF PUBLIC AFFAIRS, WASHINGTON D C, 1972, PP 113-164.
- \*KEYWORDS, NUCLEAR, GENERAL.
- \*NOTES, FILED.
- \*DATE, 720000

## ABSTRACT 1551

- \*TITLE, HOW FARES THE ATOM.
- \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.
- \*SOURCE, ENERGY PERSPECTIVES 23, BATTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS, OH, MAY 1976, 4 PP.
- \*KEYWORDS, NUCLEAR.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 1552

- \*TITLE, NUCLEAR ENERGY - A FATEFUL CHOICE FOR FRANCE.
- \*AUTHOR, BAUER E. ET AL.
- \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(1)/37-41, JAN 1976.
- \*KEYWORDS, NUCLEAR, FRANCE, THERMOELECTRIC.
- \*NOTES, FILED.
- \*DATE, 760100

## ABSTRACT 1553

- \*TITLE, THE HEALTH HAZARDS OF NOT GOING NUCLEAR.
- \*AUTHOR, BECKMANN P.
- \*SOURCE, BOULDER, CO/GOLEM PRESS, 1976, 190PP.
- \*KEYWORDS, NUCLEAR, AWARENESS, ENVIRONMENT.
- \*NOTES, FILED. NUCLEAR POWER ACCIDENTS, POLITICS, EMISSIONS, ECONOMY AND WASTE DISPOSAL ARE MAJOR TOPICS.
- \*DATE, 760000

## ABSTRACT 1554

- \*TITLE, ELECTRIC POWER FROM NUCLEAR FISSION.
- \*AUTHOR, BENEDICT M.
- \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 27(7)/8-16, SEPT 1971.
- \*KEYWORDS, NUCLEAR, ELECTRICAL, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 710900

## ABSTRACT 1555

- \*TITLE, THE NECESSITY OF FISSION POWER.
- \*AUTHOR, BETHE H A.
- \*SOURCE, SCIENTIFIC AMER, 234(1)/21-31, JAN 1976.
- \*KEYWORDS, NUCLEAR, USA, ENERGY SOURCES, POLLUTION.
- \*NOTES, FILED.
- \*DATE, 760100

## ABSTRACT 1556

- \*TITLE, NUCLEAR POWER PLANTS.
- \*AUTHOR, CALTEX OIL CORP.
- \*SOURCE, LUBRICATION, CALTEX OIL CORP, 380 MADISON AVE, NEW YORK, NY, FEB 1960.
- \*KEYWORDS, NUCLEAR.
- \*NOTES,
- \*DATE, 600200

## ABSTRACT 1557

- \*TITLE, NUCLEAR POWER AND THE ENVIRONMENT.
- \*AUTHOR, CAMPANA R J, LANGER S.
- \*SOURCE, AMER NUCLEAR SOCIETY, 244 E 06DEN AVE, MINSDALE, ILL, MARCH 1974, 64 PP
- \*KEYWORDS, NUCLEAR, ENVIRONMENT, RADIATION, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 740300

- \*TITLE, THE ECONOMIC ISSUES OF THE FAST BREEDER REACTOR PROGRAM.
- \*AUTHOR, CHOW B G.
- \*SOURCE, SCIENCE, 195(4278)/551-556, 11 FEB 1977.
- \*KEYWORDS, NUCLEAR, BREEDER REACTOR, ECONOMICS.
- \*NOTES, FILED. THE ECONOMIC BENEFITS OF THE FAST BREEDER REACTOR MAY NOT BE AS DEFINITE AS ITS PROponents CLAIM.
- \*DATE, 770211

ABSTRACT 1559

- \*TITLE, THE DISPOSAL OF RADIOACTIVE WASTES FROM FISSION REACTORS.
- \*AUTHOR, COHEN B L.
- \*SOURCE, SCIENTIFIC AMER, 236(6)/21-31, JUNE 1977.
- \*KEYWORDS, NUCLEAR, WASTES.
- \*NOTES, FILED.
- \*DATE, 770600

ABSTRACT 1560

- \*TITLE, NUCLEAR POWER - THE DEVIL WE DON T KNOW.
- \*AUTHOR, COYNE P.
- \*SOURCE, UNDERCURRENTS 9, JAN-FEB 1975, PP 17-32.
- \*KEYWORDS, NUCLEAR, SOCIAL IMPLICATIONS, USA, WORLD WIDE.
- \*NOTES, FILED.
- \*DATE, 750106

ABSTRACT 1561

- \*TITLE, PROSPECTS FOR NUCLEAR POWER GENERATION IN PRIVATE INDUSTRY.
- \*AUTHOR, DECKER G L.
- \*SOURCE, CHEMICAL AND INDUSTRY, 6 SEPT 1975, PP 722-725.
- \*KEYWORDS, NUCLEAR, INDUSTRY, ELECTRICAL, HEAT.
- \*NOTES, FILED.
- \*DATE, 750906

ABSTRACT 1562

- \*TITLE, HIGH-LEVEL RADIOACTIVE WASTE - SAFE STORAGE AND ULTIMATE DISPOSAL.
- \*AUTHOR, DUKERT J M.
- \*SOURCE, USERDA, TECH INFO CENTER, PO BOX 62, OAK RIDGE, TENN, 1975, 23 PP.
- \*KEYWORDS, NUCLEAR, WASTES, STORAGE.
- \*NOTES, FILED.
- \*DATE, 750000

ABSTRACT 1563

- \*TITLE, FUSION POWER - IS IT ALL COMING TOGETHER.
- \*AUTHOR, EDELSON E.
- \*SOURCE, POPULAR SCIENCE, AUG 1974, PP 54-59, 118, 120.
- \*KEYWORDS, NUCLEAR.
- \*NOTES, FILED.
- \*DATE, 740800

ABSTRACT 1564

- \*TITLE, THE SILENT BOMB--A GUIDE TO THE NUCLEAR ENERGY CONTROVERSY.
- \*AUTHOR, FAULKNER P. ED.
- \*SOURCE, NEW YORK, NY/VINTAGE BOOKS, DIV OF RANDOM HOUSE, 1977, 362PP.
- \*KEYWORDS, NUCLEAR, AWARENESS, SOCIAL IMPLICATIONS, SAFETY.
- \*NOTES, FILED. NUCLEAR POWER IS TOO RISKY. THE BENEFITS DO NOT OUTWEIGH THE RISKS. NUCLEAR POWER PLANTS COULD BECOME NUCLEAR BOMBS. THESE VIEWPOINTS ARE PRESENTED ALONG WITH OTHER ASPECTS OF NUCLEAR POWER.
- \*DATE, 770000

ABSTRACT 1565

- \*TITLE, COMPARATIVE BREEDING CHARACTERISTICS OF FUSION AND FAST REACTORS.
- \*AUTHOR, FORTESCUE P.
- \*SOURCE, SCIENCE, 196(4296)/1326-1329, 17 JUNE 1977.
- \*KEYWORDS, NUCLEAR, BREEDER REACTOR.
- \*NOTES, FILED. EXPRESSIONS ARE DEVELOPED TO ALLOW READY COMPARISON OF A HYBRID FISSION-FUSION PLANT AND A FAST BREEDER WITH RESPECT TO THE NUMBER OF THERMAL REACTORS THAT THEIR FISSION PRODUCTION COULD SUPPORT. RESULTS ARE PRESENTED GRAPHICALLY BOTH FOR THE STEADY STATE AND FOR INDUSTRIES OF ARBITRARY GROWTH RATE.
- \*DATE, 770617



•TITLE, NUCLEAR POWER.  
 •AUTHOR, GENERAL ELECTRIC CO.  
 •SOURCE, NUCLEAR ENERGY DIV, GENERAL ELECTRIC, SAN JOSE, CA, OCT 1976, 48 PP.  
 •KEYWORDS, NUCLEAR, GENERAL, SAFETY, RADIATION.  
 •NOTES, FILED.  
 •DATE, 761000

## ABSTRACT 1567

•TITLE, ATOMIC ENERGY AND YOUR WORLD.  
 •AUTHOR, GLASSTONE S, THOMAS S J.  
 •SOURCE, ERDA, TECH INFO CENTER, OAK RIDGE, TENN, 1974, 57 PP.  
 •KEYWORDS, NUCLEAR, GENERAL.  
 •NOTES, FILED.  
 •DATE, 740000

## ABSTRACT 1568

•TITLE, CONTROLLED NUCLEAR FUSION.  
 •AUTHOR, GLASSTONE S.  
 •SOURCE, ERDA, TECH INFO CENTER, OAK RIDGE, TENN, 1974, 84 PP.  
 •KEYWORDS, NUCLEAR.  
 •NOTES, FILED.  
 •DATE, 740000

## ABSTRACT 1569

•TITLE, NUCLEAR FUELS POLICY REPORT OF THE ATLANTIC COUNCILS NUCLEAR FUELS  
 POLICY WORKING GROUP.  
 •AUTHOR, GRAY J E.  
 •SOURCE, THE ATLANTIC COUNCIL OF THE UNITED STATES, 1616 H ST N W, WASHINGTON  
 D C, 1976, 137 PP.  
 •KEYWORDS, NUCLEAR, POLICY, ALTERNATIVES, SUPPLY DEMAND.  
 •NOTES, FILED.  
 •DATE, 760000

## ABSTRACT 1570

•TITLE, NUCLEAR PROLIFERATION (I)--WARNINGS FROM THE ARMS CONTROL COMMUNITY.  
 •AUTHOR, HAMMOND A L.  
 •SOURCE, SCIENCE, 193(4248)/126-130, 9 JULY 1976.  
 •KEYWORDS, NUCLEAR, ECONOMICS.  
 •NOTES, FILED.  
 •DATE, 760709

## ABSTRACT 1571

•TITLE, LIVING WITH THE FAUSTIAN BARGAIN.  
 •AUTHOR, HARDIN G.  
 •SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(9)/25-29, NOV 1976.  
 •KEYWORDS, NUCLEAR, SAFETY, SOCIAL IMPLICATIONS.  
 •NOTES, FILED. ATOMIC ENERGY IS NO SAFER THAN ITS WEAKEST LINK, THE  
 MECHANICAL ELEMENTS CAN BE STRENGTHENED, BUT WHAT CAN BE DONE TO  
 IMPROVE THE PEOPLE.  
 •DATE, 761100

## ABSTRACT 1572

•TITLE, NUCLEAR POWER - THE FIFTH HORSEMAN.  
 •AUTHOR, HAYES D.  
 •SOURCE, WORLDWATCH PAPER 6, WORLDWATCH INST, 1776 MASSACHUSETTS AVE N W,  
 WASHINGTON D C, MAY 1976, 68 PP.  
 •KEYWORDS, NUCLEAR, ENVIRONMENT.  
 •NOTES, FILED.  
 •DATE, 760500

## ABSTRACT 1573

•TITLE, NUCLEAR REACTORS.  
 •AUTHOR, HOGERTON J F.  
 •SOURCE, USAEC, TECH INFO CENTER, PO BOX 62, OAK RIDGE, TENN, 1974, 54 PP.  
 •KEYWORDS, NUCLEAR, GENERAL, DESIGN.  
 •NOTES, FILED.  
 •DATE, 740000

## ABSTRACT 1574

- \*TITLE, THE DISTRUST OF NUCLEAR POWER.
- \*AUTHOR, HORNEMSER C, KASPERSON R, KATES R.
- \*SOURCE, SCIENCE, 196(4285)/25-34, 1 APRIL 1977.
- \*KEYWORDS, NUCLEAR, COAL, HYDROPOWER, SAFETY.
- \*NOTES, FILED. NUCLEAR POWER IS ASSESSED HYPERCRITICALLY BECAUSE OF ITS UNIQUE HISTORY, COMPLEXITY, AND SAFETY MANAGEMENT.
- \*DATE, 770401

## ABSTRACT 1575

- \*TITLE, FUSION ENERGY IN CONTEXT - ITS FITNESS FOR THE LONG TERM.
- \*AUTHOR, HOLDREN J P.
- \*SOURCE, SCIENCE, 200/168-180, 14 APRIL 1978.
- \*KEYWORDS, NUCLEAR, ECONOMICS, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED.
- \*DATE, 780414

## ABSTRACT 1576

- \*TITLE, MARKET SURVEY FOR NUCLEAR POWER IN DEVELOPING COUNTRIES.
- \*AUTHOR, INTERNATIONAL ATOMIC ENERGY AGENCY.
- \*SOURCE, INTERNATIONAL ATOMIC ENERGY AGENCY, KARNTNER RING 11, PO BOX 590, A-1011, VIENNA, AUSTRIA.
- \*KEYWORDS, NUCLEAR, ECONOMICS, INTERNATIONAL, DEVELOPING COUNTRIES.
- \*NOTES, AID. DOZEN OR MORE VOLUMES FOR VARIOUS LDGS.
- \*DATE,

## ABSTRACT 1577

- \*TITLE, NUCLEAR POWER ISSUES AND CHOICES.
- \*AUTHOR, KEENEY S M, ET AL.
- \*SOURCE, CAMBRIDGE, MA/BALLINGER PUBLISHING CO, 1977, 418PP.
- \*KEYWORDS, NUCLEAR, ALTERNATIVES, BREEDER REACTOR, ECONOMICS, ENVIRONMENT, POLICY, SAFETY.
- \*NOTES, FILED. GENERAL OVERVIEW OF ALL ASPECTS OF NUCLEAR POWER.
- \*DATE, 770000

## ABSTRACT 1578

- \*TITLE, THE FAUSTIAN BARGAIN.
- \*AUTHOR, KNEESE A V.
- \*SOURCE, RESOURCES, (44)/1-8, SEPT 1973.
- \*KEYWORDS, NUCLEAR, ECONOMICS, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 730900

## ABSTRACT 1579

- \*TITLE, LASER ENRICHMENT OF URANIUM--THE PROLIFERATION CONNECTION.
- \*AUTHOR, KRASS A S.
- \*SOURCE, SCIENCE, 196(4291)/721-731, 13 MAY 1977.
- \*KEYWORDS, NUCLEAR.
- \*NOTES, FILED. SERIOUS POLICY ISSUES ARE RAISED BY THE PROSPECT OF SMALL, EFFICIENT URANIUM ENRICHMENT PLANTS.
- \*DATE, 770513

## ABSTRACT 1580

- \*TITLE, RADIATION POLLUTION OF THE ENVIRONMENT.
- \*AUTHOR, LINDOP P J, ROTBLAT J.
- \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 27(7)/17-24, SEPT 1971.
- \*KEYWORDS, NUCLEAR, ENVIRONMENT, POLLUTION, RADIATION.
- \*NOTES, FILED.
- \*DATE, 710900

## ABSTRACT 1581

- \*TITLE, NUCLEAR POWER PLANTS.
- \*AUTHOR, LYERLY R L, MITCHELL W.
- \*SOURCE, USAEC, TECH INFO CENTER, PO BOX 62, OAK RIDGE, TENN, 1974, 55 PP.
- \*KEYWORDS, NUCLEAR, GENERAL.
- \*NOTES, FILED.
- \*DATE, 740000

\*TITLE, EUROPEAN BREEDERS (I) - FRANCE LEADS THE WAY.  
\*AUTHOR, METZ W D.  
\*SOURCE, SCIENCE, DEC 1975, PP 1279-1281.  
\*KEYWORDS, NUCLEAR, FRANCE, UNITED KINGDOM, SOVIET UNION, USA.  
BREEDER REACTOR.  
\*NOTES, FILED.  
\*DATE, 751209

## ABSTRACT 1583

\*TITLE, FUSION RESEARCH (I)--WHAT IS THE PROGRAM BUYING THE COUNTRY.  
\*AUTHOR, METZ W D.  
\*SOURCE, SCIENCE, 192(4246)/1320-1323, 25 JUNE 1976.  
\*KEYWORDS, NUCLEAR, BREEDER REACTOR, ELECTRICAL.  
\*NOTES, FILED.  
\*DATE, 760625

## ABSTRACT 1584

\*TITLE, FUSION RESEARCH (II)--DETAILED REACTOR STUDIES IDENTIFY MORE PROBLEMS.  
\*AUTHOR, METZ W D.  
\*SOURCE, SCIENCE, 193(4247)/38-40, 76, 2 JULY 1976.  
\*KEYWORDS, NUCLEAR, BREEDER REACTOR, DESIGN.  
\*NOTES, FILED.  
\*DATE, 760702

## ABSTRACT 1585

\*TITLE, FUSION RESEARCH (III)--NEW INTEREST IN FUSION-ASSISTED BREEDERS  
\*AUTHOR, METZ W D.  
\*SOURCE, SCIENCE, 193(4250)/307-309, 23 JULY 1976.  
\*KEYWORDS, NUCLEAR, BREEDER REACTOR.  
\*NOTES, FILED.  
\*DATE, 760723

## ABSTRACT 1586

\*TITLE, REPROCESSING--HOW NECESSARY IS IT FOR THE NEAR TERM.  
\*AUTHOR, METZ W D.  
\*SOURCE, SCIENCE, 196(4285)/41, 43-45, 1 APRIL 1977.  
\*KEYWORDS, NUCLEAR, BREEDER REACTOR.  
\*NOTES, FILED.  
\*DATE, 770401

## ABSTRACT 1587

\*TITLE, THE NUCLEAR POWER CONTROVERSY.  
\*AUTHOR, MURPHY A W. ED.  
\*SOURCE, ENGLEWOOD CLIFFS, NJ 07632/PRENTICE-HALL, 1976, 188PP.  
\*KEYWORDS, NUCLEAR, SAFETY, ECONOMICS.  
\*NOTES, FILED. SIX AUTHORS WRITE ON NUCLEAR SAFETY, ECONOMICS, REGULATIONS,  
APPLICABILITY, LIMITS AND THE POLITICAL IMPLICATIONS OF NUCLEAR POWER.  
\*DATE, 760000

## ABSTRACT 1588

\*TITLE, UNACCEPTABLE RISK - THE NUCLEAR POWER CONTROVERSY.  
\*AUTHOR, OLSON M C.  
\*SOURCE, BANTAM BOOK, INC, 666 FIFTH AVE, NEW YORK 10019,  
AUG 1976, 309 PP.  
\*KEYWORDS, NUCLEAR, POLICY, LEGISLATION, USA, SOCIAL IMPLICATIONS.  
\*NOTES, FILED.  
\*DATE, 760800

## ABSTRACT 1589

\*TITLE, ATOMS IN AGRICULTURE - APPLICATIONS OF NUCLEAR SCIENCE TO AGRICULTURE.  
\*AUTHOR, OSBORNE T S.  
\*SOURCE, UNDERSTANDING THE ATOM SERIES, USAEC, TECH INFO CENTER, OAK RIDGE,  
TENN, 1963, 23 PP.  
\*KEYWORDS, NUCLEAR, AGRICULTURE.  
\*NOTES, FILED.  
\*DATE, 630000

## ABSTRACT 1590

\*TITLE, NUCLEAR POWER.  
\*AUTHOR, PATTERSON W C.  
\*SOURCE, BALTIMORE/PENGUIN BOOKS INC, 1976, 304 PP.  
\*KEYWORDS, NUCLEAR.  
\*NOTES, FILED.  
\*DATE, 760000

## ABSTRACT 1591

\*TITLE, FUSION POWER - THE UNCERTAIN CERTAINTY.  
 \*AUTHOR, POST R F.  
 \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 27(8)/42-48, OCT 1971.  
 \*KEYWORDS, NUCLEAR.  
 \*NOTES, FILED.  
 \*DATE, 711000

## ABSTRACT 1592

\*TITLE, FUSION REACTORS AS FUTURE ENERGY SOURCES.  
 \*AUTHOR, POST R F, RIBE F L.  
 \*SOURCE, SCIENCE, 186(4162)/397-407, 1 NOV 1974.  
 \*KEYWORDS, NUCLEAR, ENVIRONMENT, ECONOMICS, ENERGY SOURCES.  
 \*NOTES, FILED.  
 \*DATE, 741101

## ABSTRACT 1593

\*TITLE, NUCLEAR POWER, POTENTIAL FOR THE SHORT TERM.  
 \*AUTHOR, POWERS P N.  
 \*SOURCE, FARM ELECTRIFICATION COUNCIL, FOOD AND ENERGY SYMPOSIUM, WASHINGTON D C, 20 AUG 1975, 18 PP.  
 \*KEYWORDS, NUCLEAR.  
 \*NOTES, FILED.  
 \*DATE, 750820

## ABSTRACT 1594

\*TITLE, NUCLEAR REACTOR SAFETY.  
 \*AUTHOR, PRIMACK J.  
 \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 31(7)/15-51, SEPT 1975.  
 \*KEYWORDS, NUCLEAR, SOCIAL IMPLICATIONS.  
 \*NOTES, FILED.  
 \*DATE, 750900

## ABSTRACT 1595

\*TITLE, NUCLEAR WASTE DISPOSAL--TWO SOCIAL CRITERIA.  
 \*AUTHOR, ROCHLIN G I.  
 \*SOURCE, SCIENCE, 195(4273)/23-31, 7 JAN 1977.  
 \*KEYWORDS, NUCLEAR, WASTES.  
 \*NOTES, FILED. TECHNICAL IRREVERSIBILITY AND SITE MULTIPLICITY ARE SUGGESTED AS CRITERIA FOR SAFE NUCLEAR WASTE DISPOSAL.  
 \*DATE, 770107

## ABSTRACT 1596

\*TITLE, NUCLEAR POWER - COMPARED TO WHAT.  
 \*AUTHOR, ROSE D J, WALSH P W, LESKOVJAN L L.  
 \*SOURCE, AMER SCIENTIST, 64/291-299, MAY-JUNE 1976.  
 \*KEYWORDS, NUCLEAR, ENVIRONMENT, ECONOMICS, SOCIAL IMPLICATIONS.  
 \*NOTES, FILED.  
 \*DATE, 760500

## ABSTRACT 1597

\*TITLE, NUCLEAR POWER, NUCLEAR WEAPONS AND INTERNATIONAL STABILITY.  
 \*AUTHOR, ROSE D J, LESTER R K.  
 \*SOURCE, SCIENTIFIC AMER, 238(4)/45-57, APRIL 1978.  
 \*KEYWORDS, NUCLEAR, INTERNATIONAL.  
 \*NOTES, FILED. IRRESOLUTION OVER DOMESTIC ENERGY POLICY AND THE ROLE OF NUCLEAR POWER MAY ACT TO UNDERMINE CURRENT US EFFORTS TO CONTROL THE PROLIFERATION OF NUCLEAR WEAPONS.  
 \*DATE, 770400

## ABSTRACT 1598

\*TITLE, ECONOMICS OF NUCLEAR POWER.  
 \*AUTHOR, ROSSIN A D, RIESK T A.  
 \*SOURCE, SCIENCE, (201)/582-589, 18 AUG 1978.  
 \*KEYWORDS, NUCLEAR, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 780818



•TITLE, THE TOKAMAK - MODEL T FUSION REACTOR.  
 •AUTHOR, STEINER D, CLARKE J F.  
 •SOURCE, SCIENCE, 199(4336)/1395-1408, 31 MARCH 1978.  
 •KEYWORDS, NUCLEAR, TECHNOLOGY ASSESSMENT.  
 •NOTES, FILED.  
 •DATE, 780331

## ABSTRACT 1600

•TITLE, ISSUES IN THE RADIATION CONTROVERSY.  
 •AUTHOR, TAPPLIN A R.  
 •SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 27(7)/25-27, SPET 1971.  
 •KEYWORDS, NUCLEAR, RADIATION.  
 •NOTES, FILED.  
 •DATE, 710900

## ABSTRACT 1601

•TITLE, PROSPECTS FOR UTILIZATION OF NUCLEAR POWER IN AFRICA.  
 •AUTHOR, UN-ECONOMIC AND SOCIAL COUNCIL.  
 •SOURCE, UNITED NATIONS ECONOMIC AND SOCIAL COUNCIL, ECONOMIC COMMISSION FOR AFRICA, SECOND AFRICAN MEETING ON ENERGY, ACCRA, GHANA, 1-12 MARCH 1976, 8 PP.  
 •KEYWORDS, NUCLEAR, AFRICA.  
 •NOTES, FILED.  
 •DATE, 760301

## ABSTRACT 1602

•TITLE, THE USES OF ATOMIC ENERGY IN FOOD AND AGRICULTURE.  
 •AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.  
 •SOURCE, FAO, ROME, ITALY, JULY 1955, 19 PP.  
 •KEYWORDS, NUCLEAR, AGRICULTURE, WORLD WIDE.  
 •NOTES, FILED. A SURVEY PREPARED FOR SUBMISSION TO THE UNITED NATIONS CONF ON THE PEACEFUL USES OF ATOMIC ENERGY, GENEVA, AUG 1955.  
 •DATE, 550700

## ABSTRACT 1603

•TITLE, LIGHT WATER BREEDER REACTOR.  
 •AUTHOR, US-ATOMIC ENERGY COMMISSION.  
 •SOURCE, US ATOMIC ENERGY COMMISSION, TECH INFO CENTER, PO BOX 62, OAK RIDGE, TN.  
 •KEYWORDS, NUCLEAR, BREEDER REACTOR.  
 •NOTES, FILED.  
 •DATE,

## ABSTRACT 1604

•TITLE, NUCLEAR TERMS - A GLOSSARY.  
 •AUTHOR, US-ATOMIC ENERGY COMMISSION.  
 •SOURCE, US ATOMIC ENERGY COMMISSION, TECH INFO CENTER, PO BOX 62, OAK RIDGE, TN, 1974, 80 PP.  
 •KEYWORDS, NUCLEAR, CATALOG.  
 •NOTES, FILED.  
 •DATE, 740000

## ABSTRACT 1605

•TITLE, LIQUID METAL FAST BREEDER REACTOR PROGRAM.  
 •AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.  
 •SOURCE, ERDA FACT SHEET, JAN 1976, 11 PP.  
 •KEYWORDS, NUCLEAR, ENVIRONMENT, BREEDER REACTOR.  
 •NOTES, FILED.  
 •DATE, 760100

## ABSTRACT 1606

•TITLE, SUPERPHENIX - A FULL-SCALE BREEDER REACTOR.  
 •AUTHOR, VENDRYES G A.  
 •SOURCE, SCIENTIFIC AMER, 236(3)/26-35, MARCH 1977.  
 •KEYWORDS, NUCLEAR, FRANCE, WORLD WIDE, BREEDER REACTOR.  
 •NOTES, FILED.  
 •DATE, 770300

## ABSTRACT 1607

\*TITLE, SOCIAL INSTITUTIONS AND NUCLEAR ENERGY.  
 \*AUTHOR, WEINBERG A M.  
 \*SOURCE, SCIENCE, 177/27-34, 7 JULY 1972.  
 \*KEYWORDS, NUCLEAR, ENVIRONMENT, SOCIAL IMPLICATIONS, WASTES.  
 \*NOTES, FILED.  
 \*DATE, 720707

## ABSTRACT 1608

\*TITLE, THE MANY DIMENSIONS OF SCIENTIFIC RESPONSIBILITY  
 \*AUTHOR, WEINBERG A M.  
 \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(9)/21-25, NOV 1976.  
 \*KEYWORDS, NUCLEAR, SAFETY, SOCIAL IMPLICATIONS.  
 \*NOTES, FILED.  
 \*DATE, 761100

## ABSTRACT 1609

\*TITLE, NUCLEAR ENERGY QUESTIONS ASKED BY DELEGATES TO EMPLOYE NEWS CONFERENCE.  
 \*AUTHOR, WOOD J, SULLIVAN F.  
 \*SOURCE, DETROIT EDISON TODAY, WALKER CISLER BUILDING, DETROIT, 4(14)/4 PP,  
 14 JUNE 1976.  
 \*KEYWORDS, NUCLEAR, INDUSTRY.  
 \*NOTES, FILED.  
 \*DATE, 760614

## ORGANIC 1610 -- 1997

## ABSTRACT 1610

\*TITLE, ECONOMICS OF CORN STOVER AS A COAL SUPPLEMENT IN STEAM-ELECTRIC  
 POWER PLANTS IN THE NORTH CENTRAL UNITED STATES.  
 \*AUTHOR, ABDALLAH M H, MITZHUSEN F, HUSHAK L.  
 \*SOURCE, OHIO STATE UNIV, COLUMBUS, OH, 1978.  
 \*KEYWORDS, ORGANIC, COAL, EFFICIENCY, CORN STALKS.  
 \*NOTES, ABSTRACT FILED.  
 \*DATE, 780000

## ABSTRACT 1611

\*TITLE, ECONOMICS OF CORN STOVER AS A COAL SUPPLEMENT IN STEAM-ELECTRIC  
 POWER PLANTS IN THE NORTH CENTRAL UNITED STATES.  
 \*AUTHOR, ABDALLAH M H.  
 \*SOURCE, DEPT OF AGR ECON, OHIO STATE UNIV, COLUMBUS, OH, 1978, 28 PP.  
 \*KEYWORDS, ORGANIC, ALTERNATIVES, CORN STUBBLE.  
 \*NOTES, FILED.  
 \*DATE, 780000

## ABSTRACT 1612

\*TITLE, SAFETY AND DESIGN CONSIDERATIONS FOR FARM DIGESTERS.  
 \*AUTHOR, ABELES T P, DALE E M.  
 \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE  
 MANAGEMENT VOL 1, FAZZOLARE R A, SMITH C B, EDITORS,  
 ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 781-787.  
 \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, SAFETY.  
 \*NOTES, FILED.  
 \*DATE, 771024

- \*TITLE, ENERGY AND ECONOMIC ANALYSIS OF ANAEROBIC DIGESTERS.
- \*AUTHOR, ABELES T B.
- \*SOURCE, IN THE BOOK - ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEVELL, ANN ARBOR, MI/ANN ARBOR SCI PUBL INC, 1975, PP 353-360.
- \*KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION, BIOGAS.
- \*NOTES, FILED. BASED ON A PROTOTYPE DIGESTER FOR A FEW COWS AND A LARGER SYSTEM MEANT TO HANDLE 100 HEAD, THIS REPORT IS A TOTAL SYSTEMS STUDY TO DETERMINE THE OPTIMUM OPERATING SYSTEM FOR USE ON MIDWEST DAIRY FARMS, COVERING THE MECHANICS OF OPERATION, ENERGY OPTIMIZATION AND ENVIRONMENTAL IMPACT. ALSO A SOCIOLOGICAL STUDY TO DETERMINE THE ACCEPTABILITY OF ANAEROBIC DIGESTERS AS A VIABLE FARM MANAGEMENT TECHNIQUE. THERE IS ALSO A SECTION ON NEW TYPES OF AGRIBUSINESS AND AN IMPACT THEORY THE DIGESTERS WOULD HAVE ON THE UTILITY COMPANIES.
- \*DATE, 750000

## ABSTRACT 1614

- \*TITLE, THE ECONOMICS OF RESOURCE RECOVERY FROM MUNICIPAL SOLID WASTE.
- \*AUTHOR, ABERT J G, HARVEY A, BERNHEISEL J F.
- \*SOURCE, SCIENCE, 183/1052-1058, 15 MARCH 1974.
- \*KEYWORDS, ORGANIC, RECYCLING, ECONOMICS, MUNICIPAL WASTE.
- \*NOTES, FILED.
- \*DATE, 740315

## ABSTRACT 1615

- \*TITLE, PRODUCTION OF SUGARCANE AND TROPICAL GRASSES AS A RENEWABLE ENERGY SOURCE.
- \*AUTHOR, ALEXANDER A G.
- \*SOURCE, AGR EXPT STA, UNIV OF PUERTO RICO, CENTER FOR ENERGY AND ENVIR RESEARCH, RIO PIEDRAS, PUERTO RICO, 1978, 100 PP.
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED. FIRST ANNUAL REPORT 1977-1978.
- \*DATE, 780000

## ABSTRACT 1616

- \*TITLE, PRODUCTION OF SUGARCANE AND TROPICAL GRASSES AS A RENEWABLE ENERGY SOURCE FIRST ANNUAL REPORT 1977-1978.
- \*AUTHOR, ALEXANDER A G.
- \*SOURCE, AGR EXPT STA, UNIV OF PUERTO RICO, CENTER FOR ENERGY AND ENVIR RESEARCH, RIO PIEDRAS, PUERTO RICO, 1978, 100 PP.
- \*KEYWORDS, ORGANIC, ENERGY CROPS.
- \*NOTES, FILED. GREENHOUSE EXPERIMENTS DEALT WITH THE RAPID SCREENING OF COMMERCIAL SACCHARUM HYBRIDS, PRIMITIVE SACCHARUM SPECIES, AND SPECIES FROM THE GERERA PENNISETUM, SORGHUM, ESANTHUS, ARANDA AND PANICUM. PRINCIPLE TEST PARAMETERS INCLUDED TOTAL BIOMASS-PRODUCING CAPABILITIES, CHARACTERISTIC GROWTH CURVES, RECUTTING TOLERANCE, MATURATION PROFILES (CONVERSION OF GREEN TISSUE TO DRY MATTER), RESPONSE TO CHEMICAL GROWTH REGULATORS, AND RESPONSE TO VARIABLE NITROGEN SUPPLIES. FIELD PLOT EXPERIMENTS WERE ESTABLISHED WITH CONTROLLED VARIABLES INCLUDING VARIETIES - 3 SUGARCANE, 3 NAPIER GRASS AND SORDAN 70-A, ROW CENTERS, 150, 50 AND 25 CM AND HARVEST FREQUENCY - 2, 4, 6 AND 12 MONTH INTERVALS. THE DATA OBSERVATIONS ARE BASED ON PARTIALLY COMPLETE DATA OVER A TIME COURSE OF TEN MONTHS.
- \*DATE, 780000

## ABSTRACT 1617

- \*TITLE, PREPARATION AND UTILIZATION OF METHANE BACTERIA AS STARTER IN BIO-GAS PRODUCTION.
- \*AUTHOR, ALICBUSAN R V, JOSE V R, RODULFO B R.
- \*SOURCE, WORLD SCIENCE NEWS, 1104 ABDUL REHMAN RD, KAROL BAGH, NEW DELHI-5, INDIA, 2 PP, UNDATED.
- \*KEYWORDS, ORGANIC, PHILIPPINES, METHANE, ANAEROBIC FERMENTATION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1618

- \*TITLE, ENERGY FROM AGRICULTURE.
- \*AUTHOR, ALICH J A, INMAN R E.
- \*SOURCE, IECEC 1975 RECORD, PP 834-841.
- \*KEYWORDS, ORGANIC, WASTES, BIOMASS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 750000

- \*TITLE, AGRICULTURAL AND FORESTRY WASTES AS AN ENERGY SOURCE.
- \*AUTHOR, ALICH J A, WITVER J G.
- \*SOURCE, PROC OF THE SUN CONF IN WINNIPEG, 7/146-157, 15-20 AUG 1976.
- \*KEYWORDS, ORGANIC, WASTES, ECONOMICS, MODELS.
- \*NOTES, THE ECONOMICS OF BIOMASS ENERGY IN THE CONTEXT OF THE US ENERGY SYSTEM ARE STUDIED USING A COMPLEX COMPUTER MODEL. THE MODEL PERMITS AN INVESTIGATION OF LEVELS AND PRICES AT WHICH BIOMASS CAN BE USED AND AN APPRAISAL OF THE ENERGY PROCESS THAT BIOMASS CAN DISPLACE. THE FEASIBILITY OF CONVERTING AGRICULTURAL AND FORESTRY RESIDUES TO ENERGY CAN BE EVALUATED ON A COUNTY-BY-COUNTY BASIS FOR THE CONTERMINOUS US.
- \*DATE, 760815

## ABSTRACT 1620

- \*TITLE, EFFECTIVE UTILIZATION OF SOLAR ENERGY TO PRODUCE CLEAN FUEL.
- \*AUTHOR, ALICH J A, INMAN R E.
- \*SOURCE, SRI, MENLO PARK, CA, JUNE 1974, 161 PP.
- \*KEYWORDS, ORGANIC, SOLAR, PHOTOSYNTHESIS, ECONOMICS, BIBLIOGRAPHY.
- \*NOTES, FILED. THIS REFERENCE DISCUSSES FACTORS AFFECTING PLANT BIOMASS PRODUCTION, ENERGY CONTENT OF PLANT BIOMASS, BIOMASS SPECIES AND YIELDS, ECONOMICS AND GEOGRAPHICAL CONSIDERATIONS IN PLANTATION SIGHTING. BIOMASS UTILIZATION IS DISCUSSED. CONSIDERS BIOMASS AN IMPORTANT NATURAL RESOURCE WITH SEVERAL ENERGY PRODUCTION POTENTIALS.
- \*DATE, 740600

## ABSTRACT 1621

- \*TITLE, ENERGY FROM AGRICULTURE.
- \*AUTHOR, ALICH J A.
- \*SOURCE, IN THE BOOK - CLEAN FUELS FROM BIOMASS, SEWAGE, URBAN REFUSE, AND AGRICULTURAL WASTES, J W WHITE, ED, INST OF GAS TECH, 3424 S STATE ST, CHICAGO, IL 60611, MARCH 1976, PP 287-310.
- \*KEYWORDS, ORGANIC, ENERGY CROPS, ECONOMICS, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. IT IS PROJECTED THAT UNDER THE ACCELERATED IMPLEMENTATION PLAN BIOCONVERSION MIGHT PROVIDE AS MUCH AS 8 PERCENT OF OUR ENERGY REQUIREMENTS IN THE YEAR 2000. FURTHER SPECULATION THAT UNDER THIS SCENARIO BIOCONVERSION WILL BE THE SINGLE MOST IMPORTANT SOLAR ENERGY CONCEPT. UNDER BIOCONVERSION FOUR SOURCES OF BIOMASS ARE INCLUDED - URBAN SOLID WASTE, AGRICULTURAL RESIDUES, AND ENERGY CROPS, BOTH TERRESTRIAL AND MARINE. THIS PAPER CONCENTRATES ON TERRESTRIAL ENERGY CROPS WHILE ONLY BRIEFLY COMMENTING ON OTHER SCHEMES. THE TYPES OF VEGETATION BEST SUITED FOR AN INTENSIVE ENERGY PLANTATION AS WELL AS SELECTION CRITERIA IS DISCUSSED. THE TYPE AND AVAILABILITY OF LAND FOR, AS WELL AS THE LOGISTICS AND ECONOMICS OF GROWING ENERGY CROPS ON A CONCEPTUAL TERRESTRIAL PLANTATION IS DISCUSSED. AN ENERGY BUDGET FOR PLANT MATERIALS PRODUCTION AND HARVESTING IS DEVELOPED. A TECHNOECONOMIC COMPARISON OF FIRING THE CROPS DIRECTLY FOR ELECTRICITY WITH CONVERTING THEN TO CLEAN FUEL GAS ( METHANE OR LOW BTU GAS) EITHER AT THE FARM SITE OR AT SELECTED MARKETS IS MADE.
- \*DATE, 760300

## ABSTRACT 1622

- \*TITLE, UTILIZATION OF PLANT BIOMASS AS AN ENERGY FEEDSTOCK.
- \*AUTHOR, ALICH J A, INMAN R E.
- \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MI/ANN ARBOR SCI PUBL INC, 1975, PP 453-466.
- \*KEYWORDS, ORGANIC, ENERGY CROPS, CONVERSION, ALTERNATIVE FUELS, ECONOMICS, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. THE MAJOR FINDINGS OF A STUDY FUNDED BY THE NATIONAL SCIENCE FOUNDATION AS WELL AS LATER WORK ARE SUMMARIZED. THE OBJECTIVES OF THE STUDY WERE TO INVESTIGATE - TYPES OF VEGETATION BEST SUITED FOR SOLAR CONVERSION, THE AVAILABILITY OF LAND, THE LOGISTICS AND ECONOMICS OF GROWING THE DESIRED CROP, THE ENERGY BUDGET FOR A BIOMASS PLANTATION, FIRING THE CROPS DIRECTLY OR CONVERTING TO METHANE OR LOW BTU GAS EITHER AT THE FARMSITE OR SELECTED MARKETS, THE OVERALL PROJECT FEASIBILITY - BOTH TECHNICAL AND ECONOMICALLY AND RESEARCH NEEDED IN KEY TECHNICAL AND ECONOMIC AREAS.
- \*DATE, 750000

## ABSTRACT 1623

- \*TITLE, ENERGY FROM TRASH.
- \*AUTHOR, ANDERSON R J, BALL D A, ENGDahl R B.
- \*SOURCE, ENERGY PERSPECTIVES, 22/4PP, OCT 1975, BATTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS, OH.
- \*KEYWORDS, ORGANIC, RECYCLING, ENERGY SOURCES, MUNICIPAL WASTE.
- \*NOTES, FILED.
- \*DATE, 751000



- TITLE, ENERGY POTENTIAL FROM ORGANIC WASTES - A REVIEW OF THE QUANTITIES AND SOURCES.
- AUTHOR, ANDERSON L L.
- SOURCE, US DEPT OF INTERIOR, BUREAU OF MINES INFO CIRCULAR 8549, 1972 14 PP.
- KEYWORDS, ORGANIC, WASTES, CONVERSION.
- NOTES, FILED. THIS REPORT ITEMIZES ORGANIC MATERIAL THAT ARE MOISTURE- AND ASH-FREE AND HAVE A POTENTIAL FOR FUEL OIL OR FUEL GAS. ORGANIC MATERIAL FROM MANURE, URBAN REFUSE, INDUSTRIAL AND AGRICULTURAL WASTES AND SEWAGE SOLIDS ARE EXAMINED AND THEIR POTENTIAL DISCUSSED.
- DATE, 720000

## . ABSTRACT 1625

- TITLE, COMPOST - FROM WASTE TO RESOURCE.
- AUTHOR, ANON.
- SOURCE, AGR RESEARCH, FEB 1976, PP 7-11.
- KEYWORDS, ORGANIC, WASTES.
- NOTES, FILED.
- DATE, 760200

## ABSTRACT 1626

- TITLE, UTILIZATION OF WASTES.
- AUTHOR, ANON.
- SOURCE, WORLD SCIENCE NEWS, NEW DELHI, PP 404-406, UNDATED.
- KEYWORDS, ORGANIC, INDIA, METHANE, GOBARGAS, FUEL CONSUMPTION, ANAEROBIC FERMENTATION.
- NOTES, FILED.
- DATE,

## ABSTRACT 1627

- TITLE, FUELS FROM BIOMASS.
- AUTHOR, ANON.
- SOURCE, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, MARCH 1977, 138 PP.
- KEYWORDS, ORGANIC.
- NOTES, FILED. SOLAR PROGRAM ASSESSMENT.
- DATE, 770300

## ABSTRACT 1628

- TITLE, LE CHAUFFAGE AU BOIS.
- AUTHOR, ANON.
- SOURCE, CAHIER 16, CAHIERS DU CENTRE TECHNIQUE DU BOIS, 10 AVENUE DE SAINT-MANDE, 75012 PARIS, SEPT 1975, 40 PP.
- KEYWORDS, ORGANIC, WOOD, HEAT, FRANCE.
- NOTES, FILED.
- DATE, 750900

## ABSTRACT 1629

- TITLE, OVERALL IMPACT OF BIOMASS CONVERSION - TECHNOLOGY ASSESSMENTS.
- AUTHOR, ANON.
- SOURCE, PRESENTED AT WASHINGTON CENTER FOR METROPOLITAN STUDIES CONF ON BIOCONVERSION, WASHINGTON DC, 10-12 MARCH 1976, PP 677-696.
- KEYWORDS, ORGANIC, ENVIRONMENT, ECONOMICS, SOCIAL IMPLICATIONS.
- NOTES, FILED. BIOCONVERSION TECHNOLOGIES ARE ASSESSED FOR ENVIRONMENTAL, ECONOMIC, AND SOCIAL IMPACTS. DEVELOPMENT OF MECHANISMS FOR INCREASED REPRESENTATION OF A WIDE SPECTRUM OF PEOPLE IN TECHNOLOGY ASSESSMENT EFFORTS IS ALSO SUGGESTED.
- DATE, 760310

## ABSTRACT 1630

- TITLE, AGRICULTURAL RESIDUES AS A SOURCE OF ENERGY.
- AUTHOR, ANON.
- SOURCE, PAPERS PRESENTED AT THE RURAL ELECTRIC CONF, UNIV OF CALIF, DAVIS, CA 95616, 21 JAN 1976, 48 PP.
- KEYWORDS, ORGANIC, CROP RESIDUES, AGRO-INDUSTRIAL WASTES, PYROLYSIS.
- NOTES, FILED. VARIOUS AUTHORITIES EXAMINED THE USE OF CERTAIN BIOMASS MATERIAL AS AN ENERGY FEEDSTOCK FOR THE PRODUCTION OF ELECTRICITY. TOPICS DISCUSSED ARE - 1) CROP RESIDUES AND THEIR MANAGEMENT, 2) UTILIZATION OF CROP RESIDUES FOR GASIFICATION OR POWER GENERATION, 3) COTTON GIN TRASH, 4) CONVERTING RICE HULLS INTO ENERGY AND USEFUL INDUSTRIAL PRODUCTS, 5) USING WOOD WASTE RECOVERY METHODS IN AGRICULTURE, 6) PYROLYSIS OF AGRICULTURAL WASTES FOR RESOURCE RECOVERY, 7) PRODUCER GAS GENERATION AND 8) EXTRACTING ENERGY FROM LIVESTOCK WASTES. ALL THESE ARTICLES EXPRESS THE FEELING THAT BIOMASS-TO-ENERGY HAS A PLACE IN OUR CURRENT ENERGY SITUATION.
- DATE, 760121

- \*TITLE, CAPTURING THE SUN THROUGH BIOCONVERSION.
- \*AUTHOR, ANON.
- \*SOURCE, CONF PROC, WASHINGTON CENTER FOR METROPOLITAN STUDIES, 1717 MASS AVE NW, WASHINGTON DC 20036, MARCH 1976, 962 PP.
- \*KEYWORDS, ORGANIC, CONVERSION, ALTERNATIVE FUELS.
- \*NOTES, FILED. A FAIRLY EXTENSIVE MATERIAL ON VARIOUS ASPECTS OF BIOMASS. THE FOLLOWING SUBTITLES ARE DISCUSSED IN A FAIR AMOUNT OF DETAIL, EACH BY SEVERAL AUTHORITIES - - BIOMASS SOURCES - URBAN AND INDUSTRIAL WASTES, AGRICULTURAL, ECT, BIOCONVERSION PROCESSES AND PRODUCTS, AND OVERALL IMPACTS. A GOOD REFERENCE AND EASY-READING.
- \*DATE, 760312

## ABSTRACT 1632

- \*TITLE, MODERN GAS PRODUCERS.
- \*AUTHOR, ANON.
- \*SOURCE, NOT AVAILABLE.
- \*KEYWORDS, ORGANIC, GASIFICATION.
- \*NOTES, FILED. 1920 VINTAGE REPORT ON COAL GASIFICATION, 303 PAGES.
- \*DATE, 220000.

## ABSTRACT 1633

- \*TITLE, TOWER POWER - PRODUCING FUELS FROM SOLAR ENERGY.
- \*AUTHOR, ANTAL M J.
- \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(5)/58-62, MAY 1976.
- \*KEYWORDS, ORGANIC, SOLAR, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 1634

- \*TITLE, CONVERSION OF URBAN REFUSE TO OIL.
- \*AUTHOR, APPELL H R, WENDER I, MILLER R D.
- \*SOURCE, TECH PROGRESS REPORT 25, BUREAU OF MINES SOLID WASTE PROGRAM, US DEPT OF INTERIOR, MAY 1970, 5 PP.
- \*KEYWORDS, ORGANIC, MUNICIPAL WASTE, RECYCLING.
- \*NOTES, FILED.
- \*DATE, 700500

## ABSTRACT 1635

- \*TITLE, FUEL GAS PRODUCTION FROM ANIMAL RESIDUE.
- \*AUTHOR, ASHARE E, WISE D L, WENTWORTH R L.
- \*SOURCE, REPORT 1551, DYNATECH R/D CO, CAMBRIDGE, MA, 14 JAN 1977, 210 PP.
- \*KEYWORDS, ORGANIC, MANURE, TECHNOLOGY ASSESSMENT.
- \*NOTES, NTIS, C00/2991-10.
- \*DATE, 770114

## ABSTRACT 1636

- \*TITLE, FUEL GAS PRODUCTION FROM ANIMAL WASTES - PHASE 1.
- \*AUTHOR, ASHARE E, WENTWORTH R L, WISE D L, AUGENSTEIN D C.
- \*SOURCE, REPORT 1594, DYNATECH R/D CO, CAMBRIDGE, MA, 15 MARCH 1977, 12 PP.
- \*KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION.
- \*NOTES, NTIS, C00/2991-14.
- \*DATE, 770315

## ABSTRACT 1637

- \*TITLE, FUEL GAS PRODUCTION FROM ANIMAL WASTE.
- \*AUTHOR, ASHARE E, WENTWORTH R L, WISE D L.
- \*SOURCE, REPORT 1573, DYNATECH R/D CO, CAMBRIDGE, MA, 1 FEB 1977, 50 PP.
- \*KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION.
- \*NOTES, NTIS, \$4.50.
- \*DATE, 770201

- \*TITLE, TECHNICAL AND ECONOMIC ASSESSMENT OF METHODS FOR DIRECT CONVERSION OF AGRICULTURAL RESIDUE TO USABLE ENERGY.
- \*AUTHOR, BAILIE R C.
- \*SOURCE, DEPT OF CHEM ENGR, WEST VIRGINIA UNIV, MORGANTOWN, WV 26506, 20 OCT 1976, 132 PP.
- \*KEYWORDS, ORGANIC, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 761020

## ABSTRACT 1639

- \*TITLE, TECHNICAL AND ECONOMIC ASSESSMENT OF METHODS FOR DIRECT CONVERSION OF AGRICULTURAL RESIDUE TO USABLE ENERGY.
- \*AUTHOR, BAILIE R C.
- \*SOURCE, DEPT OF CHEM ENGR, WEST VIRGINIA UNIV, MORGANTOWN, WV 26506, 20 OCT 1976, 132 PP.
- \*KEYWORDS, ORGANIC, WASTES, PYROLYSIS.
- \*NOTES, FILED. THIS STUDY ATTEMPTS TO DEFINE AND POINT OUT THE CHARACTERISTICS OF NON-FUEL DISCHARGES THAT LEAVE THE AGRICULTURAL PROCESS. THESE MUST ULTIMATELY BE DISPOSED OF OUTSIDE THE BATTERY. SOME MENTION AS TO HOW THE DISPOSAL MAY BE ACCOMPLISHED IS PROVIDED. THE STUDY IS ALSO CONSTRAINED TO THE CONSIDERATION OF SMALL SIZED CONVERSION SYSTEMS. THE STUDY CONSIDERS DESIGN CAPACITIES RANGING FROM TWO TONS PER DAY TO TWO HUNDRED TONS PER DAY. THIS RANGE COVERS SYSTEMS THAT ARE LIMITED TO INDIVIDUAL HOMESTEAD OPERATIONS TO SMALL INDUSTRIAL SCALE OPERATIONS.
- \*DATE, 761020

## ABSTRACT 1640

- \*TITLE, CURRENT DEVELOPMENTS AND PROBLEMS IN BIOMASS GASIFICATION.
- \*AUTHOR, BAILIE R C.
- \*SOURCE, PRESENTED AT FOREST AND FIELD FUELS SYMPOSIUM, WINNIPEG, CANADA, 11-13 OCT 1977, 18 PP.
- \*KEYWORDS, ORGANIC, PYROLYSIS.
- \*NOTES, THIS PAPER OUTLINES THE CURRENT DEVELOPMENTS AND PROBLEMS IN BIOMASS GASIFICATION.
- \*DATE, 771011

## ABSTRACT 1641

- \*TITLE, ECONOMICS ASSOCIATED WITH WASTE OF BIOMASS PYROLYSIS SYSTEMS.
- \*AUTHOR, BAILIE R C, RICHMOND C A.
- \*SOURCE, DEPT OF CHEM ENGR, WEST VIRGINIA UNIV, MORGANTOWN, WV 26506, 28PP.
- \*KEYWORDS, ORGANIC, PYROLYSIS.
- \*NOTES, FILED. BIOMASS MAY BE CONVERTED TO A MEDIUM-BTU FUEL GAS. DISCUSSES TWO PROCESSES AVAILABLE TO PRODUCE 300-400 BTU/CU FT FUEL GAS FROM BIOMASS - 1)PUROX (UNION CARBIDE) AND 2)PUROX (KIKAI KUNII, JAPAN). CONCLUSIONS - 1)BIOMASS AND MUNICIPAL WASTE CAN BE CONVERTED TO AN INTERMEDIATE GAS, 2)COST OF WOOD GAS - 2-3 DOLLARS PER 1000000 BTU, 3)FOR POWER GENERATING SYSTEMS ECONOMIES OF SCALE AND SIGNIFICANT FOR DIRECT FIRED SYSTEMS. WOOD IS EMPHASIZED.
- \*DATE,

## ABSTRACT 1642

- \*TITLE, POTENTIAL IMPACT OF ENERGY FARMING FOR SUPPLEMENTING ENERGY REQUIREMENTS OF FOOD PRODUCTION.
- \*AUTHOR, BAILIE R C, DONER D M, HENRY J A.
- \*SOURCE, DEPT OF CHEM ENGR, WEST VIRGINIA UNIV, MORGANTOWN, WV 26506, 3 DEC 1974, 30 PP.
- \*KEYWORDS, ORGANIC, WASTES.
- \*NOTES, FILED. DEFINED ENERGY FARMING AS THE USE OF CROP WASTES OF ENTIRE CROPS AS A SOURCE FOR FUEL. SOURCES DISCUSSED ARE WASTE BIOMASS FOUND IN PRESENT FARMING PRACTICES, WASTES RETURNED TO SOIL, ENERGY FARM UTILIZING PART OF THE FARM. FACTORS CONSIDERED WERE YIELD OF BIOMASS MATERIAL, EASE OF CULTIVATION, EASE OF HARVEST, FUEL CONVERSION EFFICIENCY, CAN POOR AREA OF FARM BE USED, CAN CROP ROTATION SCHEME BE USED AND CLIMATIC CONDITIONS. SEVERAL AGRICULTURAL AND FOREST PRODUCTS ARE DISCUSSED IN TERMS OF THEIR POTENTIAL ENERGY PRODUCTION.
- \*DATE, 741203

- \*TITLE, TECHNICAL AND ECONOMIC ASSESSMENT OF METHODS FOR DIRECT CONVERSION OF AGRICULTURAL RESIDUE TO USABLE ENERGY.
- \*AUTHOR, BAILIE R C.
- \*SOURCE, DEPT OF CHEM ENGR, WEST VIRGINIA UNIV, MORGANTOWN, WV 26506, OCT 20, 1976, PP 132.
- \*KEYWORDS, ORGANIC, CONVERSION, TECHNOLOGY ASSESSMENT, ECONOMICS.
- \*NOTES, FILED. THIS REPORT IS A TECHNICAL AND ECONOMIC ASSESSMENT OF METHODS FOR THE DIRECT CONVERSION OF AGRICULTURAL RESIDUES TO USABLE ENERGY ON SINGLE FARMS, FEEDLOTS, PROCESSING PLANTS, OR SMALL AGRICULTURAL COMMUNITIES. THE SIZE CONSTRAINT IMPLIES THAT THE AMOUNT OF TECHNICAL SKILLS AND OPERATOR TIME BE MINIMIZED. THE STUDY CONSIDERS ENERGY CONVERSION SYSTEMS WITH DESIGN CAPACITIES RANGING FROM 2 TO 200 TONS OF ORGANIC MATERIAL PER DAY. PRODUCTION OF ENERGY FORMS BOTH MOBILE AND STATIONARY USAGE WAS CONSIDERED. THE MORE PRACTICAL ALTERNATIVES ARE EXAMINED IN TERMS OF ENERGY CONVERSION EFFICIENCY, ECONOMICS, ENVIRONMENTAL IMPACT, TECHNICAL AND OPERATIONAL PROBLEMS AND THE STATE OF THE ART. SYSTEMS EXAMINED IN DETAIL ARE ANAEROBIC DIGESTION, PYROLYTIC PRODUCTION OF LOW BTU GAS, HYDROLYSIS AND FERMENTATION TO ETHANOL, AND FISCHER-TROPSCH PYROLYSIS TO LIQUID FUELS.
- \*DATE, 761020

## ABSTRACT 1644

- \*TITLE, BURNING WOOD.
- \*AUTHOR, BAKER L D, ET AL.
- \*SOURCE, NE-191, NRAES, NORTHEAST REGIONAL AGR ENGR SERVICE, RILEY-ROBB, CORNELL UNIV, ITHACA, NY 14853, AUG 1977, 24 PP.
- \*KEYWORDS, ORGANIC, WOOD.
- \*NOTES, FILED. DETAILS GIVEN ON HOW TO USE WOOD AS A FUEL SOURCE.
- \*DATE, 770800

## ABSTRACT 1645

- \*TITLE, TREE PLANTATIONS AS RESOURCES FOR RENEWABLE ENERGY PRODUCTION.
- \*AUTHOR, BALIS J S.
- \*SOURCE, ASAE PAPER 77-6532, 1977, 13 PP.
- \*KEYWORDS, ORGANIC, WOOD.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1646

- \*TITLE, FERMENTATIVE UTILIZATION OF CASSAVA.
- \*AUTHOR, BANZON J R.
- \*SOURCE, IOWA STATE COLLEGE J OF SCI, 15/15-18, 1941.
- \*KEYWORDS, ORGANIC.
- \*NOTES,
- \*DATE, 410000

## ABSTRACT 1647

- \*TITLE, ENERGY AND NUTRIENT CONSERVATION IN SWINE WASTE MANAGEMENT.
- \*AUTHOR, BARTH C L, HILL D T.
- \*SOURCE, ASAE PAPER 75-4040, 16 PP.
- \*KEYWORDS, ORGANIC, ANIMAL WASTE, METHANE, ENERGY SOURCES, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1648

- \*TITLE, EXPERIENCES FROM OPERATING A FULL SIZE ANAEROBIC DIGESTER.
- \*AUTHOR, BARTLETT H D, PERGON S, REGAN R W, BRANDING A E.
- \*SOURCE, ASAE PAPER 77-4053, 1977, 9PP.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, DESIGN, EFFICIENCY.
- \*NOTES, FILED. A 100 CUBIC METER ANAEROBIC DIGESTER FOR BIOGAS PRODUCTION HAS BEEN USED TO PROCESS THE GUTTER DISCHARGE FROM A 50-COW BARN. THE CONSTRUCTION, SLURRY HANDLING METHODS, HEATING SYSTEMS AND GAS AGITATION SYSTEM ARE DESCRIBED.
- \*DATE, 770000



- \*TITLE, NUTRIENT CHANGES DURING STORAGE OF ANAEROBIC DIGESTER EFFLUENT.
- \*AUTHOR, BARTLETT H O.
- \*SOURCE, ASAE PAPER 78-4563, 1978, 13 PP.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, FERTILIZER.
- \*NOTES, FILED. THE EFFECT OF PHOSPHORIC ACID ADDITIONS ON NITROGEN LOSSES FROM INFLUENT AND EFFLUENT FOR A DAIRY MANURE ANAEROBIC DIGESTER DURING AEROBIC AND ANAEROBIC STORAGE WAS EVALUATED DURING A 60 DAY PERIOD. THE ADDITIONS WERE MOST EFFECTIVE AT THE HIGHEST RATE AND SHDW POTENTIAL BY CONSERVING BIOLOGICALLY-FIXED NITROGEN.
- \*DATE, 7890

## ABSTRACT 1650

- \*TITLE, NON FOSSIL CARBON SOURCES.
- \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.
- \*SOURCE, PREPARED BY BATTELLE RESEARCH CENTRE FOR THE UNEP/FAO JOINT SEMINAR ON WASTE MANAGEMENT - UTILIZATION OF AGR AND AGRO-INDUSTRIAL WASTES, ROME, 18-21 JAN 1977, 17 PP.
- \*KEYWORDS, ORGANIC, WASTES, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 770118

## ABSTRACT 1651

- \*TITLE, SYSTEMS STUDY OF FUELS FROM SUGARCANE, SWEET SORGHUM, SUGAR BEETS, AND CORN.
- \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.
- \*SOURCE, BATTELLE COLUMBUS LAB, COLUMBUS, OH 43201.
- \*KEYWORDS, ORGANIC, ENERGY CROPS, ALCOHOL.
- \*NOTES, NTIS, BMI 1957(FOR VOL 1, 2, 3) AND BMI 1957A(FOR VOL 4, 5).  
VOL 1 - COMPREHENSIVE EVALUATION OF SUGAR CROPS  
VOL 2 - SUGAR CROPS AGRICULTURE  
VOL 3 - CONVERSION  
VOL 4 - CORN AGRICULTURE  
VOL 5 - COMPREHENSIVE EVALUATION OF CORN.
- \*DATE,

## ABSTRACT 1652

- \*TITLE, RICE HUSK CONVERSION TO ENERGY.
- \*AUTHOR, BEAGLE E C.
- \*SOURCE, FAO, ROME, DEC 1976, 213 PP, IN PRESS.
- \*KEYWORDS, ORGANIC, CONVERSION, ENERGY SOURCES, WORLD WIDE, MAINTENANCE.
- \*NOTES, FILED.
- \*DATE, 761200

## ABSTRACT 1653

- \*TITLE, METHANE - FUEL OF THE FUTURE.
- \*AUTHOR, BELL C, BOULTER S, DUNLOP D, KEILLER P.
- \*SOURCE, DORCHESTER, ENGLAND/ PRISM PRESS, 1973, 85 PP.
- \*KEYWORDS, ORGANIC, METHANE, ANAEROBIC FERMENTATION, ALGAE, DEVELOPING COUNTRIES, MUNICIPAL WASTE.
- \*NOTES, FILED.
- \*DATE, 730000

## ABSTRACT 1654

- \*TITLE, A NEW LOOK AT AN OLD FUEL.
- \*AUTHOR, BELL L E, KOELLING M R.
- \*SOURCE, EXT BULLETIN E-779, NATURAL RESOURCES SERIES, MICH STATE UNIV, EAST LANSING, MI 48823, APRIL 1974, 6 PP.
- \*KEYWORDS, ORGANIC, WOOD.
- \*NOTES, FILED.
- \*DATE, 740400

## ABSTRACT 1655

- \*TITLE, BIO-ENERGY DIRECTORY.
- \*AUTHOR, BENTE P F, ET AL.
- \*SOURCE, THE BIO-ENERGY COUNCIL, SIUTE 204, 1337 CONN AVE, WASHINGTON DC 20036, JUNE 1978, 220 PP.
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED. A LISTING OF PROJECT THAT ARE OCCURING THAT DEAL WITH BIO-ENERGY.
- \*DATE, 780600

- \*TITLE, AGRICULTURAL RESIDUES AND THEIR UTILIZATION IN SOME COUNTRIES OF SOUTH AND SOUTHEAST ASIA.
- \*AUTHOR, BHUSHAN B.
- \*SOURCE, UNEP/FAO/ISS,4/06, ROME, ITALY, 18-21 JAN 1977, 55 PP.
- \*KEYWORDS, ORGANIC, WASTES, ASIA, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 770118

## ABSTRACT 1657

- \*TITLE, ENERGY POTENTIAL THROUGH BIO-CONVERSION OF AGRICULTURAL WASTES.
- \*AUTHOR, BIO-GAS OF COLORADO INC, COLORADO ENERGY RESEARCH INSTITUTE.
- \*SOURCE, BIO-GAS OF COLORADO INC AND COLORADO ENERGY RESEARCH INST, OCT 1976, 29 PP.
- \*KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, ECONOMICS.
- \*NOTES, FILED. THIS BOOKLET DISCUSSES CONVERTING ORGANIC MATERIALS TO FUEL, FERTILIZER AND FEEED THROUGH BIO-CONVERSION. A BIO-CONVERSION PLANT IS ENVISIONED AND DISCUSSED THROUGH ITS VARIOUS PROCESSES. THE STUDY DID AN INVENTORY AND EVALUATION OF POSSIBLE BIOMASS PROCESSING SITES AND THE METHODS USED ARE FAIRLY EXTENSIVELY DISCUSSED. AN ECONOMIC ANALYSIS OF A UTILITY PLANT IS MADE AND RESOURCE RECYCLING IS EXAMINED AS A MEANS OF FUTURE ENERGY PLANNING.
- \*DATE, 761000

## ABSTRACT 1658

- \*TITLE, PROCEEDINGS INTERNATIONAL BIOMASS CONFERENCE.
- \*AUTHOR, BIOMASS ENERGY INSTITUTE.
- \*SOURCE, BIOMASS ENERGY INST, PO BOX 129, POSTAL STATION C, WINNIPEG, MANITOBA R3M 3S7, CANADA, 13-15 MAY 1973.
- \*KEYWORDS, ORGANIC, HISTORICAL, BIOMASS, ENERGY SOURCES, PHOTOSYNTHESIS, SOCIAL IMPLICATIONS, ANAEROBIC FERMENTATION, PYROLYSIS, METHANE, SINGLE CELL PROTEIN, CANADA.
- \*NOTES, FILED.
- \*DATE, 730513

## ABSTRACT 1659

- \*TITLE, QUANTITIES AND CHARACTERISTICS OF FARM-ANIMAL WASTES.
- \*AUTHOR, BLACK R J, KEHR W G.
- \*SOURCE, PROC OF ANIMAL WASTE AND BY-PRODUCT MANAGEMENT CONF, UNIV OF WISC, MADISON, WI, NOV 1969, PP 17-21.
- \*KEYWORDS, ORGANIC, ANIMAL WASTE, POLLUTION, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 691100

## ABSTRACT 1660

- \*TITLE, NETWORK FOR THE DEVELOPMENT OF SUITABLE, LOW COST BIOGAS GENERATORS FOR RURAL AREAS IN LOCS.
- \*AUTHOR, BLACKLEDGE J P.
- \*SOURCE, OFFICE OF INTERNATIONAL PROGRAMS, UNIV OF DENVER, DENVER RESEARCH INST, UNIVERSITY PARK, 19 APRIL 1976, 9 PP.
- \*KEYWORDS, ORGANIC, INTERNATIONAL.
- \*NOTES, A10.
- \*DATE, 760419

## ABSTRACT 1661

- \*TITLE, SILVICULTURAL BIOMASS FARMS, VOLUME V, CONVERSION PROCESSES AND COSTS.
- \*AUTHOR, BLISS C. ET AL.
- \*SOURCE, MITRE TECHNICAL REPORT 7347, NTIS, US DEPT COMMERCE SPRING FIELD, VA
- \*KEYWORDS, ORGANIC, WOOD, CONVERSION, ALTERNATIVES, TECHNOLOGY ASSESSMENT, ECONOMICS.
- \*NOTES, FILED. THIS VOLUME PRESENTS AN ASSESSMENT OF THE PRODUCTS AND PROCESSES THAT APPEAR TO BE CONDEATED FOR THE CONVERSION OF WOOD BIOMASS TO ENERGY FORMS SUITED TO THE NATIONAL ENERGY SCENE. THE PRODUCTS ASSESSED INCLUDE- ELECTRICITY FROM COMBUSTION OF WOOD, WOOD AND WOOD CHARCOAL IN COMBUSTION WITH OIL OR COAL, AMMONIA, METHANOL, MEDIUM-BTU FUEL GAS, SUBSTITUTE NATURAL GAS, AND ETHANOL. CONVERSION TECHNOLOGIES ARE REVIEWED AND DATA AND INFORMATION GAPS FOR ULTIMATE DESIGN OF VIABLE PROCESSES ARE IDENTIFIED AS AN INPUT TO THE FORMULATION OF RESEARCH AND DEVELOPMENT NEEDS.
- \*DATE, 770500

- \*TITLE, BIOLOGICAL CONVERSION OF SOLAR ENERGY.
- \*AUTHOR, BOARDMAN R K.
- \*SOURCE, PROC OF SYMPOSIUM ON REALISTIC PROSPECTS FOR SOLAR POWER IN AUSTRALIA, INTERNATIONAL SOLAR ENERGY SOC, 22 NOV 1973.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS, ANAEROBIC FERMENTATION, SOLAR, PYROLYSIS, ALCOHOL, METHANE, HYDROGEN.
- \*NOTES, FILED.
- \*DATE, 731122

## ABSTRACT 1663

- \*TITLE, ENERGY - PLAN TO USE PEAT AS FUEL STIRS CONCERN IN MINNESOTA.
- \*AUTHOR, BOFFEY P M.
- \*SOURCE, SCIENCE, 190/1066-1070, 12 DEC 1975.
- \*KEYWORDS, ORGANIC, MINNESOTA, LAND USE, SOCIAL IMPLICATIONS, PEAT.
- \*NOTES, FILED.
- \*DATE, 751212

## ABSTRACT 1664

- \*TITLE, WHAT ABOUT CORN REFUSE SILAGE RETRIEVAL SYSTEMS.
- \*AUTHOR, BOLEN J S, GREATHOUSE T R.
- \*SOURCE, INFO SERIES 248, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, 14 MAY 1969, 6 PP.
- \*KEYWORDS, ORGANIC, AGRICULTURE, WASTES, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 690514

## ABSTRACT 1665

- \*TITLE, DOES LANDFILL FILL LAND.
- \*AUTHOR, BONDI A A.
- \*SOURCE, ECCLIBRIUM, 4(4)/9-12, WINTER 1975.
- \*KEYWORDS, ORGANIC, ENVIRONMENT, WASTES, CONVERSION.
- \*NOTES, SANITARY LAND FILL, ABOVEGROUND BIOGASIFICATION, HYDROGASIFICATION TO METHANE, CO-COMBUSTION OF SOLID WASTE, RESOURCE RECYCLING, PYROLYSIS, AND COMPOSTING ARE SUMMARIZED AS METHODS TO REDUCE LANDFILL OPERATIONS FOR MOST US MUNICIPALITIES.
- \*DATE, 750000

## ABSTRACT 1666

- \*TITLE, METHANE GENERATION FROM LIVESTOCK WASTES IN NORTHERN GEORGIA.
- \*AUTHOR, BOORAM C V, NEWTON G L, HALEY F.
- \*SOURCE, ASAE PAPER 75-4543, 9 PP.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, ANIMAL WASTE, GEORGIA, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1667

- \*TITLE, FUEL FROM ORGANIC WASTE--METHANE GAS PRODUCTION
- \*AUTHOR, BOSHOFF W H.
- \*SOURCE, SPAN, 18(1)/29-33, 1975.
- \*KEYWORDS, ORGANIC, WASTES, METHANE.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1668

- \*TITLE, FINAL REPORT ON RESEARCH IN METHANE GENERATION.
- \*AUTHOR, BOSKEN J, JOHNSON A L.
- \*SOURCE, CONTRACT AID/TA-C-1278, PROJECT 931-17-998-001-73, OFFICE OF SCI AND TECH, TECHNICAL ASSISTANCE BUREAU, AID, WASHINGTON DC, 15 SEPT 1976.
- \*KEYWORDS, ORGANIC, METHANE, ANAEROBIC FERMENTATION, WASTES.
- \*NOTES, FILED.
- \*DATE, 760915

- \*TITLE, METHANE GENERATION FROM HUMAN, ANIMAL AND AGRICULTURAL WASTES.
- \*AUTHOR, BROWN N L. ET AL.
- \*SOURCE, NRC, NAS, WASHINGTON DC, 1977, 131 PP.
- \*KEYWORDS, ORGANIC, METHANE, WASTES, ANAEROBIC FERMENTATION, TECHNOLOGY ASSESSMENT, DEVELOPING COUNTRIES, INDIA.
- \*NOTES, FILED. THIS REPORT GIVES A GENERAL OVERVIEW OF THE ANAEROBIC DIGESTION PROCESS TOGETHER WITH A DESCRIPTION OF THE STATE OF THE ART AND A DISCUSSION OF THE TECHNOLOGY INVOLVED. IT IS A GENERAL YET THOROUGH ENOUGH GUIDE TO SERVE AS AN EXCELLENT INTRODUCTION TO METHANE GENERATION, THOUGH IT DOES ADDRESS ITSELF PRIMARILY TO THE NEEDS OF RURAL AREAS IN DEVELOPING COUNTRIES (MOST NOTABLY INDIA). INCLUDED IN THIS REPORT ARE SECTIONS DISCUSSING PUBLIC HEALTH CONCERNS, PLANT SAFETY, RAW MATERIALS AND THEIR PREPARATION, SLUDGE USE, AS WELL AS A CHEMICAL ANALYSIS OF THE FERMENTATION PROCESS, DESIGN CONSIDERATIONS FOR THE BIOGAS PLANT ITSELF, AND ADVICE ON THEIR OPERATION AND MAINTENANCE. THERE ARE ALSO PLANS FOR TWO DIFFERENT BIOGAS GENERATORS. THIS REPORT CALLS FOR ADDITIONAL RESEARCH DEALING WITH GENERATOR DESIGNS WHICH UTILIZE LOWER COST CONSTRUCTION MATERIALS, THE BIODEGRADABILITY OF FEEDSTOCKS, AND THE USE OF SLUDGE AS FERTILIZER UNDER A WIDE VARIETY OF CONDITIONS. THE REFERENCE LIST IS EXCELLENT.
- \*DATE, 770000

## ABSTRACT 1670

- \*TITLE, DESIGN OF GAS PRODUCER USING CORNSTALK BALE AS FUEL.
- \*AUTHOR, BUCHELE W F. ET AL.
- \*SOURCE, AGR ENGR, IOWA STATE UNIV, AMES, IA, 40 PP.
- \*KEYWORDS, ORGANIC, DESIGN, PRODUCER GAS GENERATION, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1671

- \*TITLE, HARVESTING AND UTILIZATION OF CORN STALKS FROM IOWA FARMS.
- \*AUTHOR, BUCHELE W F.
- \*SOURCE, REPORT 3, DEPT OF AGR ENGR, IOWA STATE UNIV, AMES, IA, 10 JUNE 1975, 23 PP.
- \*KEYWORDS, ORGANIC, HARVESTING, STORAGE, ECONOMICS.
- \*NOTES, FILED. CORN STALKS, ONE OF THE MOST IMPORTANT RENEWABLE RESOURCES OF THE NATION, REMAIN IN THE FIELD AFTER THE HARVEST. THE FARMER EXPENDS CONSIDERABLE MONEY CHOPPING AND DISKING THE STALKS BEFORE HE BURIES THEM WITH A MOLDBOARD PLOW. THE DEVELOPMENT OF A SYSTEM FOR HARVESTING AND UTILIZING THIS UNUSED RESOURCE IS COVERED IN THIS REPORT. STARTING WITH CORNSTALKS MOISTURE CONTENT, THROUGH THE ECONOMIC ASPECTS OF BURNING CORNSTALKS IN ELECTRIC GENERATING PLANTS, AND THE EFFECT OF CROP REMOVAL ON THE YIELD AND TILTH OF SOIL ARE ALL COVERED.
- \*DATE, 750610

## ABSTRACT 1672

- \*TITLE, A PROGRESS REPORT- DIRECT COMBUSTION OF CROP RESIDUES IN BOILER FURNACES.
- \*AUTHOR, BUCHELE W F.
- \*SOURCE, PRESENTED AT THE CONF ON THE PRODUCTION OF BIOMASS FROM GRAINS, CROP RESIDUES, JORAGES AND GRASSES FOR CONVERSION TO FUELS AND CHEMICALS, KANSAS CITY, MO, 2-3 MARCH 1977, PP 312-331.
- \*KEYWORDS, ORGANIC, CORN STALKS, COMBUSTION, ECONOMICS.
- \*NOTES, FILED. RESEARCH WAS CONDUCTED ON CONVERTING THE ENERGY VALUE OF CORN STALKS TO USEFUL FORMS OF ENERGY BY BURNING CORN STALKS AS A COMPANION FUEL WITH HIGH-SULFUR COAL IN BOILERS OF ELECTRIC GENERATING PLANTS. THE VALUE OF THE CORN STALKS WAS COMPARED WITH THAT OF COAL, COSTED COLLECTION, TRANSPORTATION AND PROCEEDING WERE CALCULATED.
- \*DATE, 770303

## ABSTRACT 1673

- \*TITLE, EXPERIMENTS IN RECYCLING SWINE MANURE IN FISHPONDS.
- \*AUTHOR, BUCK D H, BAUR R J, ROSE C R.
- \*SOURCE, FIR, AQ/CONF/76/EI9, FAO TECH CONFERENCE ON AQUACULTURE, FAO, ROME, ITALY, FEB 1976, 5 PP.
- \*KEYWORDS, ORGANIC, RECYCLING, MANURE.
- \*NOTES, FILED.
- \*DATE, 750200

## ABSTRACT 1674

- \*TITLE, BIO-GAS OF COLORADO.
- \*AUTHOR, BURFORD J C.
- \*SOURCE, BIO-GAS OF COLORADO CORP.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, ANIMAL WASTE, ECONOMICS, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE,



- \*TITLE, THE LAMAR BIO-CONVERSION PLANT DESIGN.
- \*AUTHOR, BURFORD J C, VARANI F T.
- \*SOURCE, BIO-GAS OF COLORADO, 342 E THIRD ST, LOVELAND, CO 80537, SEPT 1976, 25 PP.
- \*KEYWORDS, ORGANIC, BIOGAS, WASTES, ECONOMICS.
- \*NOTES, FILED. THIS PAPER ADDRESSES THE EVOLUTION OF DESIGN AND PRESENT STATUS OF A LARGE-SCALE ANAEROBIC DIGESTION FACILITY PROPOSED FOR THE CITY OF LAMAR, COLORADO TO PROVIDE METHANE GAS TO THE CITY'S ELECTRIC UTILITY PLANT AND CATTLE FEEDSTUFF TO AREA FEEDLOTS.
- \*DATE, 760900

## ABSTRACT 1676

- \*TITLE, SOLAR BIOMASS ENERGY - AN OVERVIEW OF US POTENTIAL.
- \*AUTHOR, BURWELL C C.
- \*SOURCE, SCIENCE, (199)/1041-1048, 10 MARCH 1978.
- \*KEYWORDS, ORGANIC, ENERGY CROPS, USA.
- \*NOTES, FILED. THE AUTHOR DISCUSSES THE FOLLOWING ITEMS IN SOME DETAIL - 1) ENERGY SUPPLY AND CONSUMPTION IN THE US, 2) BIOMASS PRODUCTION IN AGRICULTURAL, SILVICULTURAL, OTHER TERRESTRIAL, 3) ENERGY REQUIREMENTS, 4) INTENSIVE TREE FARMING, 5) MARKET FOR BIOMASS FUELS, 6) ENVIRONMENTAL CONSIDERATIONS, 7) PHOTOSYNTHESIS. CONCLUDES THAT BIOMASS CAN SUPPLY ABOUT 25 PERCENT OF THE NATIONS ENERGY NEEDS, GIVEN THE TOTAL OF EACH YEARS BIOMASS PRODUCTION IN THE US.
- \*DATE, 780310

## ABSTRACT 1677

- \*TITLE, A GASOLINE TREE PLANTATION.
- \*AUTHOR, CALVIN M.
- \*SOURCE, AGR ENGR, NOV 1977, PP 13-16.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS.
- \*NOTES, FILED.
- \*DATE, 771100

## ABSTRACT 1678

- \*TITLE, FERMENTATION AND HYDROCARBONS.
- \*AUTHOR, CALVIN M.
- \*SOURCE, LBL 7276, LAWRENCE BERKELEY LAB, UNIV OF CALIF, BERKELEY, CA 94720, 12 JAN 1978, 60 PP.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS, ALCOHOL, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 780112

## ABSTRACT 1679

- \*TITLE, PETROLEUM PLANTATIONS.
- \*AUTHOR, CALVIN M.
- \*SOURCE, LAB OF CHEM BIODYNAMICS, UNIV OF CALIF, BERKELEY, CA, 24 PP.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1680

- \*TITLE, GREEN FACTORIES FOR LIQUID FUEL.
- \*AUTHOR, CALVIN G J, CALVIN M.
- \*SOURCE, LBL-7584, US DEPT OF ENERGY, APRIL 1978, 18 PP.
- \*KEYWORDS, ORGANIC, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 780400

## ABSTRACT 1681

- \*TITLE, GREEN FACTORIES.
- \*AUTHOR, CALVIN M.
- \*SOURCE, CHEMICAL AND ENGR NEWS, 56/30-36, 20 MARCH 1978.
- \*KEYWORDS, ORGANIC, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 780300

- \*TITLE, HYDROCARBONS VIA PHOTOSYNTHESIS.
- \*AUTHOR, CALVIN M.
- \*SOURCE, ENERGY RESEARCH, 1/299-327, 30 MAY 1977.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS, FOSSIL FUELS.
- \*NOTES, FILED. PHOTOSYNTHESIS IS EXAMINED AS A POSSIBLE ANNUALLY RENEWABLE RESOURCE FOR MATERIALS AND ENERGY. THE PRODUCTION OF FERMENTATION ALCOHOL FROM SUGARCANE AS A MAJOR COMPONENT OF MATERIALS FOR CHEMICAL FEEDSTOCK IS EXAMINED AS WELL AS THE DIRECT PHOTOSYNTHETIC PRODUCTION OF HYDROCARBONS FROM EUPHORBIA, ASCLEPIAS AND OTHER HYDROCARBON-CONTAINING PLANTS WITH A VIEW TOWARDS DETERMINING THEIR VARIOUS CHEMICAL COMPONENTS. IN ADDITION, EXPERIMENTAL PLANTINGS OF PLANTS OF THIS TYPE HAVE BEGUN TO OBTAIN DATA ON WHICH SPECIES WOULD BE THE MOST SUCCESSFUL. WORK IS ALSO UNDERWAY ON THE DEVELOPMENT OF CHEMICAL PROCESS TECHNIQUES FOR THE EXTRACTION OF PLANT MATERIALS AFTER HARVEST. IN ADDITION, THE CONSTRUCTION OF SYNTHETIC SYSTEMS BASED ON THE KNOWLEDGE OF THE NATURAL PHOTOSYNTHETIC PROCESSES ARE UNDERWAY. THESE SYSTEMS COULD BE USED TO PRODUCE FUEL, FERTILIZERS AND POWER. AS A RESULT OF STUDIES OF THE NATURAL QUANTUM CONVERSION PROCESS IN GREEN PLANTS, SEVERAL PHOTOELECTRON TRANSFER PROCESSES CAN BE ENVISAGED, SOME OF WHICH HAVE ALREADY BEEN DEMONSTRATED IN SYNTHETIC SYSTEMS. METHODS OF CONSTRUCTING SYSTEMS OF THIS TYPE AND THE PRINCIPLES OF THEIR USE ARE DESCRIBED.
- \*DATE, 770530

## ABSTRACT 1683

- \*TITLE, UTILIZATION OF URBAN WASTES IN CROP PRODUCTION.
- \*AUTHOR, CARLSON C W, MENZIES J D.
- \*SOURCE, BIOSCIENCE, 21(12)/561-564, 15 JUNE 1971.
- \*KEYWORDS, ORGANIC, AGRICULTURE, FERTILIZER.
- \*NOTES, FILED, NAS.
- \*DATE, 710615

## ABSTRACT 1684

- \*TITLE, FOOD, FUEL, FERTILIZER.
- \*AUTHOR, CATANIA P J.
- \*SOURCE, PROC OF A SYMPOSIUM ON USES OF AGR WASTES, 4-5 NOV 1974, CANADA PLAINS RESEARCH CENTER, UNIV OF REGINA, SASKATCHEWAN, CANADA, 371 PP.
- \*KEYWORDS, ORGANIC, METHANE, RECYCLING, MANURE, PYROLYSIS, BIOMASS, ANAEROBIC FERMENTATION.
- \*NOTES, FILED.
- \*DATE, 741104

## ABSTRACT 1685

- \*TITLE, FOOD AND ENERGY CROP SYSTEM.
- \*AUTHOR, CERVINKA V, ROLLINS E S, SCHWEICKART V L.
- \*SOURCE, CALIF DEPT OF FOOD AND AGR, SACRAMENTO, CA, FEB 1977, 21 PP.
- \*KEYWORDS, ORGANIC, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 780200

## ABSTRACT 1686

- \*TITLE, CELLULOSE FROM SUNLIGHT.
- \*AUTHOR, CHEDO G.
- \*SOURCE, NEW SCIENTIST, 6 MARCH 1975, PP 572-575.
- \*KEYWORDS, ORGANIC, SOLAR.
- \*NOTES, FILED.
- \*DATE, 750306

## ABSTRACT 1687

- \*TITLE, BIOMASS CONVERSION - ECONOMICS INHIBIT PROGRESS.
- \*AUTHOR, CHEMICAL AND ENGINEERING NEWS.
- \*SOURCE, CHEM AND ENGR NEWS, 555(9)/21-22, 28 FEB 1977.
- \*KEYWORDS, ORGANIC, ECONOMICS.
- \*NOTES, FILED. THE POTENTIAL OF BIOMASS PLANT AS A SOURCE OF HYDROCARBON FUELS AND CHEMICAL RAW MATERIALS IS DEMONSTRABLY LARGE, BUT SO FAR MOST OF THE PRACTICAL APPLICATIONS OF BIOMASS CONVERSION TECHNOLOGY ARE INEXTRACTABLY RELATED TO WASTE RECYCLE. REASONS FOR THE APPARENT LAG IN PROGRESS OF DEVELOPING A BIOMASS CONVERSION INDUSTRY RANGE FROM BIOCHEMICAL IGNORANCE OF PLANT ECOLOGY TO OPPOSITION FROM THE FIRMLY ENTRENCHED ENERGY INDUSTRIES. BUT THEY COME DOWN TO UNFAVORABLE ECONOMICS.
- \*DATE, 770228

- \*TITLE, UTILIZATION OF WASTE PRODUCTS IN ANIMAL FEEDING.
- \*AUTHOR, CHENOST M.
- \*SOURCE, UNEP/FAO/ISS,4/12, ROME, ITALY, 18-21 JAN 1977, 5 PP.
- \*KEYWORDS, ORGANIC, WASTES.
- \*NOTES, FILED.
- \*DATE, 770118

## ABSTRACT 1689

- \*TITLE, PYROLYTIC CONVERSION OF AGRICULTURAL AND FORESTRY WASTES IN GHANA.
- \*AUTHOR, CHIANG T I. ET AL.
- \*SOURCE, PREPARED BY THE ECON DEV LAB, ENGR EXPT STA, GEORGIA INST OF TECH, FOR THE AGENCY FOR INTERNATIONAL DEV, OFFICE OF SCI AND TECH, WASHINGTON DC 20523, JULY 1976, 39 PP.
- \*KEYWORDS, ORGANIC, WASTES, CONVERSION, GHANA.
- \*NOTES, FILED. THIS REPORT DESCRIBES THE RESULTS OF A FIELD STUDY TO DETERMINE THE QUANTITIES AND CHARACTERISTICS OF WASTE IN GHANA AND THE FEASIBILITY OF USING PYROLYTIC CONVERSION OF THESE WASTES. A PRELIMINARY DESCRIPTION OF AN APPROPRIATE TECHNOLOGY VERSION OF A CONTINUOUS BATCH PYROLYTIC CONVERSION SYSTEM IS ALSO PRESENTED, INCLUDING AN ECONOMIC OVERVIEW.
- \*DATE, 760700

## ABSTRACT 1690

- \*TITLE, WOOD AS FUEL - FORESTS CAN BE UTILIZED MORE FULLY AS AN ENERGY SOURCE.
- \*AUTHOR, CHOW P.
- \*SOURCE, ILLINOIS RESEARCH, SPRING 1977, PP 6-7.
- \*KEYWORDS, ORGANIC, WOOD, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1691

- \*TITLE, CROP RESIDUES- ENERGY FOR IRRIGATION PUMPING AND CROP DRYING.
- \*AUTHOR, CLARK S J.
- \*SOURCE, ASAE PAPER 78-2550, 1978, 38 PP.
- \*KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, DIRECT COMBUSTION, GASIFICATION.
- \*NOTES, FILED.. IRRIGATION FARMERS HAVE A SOURCE OF ENERGY THAT THEY OWN AND CONTROL-CROP RESIDUES. THREE SYSTEMS THAT CONVERT RESIDUES INTO ENERGY SUITABLE FOR PUMP PRIME MOVERS ARE EVALUATED IN THIS PAPER. THE EVALUATION INDICATES THAT GASIFICATION OF RESIDUES HAS THE GREATEST POTENTIAL.
- \*DATE, 780000

## ABSTRACT 1692

- \*TITLE, BIOCONVERSION OF CROP MATERIALS TO METHANE.
- \*AUTHOR, CLAUSEN E C, SITTON O C, GADDY J L.
- \*SOURCE, PROCESS BIOCHEMISTRY, 12(7)/5-9, SEPT 1977.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, METHANE, ECONOMICS, TECHNOLOGY ASSESSMENT.
- \*NOTES, THE FEASIBILITY OF PRODUCING METHANE BY ANAEROBIC DIGESTION OF VARIOUS CROP MATERIALS IS STUDIED.
- \*DATE, 770900

## ABSTRACT 1693

- \*TITLE, TIMBER - THE RENEWABLE MATERIAL.
- \*AUTHOR, CLIFF E P.
- \*SOURCE, CHAPTER 3, NATIONAL COMMISSION ON MATERIALS POLICY, AUG 1973.
- \*KEYWORDS, ORGANIC, WOOD, WASTES, HARVESTING.
- \*NOTES, FILED.
- \*DATE, 730800

## ABSTRACT 1694

- \*TITLE, ECONOMIC EVALUATION OF ASSET RECOVERY FROM ANIMAL WASTE BY ANAEROBIC FERMENTATION.
- \*AUTHOR, COE W B, TURK M.
- \*SOURCE, AMER SOC FOR MICROBIOLOGY, ANNUAL MEETING, MAY 1973, 27PP.
- \*KEYWORDS, ORGANIC, ECONOMICS, ANAEROBIC FERMENTATION, ANIMAL WASTE.
- \*NOTES, FILED.
- \*DATE, 730500

- \*TITLE, METHANE PRODUCTION FROM LIVESTOCK WASTES.
- \*AUTHOR, COLLINS E R, HUGHES H A.
- \*SOURCE, ENERGY MANAGEMENT SERIES PUBL 718, VIRGINIA POLYTECHNIC INST AND STATE UNIV, BLACKSBURG, VA 24061, OCT 1976, 7PP.
- \*KEYWORDS, ORGANIC, METHANE, WASTES, ANAEROBIC FERMENTATION.
- \*NOTES, FILED.
- \*DATE, 761000

## ABSTRACT 1696

- \*TITLE, DAIRY MANURE DEGRADATION UNDER MESOPHILIC AND THERMOPHILIC TEMPERATURES.
- \*AUTHOR, CONVERSE J C, ZEIKUS J G, GRAVES R E, EVANS G W.
- \*SOURCE, ASAE PAPER 75-454J, 16 PP.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, MANURE, STATISTICS, DESIGN.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1697

- \*TITLE, FACTS ON METHANE PRODUCTION FROM ANIMAL MANURE.
- \*AUTHOR, CONVERSE J C, GRAVES R E.
- \*SOURCE, ENERGY FACTS, COOPERATIVE EXTENSION SERVICE, UNIV OF WISC, MADISON, JULY 1974, 4 PP.
- \*KEYWORDS, ORGANIC, ANIMAL WASTE, ANAEROBIC FERMENTATION, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE, 740700

## ABSTRACT 1698

- \*TITLE, PERFORMANCE OF A LARGE SIZE ANAEROBIC DIGESTER FOR POULTRY MANURE.
- \*AUTHOR, CONVERSE J C, EVANS G W, VERHOEVEN C R.
- \*SOURCE, ASAE PAPER 77-4C51, 1977, 14 PP.
- \*KEYWORDS, ORGANIC, METHANE, MANURE, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. CONTAINS DATA ON METHANE PRODUCTION FROM A 96.5 CU M DIGESTER UTILIZING POULTRY MANURE.
- \*DATE, 77J000

## ABSTRACT 1699

- \*TITLE, THERMOPHILIC ANAEROBIC DIGESTION OF SOLID WASTE FOR FUEL GAS PRODUCTION.
- \*AUTHOR, COONEY C L, WISE D L.
- \*SOURCE, BIOTECH AND BIENGR, 17/1119-1135, 1975.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1700

- \*TITLE, ENERGY OUT OF AGRICULTURE.
- \*AUTHOR, CORNFORTH J W.
- \*SOURCE, SPAN, 18(1)/10-11, 1975.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS, CONVERSION.
- \*NOTES, FILED. THE ARTICLE DISCUSSES PLANTS AS A SOURCE OF FUEL AND POWER. THE AUTHOR DISCUSSES PHOTOSYNTHESIS AS A WAY OF CONCENTRATING SOLAR ENERGY. SEVERAL METHODS OF CONVERTING GREEN PLANTS INTO ACCEPTABLE FORMS OF ENERGY ARE DISCUSSED. 1) COMBUSTION - THERE IS AN ENERGY PENALTY FOR DRYING THE FUEL, ALSO ELECTRICAL GENERATION IS INEFFICIENT, 2) PYROLYSIS - ESPECIALLY OF CITY GARBAGE, 3) CONVERSION INTO FUEL OIL BY CARBON MONOXIDE, 4) CONVERSION INTO PIPELINE GAS, 5) ANAEROBIC DIGESTION TO METHANE AND 6) FERMENTATION TO ALCOHOL. THIS PAPER ALSO EXAMINES PROBLEMS OF LAND USE AND HARVESTING FOR ENERGY. PHOTOSYNTHESIS IS SEEN AS HAVING THE POTENTIAL TO CONTRIBUTE MUCH TO THE WORLD'S ENERGY RESOURCES.
- \*DATE, 751011

## ABSTRACT 1701

- \*TITLE, ADVANCED HYDROGEN PRODUCTION TECHNOLOGIES - A PERSPECTIVE FOR 1977.
- \*AUTHOR, DAFLER J R, FOM S E, SCHREIBER J D.
- \*SOURCE, PRESENTED AT SYNTHETIC PIPELINE GAS 9TH SYMPOSIUM, CHICAGO, IL, 30 OCT - 2 NOV 1977, 23 PP.
- \*KEYWORDS, ORGANIC, HYDROGEN, THERMOCHEMICAL, NUCLEAR.
- \*NOTES, HYDROGEN AS A FUTURE ENERGY CARRIER IS DISCUSSED IN THIS REPORT. SOME OF THE TECHNOLOGIES FOR HYDROGEN PRODUCTION CONSIDERED IN THIS REPORT ARE THERMOCHEMICAL WATER-SPLITTING, ADVANCED NUCLEAR ELECTROLYSIS, STEAM REFORMING OF RENEWABLE CARBONACEOUS RESIDUES, AND BIOCONVERSION OF CARBON RESIDUES ON HARVESTED LEAFSTOCKS.
- \*DATE, 771030



- \*TITLE, PRODUCTION ET UTILISATIONS DU GAZ DE FUMIER-METHANE BIOLOGIQUE.
- \*AUTHOR, DAO HUU-BANG.
- \*SOURCE, BI 2CG, CNEEMA, ANTONY, FRANCE, SEPT 1974, PP 45-70.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, METHANE, DESIGN.
- \*NOTES, FILED.
- \*DATE, 740900

## ABSTRACT 1703

- \*TITLE, WASTE BIOCONVERSION - ENVIRONMENTAL MANAGEMENT FOR ECONOMIC PROGRESS IN DEVELOPING COUNTRIES.
- \*AUTHOR, DASILVA E J, BURGERS A C J, OLEMBO R J.
- \*SOURCE, BASED ON HEALTH AND WEALTH FROM WASTE - AN ECONOMIC INCENTIVE FOR DEVELOPING COUNTRIES, IMPACT OF SCI ON SOCIETY, 26/345-356, 1976.
- \*KEYWORDS, ORGANIC, WASTES, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1704

- \*TITLE, THE DESIGN OF A FULL - SCALE EXPERIMENTAL FERMENTATION FACILITY.
- \*AUTHOR, DAVENPORT A K.
- \*SOURCE, ASAE PAPER 78-4567, 1978, 9PP.
- \*KEYWORDS, ORGANIC, BOVINE, MANURE, ANAEROBIC FERMENTATION.
- \*NOTES, FILED. THE SYSTEM DESCRIBED IN THIS PAPER IS FOR AN EXPERIMENTAL FACILITY WHICH UTILIZES ANAEROBIC FERMENTATION OF CATTLE RESIDUE FOR THE PURPOSE OF PRODUCING A METHANE-RICH FUEL GAS AND A PROTEIN-RICH CATTLE FEED. THE MAIN OBJECTIVE OF THE SYSTEM IS TO DEMONSTRATE THE PRACTICAL AND ECONOMICAL OPERATION OF THE PROCESS.
- \*DATE, 780000

## ABSTRACT 1705

- \*TITLE, GASOHOL ECONOMIC FEASIBILITY STUDY.
- \*AUTHOR, DAVID M L. ET AL.
- \*SOURCE, PLANNING AND RESEARCH ASSOCIATES INC, PO BOX 7278 MANHATTAN, KS 66502, JULY 1978.
- \*KEYWORDS, ORGANIC, ENERGY CROPS, ETHANOL, ECONOMICS.
- \*NOTES, FILED. THE PRIMARY OBJECTIVE OF THIS STUDY WAS TO DETERMINE THE FISCAL AND MARKET CONDITIONS UNDER WHICH THE PRODUCTION OF GASOHAL WOULD BE PROFITABLE FOR PRIVATE PRODUCERS. MORE SPECIFICALLY, THE STUDY EXAMINED THE FOLLOWING- THE TECHNICAL ASPECTS OF DISTRIBUTING, MARKETING AND USING GASOHAL- THE COST OF DISTRIBUTION AND MARKETING OF ETHANOL AND GASOHOL- THE ENERGY BALANCE OF ETHANOL PRODUCTION PLANT SIZE AND LOCATION- THE CONDITIONS THAT WOULD MAKE ETHANOL ECONOMICALLY FEASIBLE FOR PRIVATE PRODUCERS. THE COS
- \*DATE, 780700

## ABSTRACT 1706

- \*TITLE, ENERGY IN SOLID WASTE--A CITIZENS GUIDE TO SAVING
- \*AUTHOR, DIAMOND H L.
- \*SOURCE, REPORT OF THE CITIZENS ADVISORY COMMITTEE ON ENVIR QUALITY, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1975, 40PP.
- \*KEYWORDS, ORGANIC, POLICY, RENEWABLE ENERGY, RECYCLING, WASTES.
- \*NOTES, FILED. THROUGH THE RECOVERY, RECYCLING AND REUSE OF WHAT IS NOW SOLID WASTE, ENERGY CAN BE SAVED. INFORMATION IS PROVIDED TO STIMULATE CITIZEN ACTION WITH GOVERNMENT ACTION TO FOLLOW.
- \*DATE, 751200

## ABSTRACT 1707

- \*TITLE, OPPORTUNITIES FOR RESEARCH IN RENEWABLE ENERGY - STRESSING FOOD, FIBER AND ORGANIC FUELS.
- \*AUTHOR, DOERING O C, PICKETT R C, PEART R M.
- \*SOURCE, PRESENTED TO THE CHICAGO NATIONAL PLAN MEETING OF THE US ENERGY RESEARCH AND DEV ADMINISTRATION, 21-22 JUNE 1976, 9 PP.
- \*KEYWORDS, ORGANIC, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 760621

## ABSTRACT 1708

- \*TITLE, ENERGY AND AGRICULTURE BIOMASS PRODUCTION AND UTILIZATION IN CANADA.
- \*AUTHOR, DOWNING C G E.
- \*SOURCE, PRESENTED AT ENERGY, AGRICULTURE AND WASTE MANAGEMENT CONF, SYRACUSE, N Y, 16-18 APRIL 1975, 9 PP.
- \*KEYWORDS, ORGANIC, CANADA, AGRICULTURE, BIOMASS, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 750415

## ABSTRACT 1709

- \*TITLE, CHARCOAL.
- \*AUTHOR, EARL D E.
- \*SOURCE, FAO, ROME, 1974, 97 PP.
- \*KEYWORDS, ORGANIC, COAL, WOOD, WORLD WIDE, ENERGY SOURCES, ECONOMICS, UGANDA, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 1710

- \*TITLE, THE OTHER ENERGY CRISIS/FIREWOOD.
- \*AUTHOR, ECKHOLM E P.
- \*SOURCE, WORLDWATCH INST, 1776 MASSACHUSETTS AVE N W, WASHINGTON D C, SEPT 1975, PP 5-22.
- \*KEYWORDS, ORGANIC, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 1711

- \*TITLE, GREEN PLANTS AS SOLAR ENERGY CONVERTERS.
- \*AUTHOR, EMER L R.
- \*SOURCE, ENVIR SCI AND TECH, 10(6)/526-527, 1976.
- \*KEYWORDS, ORGANIC, WASTES, CONVERSION, TECHNOLOGY ASSESSMENT.
- \*NOTES, PROCESSES TO CONVERT SOLID WASTES AND FUEL CROPS TO FUEL ARE DISCUSSED. SOME POTENTIAL PROBLEMS OF BIOCONVERSION TECHNIQUES HAVE TO BE IRONED OUT BEFORE THE SYSTEMS BENEFITS ARE ENJOYED.
- \*DATE, 760600

## ABSTRACT 1712

- \*TITLE, SENSITIZED PHOTODEGRADATION OF CELLULOSE AND CELLULOSIC WASTES.
- \*AUTHOR, ESKINS K, BUCHER B L, SLONEKER J H.
- \*SOURCE, PHOTOCHEMISTRY AND PHOTOBIOLOGY, 18/195-200, 1973.
- \*KEYWORDS, ORGANIC, MANURE.
- \*NOTES, FILED.
- \*DATE, 730000

## ABSTRACT 1713

- \*TITLE, FUEL FROM LIVESTOCK WASTES - AN ECONOMIC ANALYSIS.
- \*AUTHOR, FAIRBANK W C.
- \*SOURCE, AGR ENGR, SEPT 1974, PP 20-23.
- \*KEYWORDS, ORGANIC, ANIMAL WASTE, METHANE, CONVERSION, PYROLYSIS, ANAEROBIC FERMENTATION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 1714

- \*TITLE, FUEL FROM FECES.
- \*AUTHOR, FAIRBANK W C.
- \*SOURCE, ASAE PAPER PC74-03, 1974, 12 PP.
- \*KEYWORDS, ORGANIC, BIOGAS, PYROLYSIS.
- \*NOTES, FILED. THE PHYSICAL, CHEMICAL AND BIOLOGICAL PROCESSES FOR CONVERTING ANIMAL MANURES INTO GASEOUS OR LIQUID FUELS.
- \*DATE, 740000

## ABSTRACT 1715

- \*TITLE, SETTLING CHARACTERISTICS OF SWINE MANURE AS RELATED TO DIGESTER LOADING.
- \*AUTHOR, FISCHER J R, SIEVERS D M, FULHAGE C D.
- \*SOURCE, CONF PROC OF THE 3RD INTERNATIONAL SYMPOSIUM ON LIVESTOCK WASTES, ASAE, PO BOX 410, ST JOSEPH, MI 49085, 4 PP.
- \*KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION.
- \*NOTES,
- \*DATE,

- TITLE, ANAEROBIC DIGESTION IN SWINE WASTES.
- AUTHOR, FISCHER J R, SIEVERS D M, FULHAGE G L.
- SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975, PP 307-316.
- KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, TECHNOLOGY ASSESSMENT.
- NOTES, FILED.
- DATE, 750000

ABSTRACT 1717

- TITLE, DESIGN AND OPERATION OF A FARM-SIZE ANAEROBIC DIGESTER FOR SWINE.
- AUTHOR, FISCHER J R, MEADOR N F, SIEVERS D M, FULHAGE C D, IANNOTTI E L.
- SOURCE, ASAE PAPER 77-4052, 1977, 25 PP.
- KEYWORDS, ORGANIC, SWINE, ANAEROBIC FERMENTATION, TECHNOLOGY ASSESSMENT.
- NOTES, FILED. THE DATA OVER A 27 WEEK PERIOD IS REPORTED ON A 140 CU M ANAEROBIC DIGESTER FOR SWINE.
- DATE, 770000

ABSTRACT 1718

- TITLE, METHANE PRODUCTION SYSTEMS FOR SWINE MANURE.
- AUTHOR, FISCHER J R, IANNOTTI E L, SIEVERS D M, FULHAGE C D, MEADOR N F.
- SOURCE, PRESENTED AT THE GREAT PLANES EXTENSION SEMINAR ON METHANE PRODUCTION FROM LIVESTOCK MANURE, LIBERAL, KS, 15 FEB 1978, 33 PP.
- KEYWORDS, ORGANIC, METHANE, MANURE, SWINE.
- NOTES, FILED.
- DATE, 780215

ABSTRACT 1719

- TITLE, BIOLOGICAL AND CHEMICAL FLUCTUATIONS DURING ANAEROBIC DIGESTION OF SWINE MANURE.
- AUTHOR, FISCHER J R, IANNOTTI E L, SIEVERS D M.
- SOURCE, ASAE PAPER 78-4011, 1978, 15 PP.
- KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION, SWINE.
- NOTES, FILED. A DIGESTER WAS OPERATED FOR ONE YEAR WITH VARIOUS OPERATIONAL PROBLEMS. CHANGING THE SWINE RATION FROM PREDOMINANTLY CORN TO WHEAT RESULTED IN LOWER GAS PRODUCTION. GAS PRODUCTION IS A GOOD INDICATOR OF DAILY DIGESTER PERFORMANCE. BUT, OTHER INFORMATION SUCH AS TS IN EFFLUENT INDICATE DIGESTER LONG TERM STABILITY.
- DATE, 780000

ABSTRACT 1720

- TITLE, UTILIZING THE ENERGY FROM A SWINE ANAEROBIC DIGESTER.
- AUTHOR, FISCHER J R, CHRISTIANSON L, FULHAGE C D.
- SOURCE, ASAE PAPER 78-902, 7-8 APRIL 1978, 18 PP.
- KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION.
- NOTES, FILED. AVERAGE MASS PRODUCTION RATE OF METHANE FROM THE DIGESTER IS 54 GRAMS/HR/SOW UNIT. ENERGY PRODUCTION FROM THE DIGESTER VARIES ACCORDING TO THE SIZE AND NUMBER OF HOGS IN THE SYSTEM. MAXIMUM ENERGY PRODUCED IS 950 WATTS/SOW UNIT, AND THE MINIMUM IS 506 WATTS/SOW UNIT. MOST OF THE ELECTRICAL AND THERMAL ENERGY DEMANDS OF THE COMPLEX CAN BE SATISFIED.
- DATE, 780407

ABSTRACT 1721

- TITLE, A CONTROL SYSTEM FOR AN ANAEROBIC DIGESTER.
- AUTHOR, FISCHER J R, MEADOR N F, FULHAGE C D.
- SOURCE, ASAE PAPER 78-5017, 27-30 JUNE 1978, 13 PP.
- KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION.
- NOTES, FILED. ANAEROBIC DIGESTER CAN BECOME INTEGRATED INTO ANIMAL PRODUCTION IN THE US ONLY IF THE DIGESTER SYSTEM REQUIRES MINIMUM LABOR. AN AUTOMATED CONTROL SYSTEM HAS OPERATED A SWINE DIGESTER LOCATED AT COLUMBIA, MO.
- DATE, 780627

ABSTRACT 1722

- TITLE, THREE YEARS OF EVALUATING A MIDWEST ANAEROBIC DAIRY LAGOON.
- AUTHOR, FISCHER J R, FULHAGE C D, MEADOR N F, PORTER J H.
- SOURCE, ASAE PAPER 77-4571, WINTER 1978, 25 PP.
- KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION.
- NOTES, FILED. TOTAL AND VOLATILE SOLIDS, TEMPERATURE, TOTAL KJELDAHL NITROGEN, AMMONIA NITROGEN CONDUCTIVITY AND PH VALUES WERE OBTAINED AT EIGHT DEPTHS AND TWO LOCATIONS IN THE LAGOON. A METHOD OF LAGOON DESIGNS BASED ON TEMPERATURE IS PRESENTED.
- DATE, 780000

## ABSTRACT 1723

- TITLE, PRODUCING METHANE GAS FROM SWINE MANURE IN A PILOT-SIZE DIGESTOR.
- AUTHOR, FISCHER J R, IANNOTTI E L, PORTER J H, GARCIA A.
- SOURCE, ASAE PAPER 77-604, 25-26 MARCH 1977, 12 PP.
- KEYWORDS, ORGANIC, MANURE, METHANE.
- NOTES, FILED. A 0.42 CUBIC METER DIGESTER WAS OPERATED FOR 1 YEAR AT A LOADING RATE OF 4 GM VOLATILE SOLIDS/LITER/DAY. GAS PRODUCTION WAS 2.2 CUBIC METERS GAS/CUBIC METER OF DIGESTOR LIQUID. THE GAS COMPOSITION WAS 59 PERCENT METHANE AND 39 PERCENT CARBON DIOXIDE. 52 AND 61 PERCENT OF THE TOTAL AND VOLATILE SOLIDS WERE DESTROYED.
- DATE, 770325

## ABSTRACT 1724

- TITLE, ALCOHOL AS A SOLUTION TO THE ENERGY CRISIS.
- AUTHOR, FONG P.
- SOURCE, BULLETIN OF AMER PHYS SOC, 19(422)9PP, 1974.
- KEYWORDS, ORGANIC, ALCOHOL, ETHANOL, ENGINE, SOCIAL IMPLICATIONS, ECONOMICS.
- NOTES, FILED.
- DATE, 740000

## ABSTRACT 1725

- TITLE, WOOD RESIDUE AS AN ENERGY SOURCE.
- AUTHOR, FOREST PRODUCTS RESEARCH SOCIETY.
- SOURCE, PROC P-75-13 OF THE ENERGY WORKSHOP ON WOOD RESIDUE AS AN ENERGY SOURCE, FOREST PRODUCTS RESEARCH SOC, 2801 MARSHALL COURT, MADISON, WI, 1975, 118 PP.
- KEYWORDS, ORGANIC, WOOD.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 1726

- TITLE, WOOD AS A HOME FUEL.
- AUTHOR, FOULOS R T.
- SOURCE, EXTENSION SERVICE, UNIV OF VERMONT, BURLINGTON, 17 PP, UNDATED.
- KEYWORDS, ORGANIC, WOOD, HOME.
- NOTES, FILED.
- DATE,

## ABSTRACT 1727

- TITLE, THE ECONOMICS OF SNG PRODUCTION BY ANAEROBIC DIGESTION OF SPECIALLY-GROWN PLANT MATTER.
- AUTHOR, FRASER M D.
- SOURCE, PRESENTED AT INST OF GAS TECH SYMPOSIUM ON CLEAN FUELS FROM BIOMASS AND WASTES, ORLANDO, FL, 25-28 JAN 1977, PP 425-440.
- KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, SNG, TECHNOLOGY ASSESSMENT, ECONOMICS.
- NOTES, THIS REPORT DESCRIBES THE ENERGY PLANTATION SNG PRODUCTION PROCESS. STEPS THIS PROCESS INVOLVES ARE PRETREATMENT OF PLANT MATERIAL, DIGESTION OF SLURRY ANAEROBICALLY FOR ABOUT 15 DAYS, REMOVAL OF CARBON DIOXIDE AND WATER VAPOR FROM THE DIGESTER GAS. MAJOR UNKNOWN PARAMETERS IN THE PROPOSED PROCESS ARE IDENTIFIED. ECONOMICS ARE ALSO INCLUDED.
- DATE, 770125

## ABSTRACT 1728

- TITLE, ENERGY FROM WASTE - AN ENVIRONMENTAL SOLUTION THAT IS NOT PROBLEM FREE.
- AUTHOR, FREEMAN J M, OLEXSEY R A.
- SOURCE, EPA CINCINNATI NEWSRELEASE, JULY 1977, 4 PP.
- KEYWORDS, ORGANIC, ENVIRONMENT, WASTES, PYROLYSIS.
- NOTES, PROJECTS BEING SUPPORTED AND DIRECTED BY EPAS INDUSTRIAL ENVIRONMENTAL RESEARCH LAB IN CINCINNATI ARE DESCRIBED. ENVIRONMENTAL PROBLEMS ASSOCIATED WITH WASTES-TO-ENERGY PROCESSING AND DEVELOPING METHODS ARE EXAMINED. SUCH WASTE ENERGY SYSTEMS AS INCINERATORS WITH HEAT RECOVERY, COMBINED FIRING SYSTEMS, PYROLYSIS PROCESSES, ADVANCED COMBUSTION SYSTEMS, AND BIOCONVERSION ARE DEFINED.
- DATE, 770700



- TITLE, METHANE GENERATION BY ANAEROBIC FERMENTATION - AN ANNOTATED BIBLIOGRAPHY.
- AUTHOR, FREEMAN C, PYLE L.
- SOURCE, UNIV OF CAMBRIDGE, IMPERIAL COLLEGE, LONDON, ENGLAND, 1977.
- KEYWORDS, ORGANIC, BIBLIOGRAPHY, ANAEROBIC FERMENTATION, METHANE.
- NOTES, PRESENTS IS A BIBLIOGRAPHY OF LITERATURE CONCERNED WITH THE BUILDING, DESIGNING AND IMPROVING OF METHANE GENERATORS IN THE THIRD WORLD. THE REFERENCES ARE GROUPED INTO THREE CATEGORIES - 1)GENERAL BACKGROUND AND THEORY OF ANAEROBIC DIGESTION, 2)FACTORS AFFECTING PROCESS PERFORMANCE AND THEIR IMPORTANCE ON CONTROL, AND 3)USE OF THE NUTRIENT-RICH RESIDUE AS A FERTILIZER. ALL REFERENCES HAVE ABSTRACTS. AN AUTHOR INDEX IS PROVIDED. ALSO THE ADDRESSES OF JOURNALS, PUBLISHERS AND INSTITUTIONS ARE PROVIDED.
- DATE, 770000

## ABSTRACT 1730

- TITLE, METHANE POWER PLANTS.
- AUTHOR, FRY L J.
- SOURCE, D A KNIX, ANDOVER, HAMPSHIRE, 1974, 96 PP.
- KEYWORDS, ORGANIC.
- NOTES.
- DATE, 740000

## ABSTRACT 1731

- TITLE, METHANE DIGESTERS FOR FUEL GAS AND FERTILIZER.
- AUTHOR, FRY L J, MERRILL R.
- SOURCE, NEWSLETTER 3, THE NEW ALCHENY INST, BOX 432, WOODS HOLE, MA 02543, SPRING 1973, 44 PP.
- KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, DESIGN.
- NOTES, FILED. L JOHN FRY'S BOOK STARTS WITH SOME BACKGROUND INFORMATION AND THE HISTORY OF ANAEROBIC DIGESTION. IT THEN GOES INTO THE BIOLOGY OF ANAEROBIC DIGESTION, INCLUDING TEMPERATURE AND PH REQUIREMENTS. THE RAW MATERIALS ARE COVERED NEXT. SUCH THINGS AS AMOUNTS OF VOLATILE SOLIDS PER DAY FOR CERTAIN ANIMALS, AND CARBON TO NITROGEN RATIOS ARE GIVEN. THE COMPOSITION OF THE GAS, THE FUEL VALUE AND THE AMOUNTS OF GAS EXPECTED FROM DIFFERENT WASTES ARE COVERED. DESIGN AND OPERATION OF THE DIGESTOR ARE DESCRIBED AS WELL AS WAYS TO USE THE GAS AND THE SLUDGE. ALSO INCLUDED ARE THE PLANS FOR TWO SMALL SCALE DIGESTERS.
- DATE, 730000

## ABSTRACT 1732

- TITLE, PRACTICAL BUILDING OF METHANE POWER PLANTS FOR RURAL ENERGY INDEPENDENCE.
- AUTHOR, FRY L J.
- SOURCE, ANDOVER, HAMPSHIRE, GREAT BRITAIN/CHAPEL RIVER PRESS, 1974, 96PP.
- KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION, OPERATING PROCEDURE.
- NOTES, FILED. THIS BOOK SERVES AS A GUIDE TO PROSPECTIVE BUILDERS OF METHANE POWER PLANTS, AS A RESULT OF FRY'S WORK ON THE PRODUCTION OF METHANE GAS FROM ANIMAL MANURE. HE CLAIMS THERE ARE PITFALLS TO DIGESTION, HOWEVER, THIS BOOK WILL EXPLAIN HOW TO DEAL WITH THEM.
- DATE, 740000

## ABSTRACT 1733

- TITLE, GENERATING METHANE GAS FROM MANURE.
- AUTHOR, FULHAGE C D, SIEVERS D M, FISCHER J R.
- SOURCE, SCI AND TECH GUIDE, DEPT OF ICR ENGR, UNIV OF MISSOURI, COLUMBIA, MO, 1975, 4 PP.
- KEYWORDS, ORGANIC, METHANE, MANURE.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 1734

- TITLE, GENERATION OF METHANE GAS FROM BIOLOGICAL MATERIALS.
- AUTHOR, FULHAGE C D, SIEVERS D M.
- SOURCE, COOPERATIVE EXTENSION SERVICE, UNIV OF MISSOURI, COLUMBIA, 1974, 3 PP.
- KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION, EFFICIENCY, ECONOMICS.
- NOTES, FILED.
- DATE, 740000

## ABSTRACT 1735

- TITLE, ANAEROBIC LAGOON EFFLUENT AS FERTILIZER IN MISSOURI.
- AUTHOR, FULHAGE C D.
- SOURCE ASAE PAPER 78-4560, 1978, 13 PP.
- KEYWORDS, ORGANIC, FERTILIZER, ANAEROBIC FERMENTATION.
- NOTES, FILED. VOLATILE AND TOTAL SOLIDS REDUCTIONS OF 87 AND 70 PER CENT RE PUMPDOWN OF SWINE AND DAIRY LAGOONS RESULTS IN NITROGEN APPLICATION RATES OF 75-157KG/LA (70-140LB/ACRE) ON PROPERLY SIZED VEGETATIVE FILTERS. ELECTRICAL CONDUCTIVITY GIVE AN ACCEPTABLE FIELD ESTIMATE OF NITROGEN IN LAGOON EFFLUENTS.
- DATE, 780000

- \*TITLE, ENVIRONMENTAL IMPACT OF SOLID WASTE AND BIOMASS CONVERSION TO ENERGY PROCESSES.
- \*AUTHOR, GAGE S J, CHAPMAN R A.
- \*SOURCE, PRESENTED AT INST OF GAS TECH SYMPOSIUM ON CLEAN FUELS FROM BIOMASS AND WASTES, ORLANDO, FL, 25-28 JAN 1977, PP 465-483.
- \*KEYWORDS, ORGANIC, ENVIRONMENT, WASTES, CONVERSION, SUPPLY DEMAND.
- \*NOTES, THE SUPPLY AND DEMAND OUTLOOK FOR FUELS DERIVED FROM BOTH SOLID WASTE AND BIOMASS IS SUMMARIZED THROUGH THE YEAR 2000. DISCUSSED ARE ENVIRONMENTALLY SIGNIFICANT, POTENTIAL AIR, SOLID, AND LIQUID EMISSIONS FROM SELECTED SOLID WASTE ENERGY SYSTEMS THAT ARE COMMERCIALY AVAILABLE OR IN FINAL DEVELOPMENT STAGES. EPAS PROGRAM IN THE FIELD IS DISCUSSED ALSO.
- \*DATE, 770125

## ABSTRACT 1737

- \*TITLE, CONVERSION OF BIOMASS MATERIALS INTO GASEOUS PRODUCTS - PHASE 1 FINAL TECHNICAL REPORT.
- \*AUTHOR, GARRETT D E.
- \*SOURCE, GARPETT ENERGY RESEARCH AND ENGR, CLAREMONT, CA, OCT 1977, 143 PP.
- \*KEYWORDS, ORGANIC, PYROLYSIS, TECHNOLOGY ASSESSMENT.
- \*NOTES, NTIS, SAN/1241-77/1.
- \*DATE, 771000

## ABSTRACT 1738

- \*TITLE, THE RELEVANCE OF PHOTOSYNTHESIS TO THE UTILIZATION OF SOLAR ENERGY.
- \*AUTHOR, GARTSIDE G.
- \*SOURCE, PROC OF SYMPOSIUM ON REALISTIC PROSPECTS FOR SOLAR POWER IN AUSTRALIA, INTERNATIONAL SOLAR ENERGY SOC, 22 NOV 1973.
- \*KEYWORDS, ORGANIC, SOLAR, PHOTOSYNTHESIS, ALCOHOL, NET ENERGY.
- \*NOTES, FILED.
- \*DATE, 731122

## ABSTRACT 1739

- \*TITLE, ROW SPACING EFFECTS ON BIOMASS AND COMPOSITION OF SUGAR CANE IN FLORIDA.
- \*AUTHOR, GASCHO G J, SHIH S F.
- \*SOURCE, SUGAR Y AZUCAR, 73(6)/36, 1978.
- \*KEYWORDS, ORGANIC.
- \*NOTES, ABSTRACT FILED.
- \*DATE, 780000

## ABSTRACT 1740

- \*TITLE, TWO-PHASE ANAEROBIC DIGESTION.
- \*AUTHOR, GHOSH S, KLASS D L.
- \*SOURCE, PRESENTED AT INST OF GAS TECH SYMPOSIUM ON CLEAN FUELS FROM BIOMASS AND WASTES, ORLANDO, FL, 25-28 JAN 1977, PP 373-416.
- \*KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, METHANE.
- \*NOTES, WORK DONE AT THE INSTITUTE OF GAS TECHNOLOGY TO DEVELOP A TWO-PHASE ANAEROBIC DIGESTION PROCESS IS SUMMARIZED. THE ADVANTAGE OF TWO-PHASE RELATIVE TO CONVENTIONAL PROCESSES, THE CONCEPT OF PROCESS OPTIMIZATION BY PHASE SEPARATION AND VARIOUS METHODS OF PHYSICALLY SEPARATING NONMETHANOGENIC AND METHANOGENIC DIGESTION PHASES IN SEPARATE REACTORS ARE DISCUSSED.
- \*DATE, 770125

## ABSTRACT 1741

- \*TITLE, ALCOHOL FROM PLANT PRODUCTS - A BRAZILIAN ALTERNATIVE TO THE ENERGY SHORTAGE.
- \*AUTHOR, GOLDEMBERG J, MOREIRA J R.
- \*SOURCE, P-126, INSTITUTO DE FISICA, UNIVERSIDADE DE SAO PAULO, SAO PAULO, BRAZIL, SEPT 1977, 16PP.
- \*KEYWORDS, ORGANIC, ALCOHOL, BRAZIL.
- \*NOTES, FILED. BRAZIL IS MEETING ONE CHALLENGE OF THE DECREASING FOSSIL FUEL SUPPLIES BY SUBSTITUTING ETHYL ALCOHOL, IN VARYING AMOUNTS, IN PLACE OF GASOLINE AS AN AUTHOMOBILE FUEL.
- \*DATE, 770900

## ABSTRACT 1742

- \*TITLE, ENERGY FROM COTTON GIN WASTE.
- \*AUTHOR, GOODIN P L.
- \*SOURCE, AGR RESEARCH, APRIL 1977, PP 3-5.
- \*KEYWORDS, ORGANIC, EFFICIENCY, WASTES.
- \*NOTES, FILED.
- \*DATE, 770400

- \*TITLE, ECONOMIC POTENTIAL OF BAGASSE AS AN ALTERNATE ENERGY SOURCE - THE HAWAIIAN EXPERIENCE.
- \*AUTHOR, GOPALAKRISHNON C, NAHAN M.
- \*SOURCE, UNPUBLISHED, DEPT OF AGR AND RESOURCE ECON AT THE UNIV OF HAWAII, 11 PP, UNDATED.
- \*KEYWORDS, ORGANIC, ECONOMICS, HAWAII, ALTERNATIVES, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1744

- \*TITLE, FOOD, FOREST, WASTE - LOW BTU FUEL.
- \*AUTHOR, GOSS J R.
- \*SOURCE, AGR ENGR, 59(1)/30-37, JAN 1978.
- \*KEYWORDS, ORGANIC, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. THIS PAPER GIVES A QUICK EXPLANATION OF THE UNIVERSITY OF CALIFORNIA-DAVIS THREE-PHASE DEVELOPMENT PROJECT TO DESIGN PRACTICAL GASIFIERS TO SAFELY TRANSFORM A VARIETY OF WASTE PRODUCTS INTO A USEABLE FUEL.
- \*DATE, 780100

## ABSTRACT 1745

- \*TITLE, ON-SITE EXTRACTION OF LOW-BTU GAS FROM AGRICULTURAL RESIDUES FOR THE REPLACEMENT OF NATURAL GAS IN AGRICULTURAL PROCESSING.
- \*AUTHOR, GOSS J R, WILLIAMS R O.
- \*SOURCE, ENERGY RESOURCES CONSERVATION AND DEV COMMISSION, STATE OF CALIF, PRELIMINARY REPORT, 28 PP.
- \*KEYWORDS, ORGANIC, GASIFICATION, DESIGN, ECONOMICS.
- \*NOTES, FILED. A METHOD OF EXTRACTING USEFUL ENERGY FROM CRACKED WALNUT SHELL HAS BEEN DEVELOPED. THIS INVOLVES THE CONVERSION OF SHELL TO PRODUCE GAS, A LOW BTU GAS IN WHICH THE MAJOR COMBUSTIBLE COMPONENTS ARE CARBON MONOXIDE 20-30 PERCENT AND HYDROGEN 10-15 PERCENT. AN EXPERIMENTAL GASIFIER CAPABLE OF PRODUCING SIX TO EIGHT MILLION BTU/HR WAS DESIGNED, CONSTRUCTED AND TESTED. OPERATING PROCEDURES WERE DETERMINED AND THE CAPITAL REQUIRED TO PRODUCE A NATURAL GAS SUBSTITUTE WAS ESTIMATED. THE ENERGY EXTRACTING CAPABILITY OF THE SYSTEM WAS DEMONSTRATED IN ACTUAL APPLICATION. THE THERMAL EFFICIENCY OF A GASIFICATION PROCESS IS IN THE REGION OF 85-90 PERCENT WHEN THE PRODUCT IS HOT GAS. THE GASIFIER HAS BEEN OPERATED SUCCESSFULLY FOR SHORT PERIODS OF TIME AND IT HAS BEEN POSSIBLE TO REPLACE NATURAL GAS AS FUEL IN A LOW PRESSURE STEAM BOILER. ALTHOUGH THE GASIFIER WAS EQUIPPED WITH CONTINUOUS FEED AND ASH REMOVAL SYSTEMS, IS HAS NOT BEEN POSSIBLE TO RUN CONTINUOUSLY AS YET. PROBLEMS HAVE BEEN EXPERIENCED WITH ALL MATERIALS HANDLING SYSTEMS.
- \*DATE,

## ABSTRACT 1746

- \*TITLE, WALNUT SHELLS - REPLACEMENT FOR NATURAL GAS.
- \*AUTHOR, GOSS J R, WILLIAMS R O.
- \*SOURCE, FOOD ENGR, DEPT OF AGR ENGR, UNIV OF CALIF, DAVIS, CA 95616, SEPT 1977, 5 PP.
- \*KEYWORDS, ORGANIC, DESIGN, ECONOMICS.
- \*NOTES, FILED. A METHOD OF EXTRACTING USEFUL ENERGY FROM CRACKED WALNUT SHELLS HAS BEEN DEVELOPED BY THE UNIVERSITY OF CALIFORNIA IN COOPERATION WITH DIAMOND/SUNSWEEET, INC., AND THE CALIFORNIA ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION. A PILOT PLANT TO DO THIS AT DIAMOND/SUNSWEEET IS NOW IN OPERATION. THE DESIGN, OPERATIONAL PROBLEMS AND OVERALL ECONOMICS ARE DISCUSSED ALONG WITH A SECTION ON EUROPEAN ACTIVITIES IN GASIFICATION.
- \*DATE, 770900

## ABSTRACT 1747

- \*TITLE, FUELS FROM CROPS - RENEWABLE AND CLEAN.
- \*AUTHOR, GRAHAM R W.
- \*SOURCE, MECHANICAL ENGINEERING, MAY 1975, PP 27-31.
- \*KEYWORDS, ORGANIC, RENEWABLE ENERGY, ENERGY SOURCES, AGRICULTURE, SOCIAL IMPLICATIONS, PYROLYSIS, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750500



## ABSTRACT 1748

- \*TITLE, PRELIMINARY ASSESSMENT OF SYSTEMS FOR DERIVING LIQUID AND GASEOUS FUELS FROM WASTE OR GROWN ORGANICS.
- \*AUTHOR, GRAHAM R W, REYNOLDS T W, HSU Y Y.
- \*SOURCE, NASA TECHNICAL NOTE D-8165, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, WASH D C, FEB 1976, 40 PP.
- \*KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, PYROLYSIS, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760200

## ABSTRACT 1749

- \*TITLE, MANURE FACTS AND FIGURES.
- \*AUTHOR, GRAVES R E, MASSIE L R.
- \*SOURCE, EXTENSION SERVICE, UNIV OF WISC, MADISON, OCT 1972, 15 PP.
- \*KEYWORDS, ORGANIC, MANURE, STATISTICS, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 721000

## ABSTRACT 1750

- \*TITLE, ENERGY POTENTIAL FROM AGRICULTURAL FIELD RESIDUES.
- \*AUTHOR, GREEN F L.
- \*SOURCE, TRANSACTIONS OF AMERICAN NUCLEAR SOCIETY, 1975, 21 PP.
- \*KEYWORDS, ORGANIC, AGRICULTURE, ENERGY SOURCES, CONSERVATION, CONVERSION, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1751

- \*TITLE, CELLULOSE PRODUCTION BY TRICHODERMA VIRIDE ON FEEDLOT WASTE.
- \*AUTHOR, GRIFFIN M L, SLONEKER J H, INGLETT G E.
- \*SOURCE, APPLIED MICROBIOLOGY, 27(6)/1061-1066, JUNE 1974.
- \*KEYWORDS, ORGANIC, MANURE.
- \*NOTES, FILED.
- \*DATE, 740600

## ABSTRACT 1752

- \*TITLE, GASIFICATION OF SOLID WASTE POTENTIALS AND APPLICATIONS OF THE CO-CURRENT MOVING SED GASIFIER.
- \*AUTHOR, GROENEVELD M J.
- \*SOURCE, IN THE BOOK SYMPOSIUM PAPERS ENERGY FROM BIOMASS AND WASTES, INST OF GAS TECH, IIT CENTER, 3424 S STATE ST CHICAGO, ILL 60616 PP 525-536.
- \*KEYWORDS, ORGANIC, WASTES, GASIFICATION.
- \*NOTES, FILED. A SHORT REVIEW IS GIVEN ON GASIFICATION PROCESSES FOR SOLID FUELS WITH SPECIAL EMPHASIS ON WASTE GASIFICATION. THE CO CURRENT G PILOT PLANTS AND SOME OPERATION DATA IS GIVEN. POTENTIAL APPLICATION IS ELUCIDATED WITH EXAMPLES, SUCH AS GASIFICATION OF MAIZE COBS IN THE RURAL AREAS OF TANZANIA.
- \*DATE, 780918

## ABSTRACT 1753

- \*TITLE, METHANE GAS GENERATION FROM MANURE.
- \*AUTHOR, GROUT A R.
- \*SOURCE, AGR ENGR DEPT, PENN STATE UNIV, UNIVERSITY PARK, MARCH 1973, 4PP.
- \*KEYWORDS, ORGANIC, METHANE, ANAEROBIC FERMENTATION, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE, 730300

## ABSTRACT 1754

- \*TITLE, ALCOHOL - A BRAZILIAN ANSWER TO THE ENERGY CRISIS.
- \*AUTHOR, HAMMOND A L.
- \*SOURCE, SCIENCE, 195(4278)/564-567, 11 FEB 1977.
- \*KEYWORDS, ORGANIC, BRAZIL, ETHANOL.
- \*NOTES, FILED.
- \*DATE, 770211



\*TITLE, PHOTOSYNTHETIC SOLAR ENERGY - REDISCOVERING BIOMASS FUELS.  
 \*AUTHOR, HAMMOND A L.  
 \*SOURCE, SCIENCE, 197/745-746, 19 AUG 1977.  
 \*KEYWORDS, ORGANIC, CONVERSION.  
 \*NOTES, FILED. LOOKS AT THE BIOMASS POTENTIAL OF THE US IN TERMS OF  
 WAYS IN WHICH IT CAN HELP PROVIDE SOME RELIEF FROM THE ENERGY CRISIS.  
 DISCUSSES SEVERAL APPLICATIONS OF SOLAR ENERGY UTILIZATION THROUGH  
 BIOMASS. BOTH FOREST AND AGRICULTURAL POTENTIAL AREA DISCUSSED.  
 THE AUTHOR FEELS THAT BIOMASS HAS A PLACE IN OUR ENERGY SYSTEM.  
 \*DATE, 770819

## ABSTRACT 1756

\*TITLE, WILL AUTOS GO ALCOHOLIC.  
 \*AUTHOR, HAMPTON W, IAMMARTINO N R.  
 \*SOURCE, CHEMICAL ENGR, 21 JULY 1975, PP 58-60.  
 \*KEYWORDS, ORGANIC, METHANOL.  
 \*NOTES, FILED.  
 \*DATE, 750721

## ABSTRACT 1757

\*TITLE, WOOD AS FUEL.  
 \*AUTHOR, HANO A J.  
 \*SOURCE, POPULAR SCI, OCT 1976, PP 104-107.  
 \*KEYWORDS, ORGANIC, WOOD, DESIGN.  
 \*NOTES, FILED.  
 \*DATE, 761000

## ABSTRACT 1758

\*TITLE, METHANE GENERATION FROM LIVESTOCK WASTE.  
 \*AUTHOR, HANSEN R W.  
 \*SOURCE, GREAT PLAINS BEEF CATTLE HANDBOOK, GPE-7700, COOPERATIVE  
 EXTENSION SERVICE, NOV 1975, 4 PP.  
 \*KEYWORDS, ORGANIC, MANURE, METHANE, DESIGN.  
 \*NOTES, FILED.  
 \*DATE, 751100

## ABSTRACT 1759

\*TITLE, FUELWOOD FACTS.  
 \*AUTHOR, HANSEN H J.  
 \*SOURCE, WRAES 70/5-8, OREGON STATE UNIV, CORVALLIS, OR 97331, NOV 1977.  
 \*KEYWORDS, ORGANIC, WOOD.  
 \*NOTES, FILED.  
 \*DATE, 771100

## ABSTRACT 1760

\*TITLE, WOOD STOVE INSTALLATION SAFETY - A CHECKLIST.  
 \*AUTHOR, HANSEN H J.  
 \*SOURCE, WRAES 65/14, OREGON STATE UNIV, CORVALLIS, OR 97331, AUG 1977.  
 \*KEYWORDS, ORGANIC, WOOD, SAFETY, HOME.  
 \*NOTES, FILED.  
 \*DATE, 770800

## ABSTRACT 1761

\*TITLE, METHANE AND BIOMASS PRODUCTION SYSTEMS FOR BEEF CATTLE MANURE.  
 \*AUTHOR, HASHIMOTO A G, PRIOR R L, CHEM Y R.  
 \*SOURCE, PRESENTED AT THE GREAT PLAINS EXTENSION SEMINAR ON METHANE  
 PRODUCTION FROM LIVESTOCK MANURE, LIBERAL, KS, 15 FEB 1978, 25 PP.  
 \*KEYWORDS, ORGANIC, METHANE, MANURE.  
 \*NOTES, FILED.  
 \*DATE, 780215

## ABSTRACT 1762

\*TITLE, DESIGN AND OPERATION OF A DEMONSTRATION UNIT FOR METHANE GENERATION.  
 \*AUTHOR, MASSAN A E, PUTNAM G S, SMITH N.  
 \*SOURCE, ASAE PAPER 75-4539, 20 PP.  
 \*KEYWORDS, ORGANIC, METHANE, ANAEROBIC FERMENTATION, MANURE, DESIGN,  
 OPERATING PROCEDURE.  
 \*NOTES, FILED.  
 \*DATE, 750000

- TITLE, COMPACTION OF WOOD CHIPS - ENERGY COST.
- AUTHOR, HASSAN A E.
- SOURCE, ASAE PAPER 76-1568, 1976, 17 PP.
- KEYWORDS, ORGANIC, WOOD, ECONOMICS.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 1764

- TITLE, ENERGY RECOVERY AND FEED PRODUCTION FROM POULTRY WASTES.
- AUTHOR, HASSAN A E, HASSAN M M, SMITH N.
- SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MI/ANN ARBOR SCI PUBL INC, 1975, PP 289-306.
- KEYWORDS, ORGANIC, POULTRY, ANAEROBIC FERMENTATION, TECHNOLOGY ASSESSMENT.
- NOTES, FILED. THE RESULTS OF THIS STUDY INDICATE THAT OPTIMUM SOLIDS CONCENTRATION FOR ANAEROBIC DIGESTION OF CHICKEN MANURE WAS 7 PERCENT AT INCUBATION TEMPERATURE OF 25.5 DEGREES C. OPERATING THE DIGESTER AT THIS TEMPERATURE IMPLIES THAT, FOR FUTURE APPLICATION, THE UNIT CAN BE INCLUDED IN THE BROILER HOUSE. THE PRESENCE OF ABSENCE OF EXOGENOUS CARBON SOURCE DID NOT AFFECT THE RATE OR THE EXTENT OF METHANE PRODUCTION. GROWING ALGAE, SEENEDESMUS, ON THE DIGESTED EFFLUENT WAS A SUCCESSFUL PROCESS. A YIELD OF 20 GM OF DRIED ALGAE/LITER OF EFFLUENT WAS OBTAINED. THE PROTEIN CONTENT OF THE DRIED ALGAE WAS 42-45 PERCENT. THIS STUDY ALSO PROVIDED THE PRELIMINARY DESIGN FOR A FULL-SCALE POULTRY MANURE DIGESTION UNIT.
- DATE, 750000

## ABSTRACT 1765

- TITLE, COMPACTION OF WOOD CHIPS - PHYSICAL AND PULPING CHARACTERISTICS.
- AUTHOR, HASSAN A E.
- SOURCE, ASAE PAPER 78-1575, 1978.
- KEYWORDS, ORGANIC, WOOD.
- NOTES, FILED. PHYSICAL PARAMETERS OF CONTAINERIZED COMPACTED AND UNCOMPACTED CHIPS ARE DISCUSSED. THE PULPING RESULTS INDICATED THAT THE COMPACTION PROCESS DID NOT DAMAGE FIBERS OR ALTER THE CHIP RESPONSE TO CONVENTIONAL PULPING.
- DATE, 780000

## ABSTRACT 1766

- TITLE, BIOLOGICAL SOURCES OF COMMERCIAL ENERGY.
- AUTHOR, HAYES D.
- SOURCE, BIOSCIENCE, 27(8)/540-547, AUG 1977.
- KEYWORDS, ORGANIC, WASTES, CONVERSION, SOCIAL IMPLICATIONS.
- NOTES, ORGANIC FUELS INCLUDE BROAD CATEGORIES OF WASTE FROM NONENERGY PROCESSES AND CROPS GROWN EXPLICITLY FOR THEIR ENERGY VALUE. TECHNIQUES FOR CONVERTING TREES AND OTHER ENERGY CROPS ARE REVIEWED. SOME ENVIRONMENTAL AND SOCIAL EFFECTS OF BIOLOGICAL ENERGY SYSTEMS ARE DISCUSSED. WITHIN BOUNDS SET BY NATURAL LIMITS, PHOTOSYNTHETIC FUELS CAN CONTRIBUTE SIGNIFICANTLY TO THE WORLDS COMMERCIAL ENERGY SUPPLY.
- DATE, 770800

## ABSTRACT 1767

- TITLE, PLANT POWER - BIOLOGICAL SOURCES OF ENERGY.
- AUTHOR, HAYES D.
- SOURCE, ECOLOGIST, 7(9)/349-357, NOV 1977.
- KEYWORDS, ORGANIC, WASTES, CONVERSION, ALTERNATIVE FUELS.
- NOTES, THE FEASIBILITY OF USING ORGANIC SOURCES OF FUEL AS AN ENERGY ALTERNATIVE IS DISCUSSED. SEVERAL ORGANIC SOURCES AND CONVERSION TECHNOLOGIES ARE CONSIDERED.
- DATE, 771100

## ABSTRACT 1768

- TITLE, UTILIZATION OF AGRICULTURAL WASTES.
- AUTHOR, HEALD W R, LOEHR R C.
- SOURCE, PROC FROM CORNELL CONF ON AGR WAST MANAGEMENT, 1971, PP 121-129.
- KEYWORDS, ORGANIC, WASTES, AGRICULTURE, POLLUTION, LAND USE, FERTILIZER, FOOD PROCESSING, RECYCLING.
- NOTES, FILED.
- DATE, 710000

## ABSTRACT 1769

- TITLE, ANAEROBIC DIGESTION OF BEEF MANURE AND CORN STOVER.
- AUTHOR, HEIN M E, SMITH R J, VETTER R L.
- SOURCE, ASAE PAPER 75-4542, 18 PP.
- KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION, DESIGN, STATISTICS, OPERATING PROCEDURE.
- NOTES, FILED.
- DATE, 750000

- TITLE, DRY MATTER YIELD, NUTRITIVE COMPOSITION, AND COMBUSTIBLE ENERGY VALUE OF BIOMASS GROWN IN SINGLE AND DOUBLE CROPPING SYSTEMS.
- AUTHOR, HELSEL Z R.
- SOURCE, DEPT OF AGRONOMY, IOWA STATE UNIV, AMES, IA, 1977, 250 PP.
- KEYWORDS, ORGANIC, ENERGY CROPS, PRODUCTION.
- NOTES, FILED. THE INTENT OF THIS PROJECT WAS TO EVALUATE FOR POTENTIAL TOTAL BIOMASS PRODUCTION, MODERN AGRONOMIC PRACTICES FOR VARIOUS CROPS UNDER SINGLE AND DOUBLE CROPPING SYSTEMS. DETERMINATION OF THE NUTRITIVE COMPOSITION OF THESE CROPS, CROP RESIDUES OR SILAGES GROWN FOR UTILIZATION AS FEED OR FOOD STUFFS AND THE POTENTIAL OF THE CROPS OR RESIDUES AS SOURCES OF FUEL FOR ELECTRICAL ENERGY GENERATION IS PRESENTED. IT IS INTENDED THAT THIS RESEARCH WILL ACT AS A BASIS FOR FUTURE STUDIES, GIVING INSIGHT AS TO THE PROBLEMS AND NEEDS OF DOUBLE CROPPING AND UTILIZATION OF BIOMASS AS A FUEL SOURCE.
- DATE, 772000

## ABSTRACT 1771

- TITLE, FOOD OR ENERGY.
- AUTHOR, HENDRIX J E.
- SOURCE, NEW SCIENTIST, 18 JULY 1974, 1 P.
- KEYWORDS, ORGANIC.
- NOTES, FILED.
- DATE, 740718

## ABSTRACT 1772

- TITLE, OPERATION OF 390 CUBIC METER DIGESTER AT THE WASHINGTON STATE DAIRY FARM.
- AUTHOR, HERMANSON R E.
- SOURCE, ASAE PAPER 78-4566, 1978, 21 PP.
- KEYWORDS, ORGANIC, BOVINE, MANURE, ANAEROBIC FERMENTATION, ECONOMICS.
- NOTES, FILED. THE OPERATION AND PERFORMANCE OF A LARGE SCALE ANAEROBIC DIGESTER PROCESSING WASTE FROM A 180 COW DAIRY IN MONVOE, WASH IS PRESENTED. ENERGY PRODUCTION HAS REACHED THE EQUIVALENT OF 1880 GJ PER YEAR. THE FEASIBILITY OF GENERATING ELECTRICITY WITH AN INTERNAL COMBUSTION ENGINE AND THE LIFE CYCLE ECONOMICS OF GAS AND ELECTRICITY PRODUCTION ARE EXAMINED.
- DATE, 780000

## ABSTRACT 1773

- TITLE, SYSTEMS AND EQUIPMENT FOR LAND APPLICATION OF SLUDGE.
- AUTHOR, HIGGINS A J.
- SOURCE, ASAE PAPER 78-4567, 1978.
- KEYWORDS, ORGANIC, WASTES, FERTILIZER, TECHNOLOGY ASSESSMENT.
- NOTES, FILED. EQUIPMENT FOR LAND APPLICATION OF LIQUID AND SEMI-SOLID SEWAGE SLUDGES BY THE PLOW-FURROW-COVER AND SUBSOIL INJECTION TECHNIQUES HAVE BEEN DEVELOPED AND TESTED. SEVERAL LAND APPLICATION UNITS AND THEIR ASSOCIATED COMPONENTS ARE DISCUSSED IN TERMS OF THEIR UTILIZATION IN AGRICULTURAL SYSTEMS.
- DATE, 780000

## ABSTRACT 1774

- TITLE, METHANOL FROM WOOD WASTE, A TECHNICAL AND ECONOMIC STUDY.
- AUTHOR, HOKANSON A E, ROVELL R M.
- SOURCE, FOREST PRODUCTS LAB FOREST SERVICE, USDA, GENERAL TECHNICAL REPORT 12, JUNE 1977, 20 PP.
- KEYWORDS, ORGANIC, WOOD, METHANOL, TECHNOLOGY ASSESSMENT, ECONOMICS.
- NOTES, FILED. A METHANOL FROM WOOD WASTE FACILITY HAVING A CAPACITY OF 50 MILLION GALLONS PER YEAR REQUIRES 1500 OVENDRY TONS (ODT) OF WOOD WASTE PER DAY. THE YIELD OF METHANOL FROM WOOD IS ABOUT 38 PERCENT, OR ABOUT 100 GALLONS PER ODT OF WOOD. THIS YIELD IS BASED ON ALL PROCESS ENERGY REQUIRED COMING FROM THE WOOD WASTE. AT A WOOD WASTE COST OF \$15/ODT, THE SELLING PRICE OF METHANOL IS ESTIMATED AT \$0.77/GAL. AT \$64/ODT, THE SELLING PRICE IS \$0.96/GAL.
- DATE, 770600

## ABSTRACT 1775

- TITLE, AN INQUIRY INTO BIOLOGICAL ENERGY CONVERSION.
- AUTHOR, HOLLAENDER A. ET AL.
- SOURCE, NSF/RANN WORKSHOP, UNIV OF TENN, KNOXVILLE, DEC 1972, 41 PP.
- KEYWORDS, ORGANIC, SOLAR, WASTES, FOSSIL FUELS, METHANE, CONVERSION, ENERGY SOURCES.
- NOTES, FILED.
- DATE, 721200

## ABSTRACT 1776

- \*TITLE, TOTAL PLANT HARVESTING CONCEPTS FOR RICE.
- \*AUTHOR, HORSFIELD B, BURKHARDT T H.
- \*SOURCE, ASAE PAPER 75-1540, 12 PP.
- \*KEYWORDS, ORGANIC, HARVESTING.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1777

- \*TITLE, DRYING ENERGY FROM CORN COBS - A TOTAL SYSTEM.
- \*AUTHOR, HORSFIELD B, DOSTER D H, PEART R M.
- \*SOURCE, DEPT OF AGR ENGR, UNIV OF CALIF, DAVIS, CA 95616, 25 PP, UNPUBLISHED.
- \*KEYWORDS, ORGANIC, DRYING, ECONOMICS.
- \*NOTES, FILED. STARTING WITH THE ENERGY CONTENT OF CORN COBS, COLLECTION AND HANDLING OF THE CORN COBS TO THE ENERGY EXTRACTION METHOD (THE USE OF PRODUCER GAS GENERATORS) AND THE ECONOMICS OF SUCH A SYSTEM ARE PRESENTED IN THIS PAPER.
- \*DATE,

## ABSTRACT 1778

- \*TITLE, ENERGY FOR AGRICULTURE AND THE GASIFICATION OF CROP RESIDUES.
- \*AUTHOR, HORSFIELD B, WILLIAMS R O.
- \*SOURCE, DEPT OF AGR ENGR, UNIV OF CALIF, DAVIS, CA 95616, 18 PP.
- \*KEYWORDS, ORGANIC, WASTES, GASIFICATION, DESIGN.
- \*NOTES, FILED. ALTHOUGH AGRICULTURE USES LARGE AMOUNTS OF ENERGY FOR GROWING AND PROCESSING FOODS, IT ALSO GENERATES EVEN LARGER AMOUNTS OF UNUSED ENERGY IN TERMS OF CROP RESIDUES. FOR THE SUCCESSFUL UTILIZATION OF THIS ENERGY SOURCE AT THE FARM OR FOOD PROCESSING LEVEL, A SIMPLE, LOW-COST METHOD OF CONVERTING RESIDUE ENERGY TO HEAT OR SHAFT HORSE-POWER IS NEEDED. SUCH A METHOD IS GASIFICATION. THE THEORY OF GASIFICATION IS REVIEWED AND ITS HISTORICAL APPLICATION TO CROP RESIDUE IS PRESENTED. SEVERAL POTENTIAL APPLICATIONS ARE DISCUSSED.
- \*DATE,

## ABSTRACT 1779

- \*TITLE, ENTEROBACTERIA IN FEEDLOT WASTE AND RUNOFF.
- \*AUTHOR, HRUBANT G R, DAUGHERTY R V, RHODES R A.
- \*SOURCE, APPLIED MICROBIOLOGY, 24(3)/378-383, SEPT 1972.
- \*KEYWORDS, ORGANIC, MANURE.
- \*NOTES, FILED.
- \*DATE, 720900

## ABSTRACT 1780

- \*TITLE, CHANGES IN MICROBIAL POPULATION DURING FERMENTATION OF FEEDLOT WASTE WITH CORN.
- \*AUTHOR, HRUBANT G R.
- \*SOURCE, APPLIED MICROBIOLOGY, 30(1)/113-119, JULY 1975.
- \*KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION.
- \*NOTES, FILED.
- \*DATE, 750700

## ABSTRACT 1781

- \*TITLE, CHARACTERIZATION OF THE DOMINANT AEROBIC MICROORGANISM IN CATTLE FEEDLOT WASTE.
- \*AUTHOR, HRUBANT G R.
- \*SOURCE, APPLIED MICROBIOLOGY, 26(4)/512-516, OCT 1973.
- \*KEYWORDS, ORGANIC, MANURE.
- \*NOTES, FILED.
- \*DATE, 731000

## ABSTRACT 1782

- \*TITLE, MODERN RESIDENTIAL HEATING WITH WOOD CHIPS.
- \*AUTHOR, HUFF E R, RILEY J G, SMYTH D.
- \*SOURCE, ASAE PAPER 76-4555, 1976, 26 PP.
- \*KEYWORDS, ORGANIC, WOOD, HOME, HEAT, DESIGN.
- \*NOTES, FILED.
- \*DATE, 760000



## ABSTRACT 1783

- TITLE, METHANE THE ECONOMIC QUESTION.
- AUTHOR, HUGHES H A, PERUMPRAL J V.
- SOURCE, SE REGION ASAE MEETING, NEW ORLEANS, LA, 2-5 FEB 1975, 10PP.
- KEYWORDS, ORGANIC, METHANE, ECONOMICS.
- NOTES, FILED.
- DATE, 750202

## ABSTRACT 1784

- TITLE, FERMENTATION TECHNOLOGY.
- AUTHOR, HUMPHREY A E.
- SOURCE, CHEM ENGR PROGRESS, 73(5)/85-92, MAY 1977.
- KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION.
- NOTES, FERMENTATION, ONE OF THE OLDEST TECHNOLOGIES KNOWN, WILL PLAY AN IMPORTANT ROLE IN SUPPLYING FUTURE ENERGY, CHEMICALS, AND FOOD NEEDS, WHILE HELPING TO CONTROL POLLUTION. THREE MAIN AREAS FOR FERMENTATION APPLICATIONS ARE - TREATING INDUSTRIAL WASTES, CONVERTING RENEWABLE RESOURCES TO ENERGY, AND PRODUCING MICROBIAL METABOLITES.
- DATE, 770500

## ABSTRACT 1785

- TITLE, SYSTHETIC FUELS FROM MUNICIPAL, INDUSTRIAL, AND AGRICULTURAL WASTES.
- AUTHOR, HUNDEMANN.
- SOURCE, NTIS, 5285 PORT ROYAL RD, SPRINGFIELD, VA 22161, MAY 1978, 284 PP.
- KEYWORDS, ORGANIC, WASTE, BIBLIOGRAPHY.
- NOTES, FILED. THIS BIBLIOGRAPHY CITES WORLDWIDE LITERATURE ON THE PRODUCTION OF FUELS FROM WASTE MATERIALS, SUCH AS ANIMAL MANURE, WOOD CHIPS, SEWAGE SLUDGE, URBAN GARBAGE, AGRICULTURAL WASTES, AND OLD AUTOMOBILE TIRES. THIS UPDATED BIBLIOGRAPHY CONTAINS 284 ABSTRACTS, 58 OF WHICH ARE NEW ENTRIES TO THE PREVIOUS EDITION.
- DATE, 780500

## ABSTRACT 1786

- TITLE, FIREWOOD FOR YOUR FIREPLACE.
- AUTHOR, HUNT C, RAMMATH R.
- SOURCE, STOCK NO 0100-03195, US DEPT OF AGR, FOREST SERVICE, US GOVT PRINTING OFFICE, WASHINGTON DC 20405, JULY 1974, 7 PP.
- KEYWORDS, ORGANIC, WOOD.
- NOTES, FILED. INFORMATION LEAFLET ON SELECTION, PURCHASE, AND USE OF FIREWOOD.
- OATF- 740700

## ABSTRACT 1787

- TITLE, METHANE FARMING IN KENYA.
- AUTHOR, HUTCHINSON T H.
- SOURCE, COMPOST SCI, NOV-DEC 1972.
- KEYWORDS, ORGANIC, METHANE, KENYA.
- NOTES, NAS.
- DATE, 721100

## ABSTRACT 1788

- TITLE, TECHNOLOGIES SUITABLE FOR RECOVERY OF ENERGY FROM LIVESTOCK MANURE.
- AUTHOR, IFEADI C N, BROWN J B JR.
- SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975, PP 373-396.
- KEYWORDS, ORGANIC, MANURE, ECONOMICS.
- NOTES, FILED.
- DATE, 750800

## ABSTRACT 1789

- \*TITLE, SYMPOSIUM PAPERS ENERGY FROM BIOMASS AND WASTES.
- \*AUTHOR, INSTITUTE OF GAS TECHNOLOGY.
- \*SOURCE, INST OF GAS TECH, IIT CENTER, 3424 S STATE ST CHICAGO, ILL 60616, SYMPOSIUM PAPERS PRESENTED AUGUST 14-18 1978, 868 PP.
- \*KEYWORDS, ORGANIC, WASTES, ENERGY CROPS, CONVERSION, TECHNOLOGY ASSESSMENTS.
- \*NOTES, FILED. THE PAPERS GIVEN AT IGT S SYMPOSIUM IN WASHINGTON DC AUG 14-19, 1978 ON ENERGY FROM BIOMASS AND WASTES ARE PRESENTED IN THIS BOOK. THE SCOPE AND CONTENT OF THESE PROCEEDINGS SHOW THAT THE TECH OF RENEWABLE ENERGY VIA BIOMASS AND AND WASTES IS DEVELOPING ON AN INTERNATIONAL SCALE.
- \*DATE, 780918

## ABSTRACT 1790

- \*TITLE, ALCOHOL FROM AGRICULTURAL COMMOOTITIES.
- \*AUTHOR, JACOBS P B.
- \*SOURCE, REPORT NO ACL-95, BUREAU OF AGR AND INDUSTRIAL CHEMISTRY, USDA, 1946.
- \*KEYWORDS, ORGANIC.
- \*NOTES.
- \*DATE, 460000

## ABSTRACT 1791

- \*TITLE, ANIMAL FEEDSTUFFS FROM WASTE AND SURPLUS FISH.
- \*AUTHOR, JAMES D.
- \*SOURCE, UNEP/FAO/ISS, 4/14, ROME, ITALY, 18-21 JAN 1977, 5 PP)
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 770118

## ABSTRACT 1792

- \*TITLE, WOOD FOR HOME HEATING - SAFETY AND WOOD HEATING SYSTEMS.
- \*AUTHOR, JENKINS J, VACCA R.
- \*SOURCE, 62936, FOR HOME HEATING, UNIV OF WISC-EXTENSION, 432 NORTH LAKE ST, MADISON, WI 53706, MARCH 1978, 8 PP.
- \*KEYWORDS, ORGANIC, WOOD, SAFETY, HOME.
- \*NOTES, FILED.
- \*DATE, 780300

## ABSTRACT 1793

- \*TITLE, FUELWOOD AND FIREPLACE FACTS.
- \*AUTHOR, JENSEN A S.
- \*SOURCE, ENERGY CONSERVATION FACT SHEET EC-6, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 1976, 2 PP.
- \*KEYWORDS, ORGANIC, WOOD.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1794

- \*TITLE, ENERGY FROM AGRICULTURAL WASTE-METHANE GENERATION.
- \*AUTHOR, JEWELL W J.
- \*SOURCE, AGR ENGR EXTENSION BULLETIN 387, CORNELL UNIV, ITHACA, N Y, JAN 1974, 13 PP.
- \*KEYWORDS, ORGANIC, METHANE, AGRICULTURE, WASTES, DISTILLATION, ANAEROBIC FERMENTATION, ENERGY SOURCES.
- \*NOTES, FILED.
- \*DATE, 740100

## ABSTRACT 1795

- \*TITLE, ENERGY, AGRICULTURE AND WASTE MANAGEMENT/ PROCEEDINGS OF 1975 CORNELL AGR WASTE MANAGEMENT CONFERENCE.
- \*AUTHOR, JEWELL W J.
- \*SOURCE, ANN ARBOR, MICH/ANN ARBOR SCIENCE PUB, 1975, 540 PP.
- \*KEYWORDS, ORGANIC, MANURE, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 750000

- \*TITLE, BIOCONVERSION OF AGRICULTURAL WASTES FOR POLLUTION CONTROL AND ENERGY CONSERVATION - FINAL REPORT.
- \*AUTHOR, JEWELL W J, DAVIS H R, GUNKEL W W, LATHWELL D J.
- \*SOURCE, NTIS, US DEPT OF COMMERCE, SPRINGFIELD, VA, SEPT 1976, 321 PP.
- \*KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, METHANE.
- \*NOTES, FILED. EXAMINES THE FEASIBILITY OF ANAEROBIC FERMENTATION OF LIVESTOCK WASTE AND POLLUTION CONTROL TO PROVIDE ENERGY AND CONTROL POLLUTION. CONCLUDES THAT FOR LIVESTOCK OPERATIONS OF 100 COWS OR MORE ARE FEASIBLE IF ODDR CONTROL AND OTHER BENEFITS ARE DERIVED. FOR LESS THAN 100 COWS, OTHER BENEFITS WILL HAVE TO OFFSET THE COSTS IN ORDER TO PRODUCE ENERGY AT PRICES COMPETITIVE TO EXISTING SYSTEMS.
- \*DATE, 760900

## ABSTRACT 1797

- \*TITLE, BIOMASS FUELS- PAST, PRESENT, AND FUTURE.
- \*AUTHOR, JEWELL W J.
- \*SOURCE, DEPT OF AGRI ENGR, CORNELL UNIV, ITHICA NY, 14853, 1978, 10 PP.
- \*KEYWORDS, ORGANIC, CONVERSION, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. PHOTO SYNTHETICALLY FIXED SOLAR ENERGY GENERATES BIOMASS THAT CAN BE USED TO PRODUCE LIQUID AND GASEOUS FUELS EQUAL IN QUALITY TO PETROLEUM AND NATURAL GAS. ESTIMATES THAT ENERGY FROM ALL SOLAR TECHNOLOGIES WILL CONTRIBUTE 10 PERCENT OF THE TOTAL US SUPPLY BY THE YEAR 2000 AND 26 PERCENT BY THE YEAR 2020. OF THE MANY KINDS OF TECHNOLOGIES INVOLVED WITH SOLAR ENERGY, BIOMASS FUELS ARE THOUGHT TO HAVE THE GREATEST POTENTIALS. BIOMASS HAS THE POTENTIAL OF SUPPLYING \$150 BILLION WORTH OF ENERGY BEFORE THE YEAR 2000.
- \*DATE, 780000

## ABSTRACT 1798

- \*TITLE, PHOTOVOLTAICS AND BIOMASS UTILIZATION.
- \*AUTHOR, JOHNSON A C.
- \*SOURCE, PRESENTED AT ENERGY TECH 3RD CONF, WASHINGTON DC, 29-31 MARCH 1976, PP 158-163.
- \*KEYWORDS, ORGANIC, ENERGY CROPS, WASTES, PHOTOVOLTAIC, CONVERSION, PHOTOSYNTHESIS.
- \*NOTES, IN THIS PAPER THE DIRECT CONVERSION OF SUNLIGHT INTO ELECTRICITY BY PHOTOVOLTAIC SEMI-CONDUCTOR CELLS, AND PRODUCTION OF HEAT OR FUELS FROM ORGANIC WASTES, AND LAND OR WATER CROPS GROWN FOR ENERGY PURPOSES, ARE CONSIDERED FOR USE IN THE NEAR FUTURE.
- \*DATE, 760300

## ABSTRACT 1799

- \*TITLE, FIBER WALL REACTOR DIGESTION OF DAIRY CATTLE MANURE
- \*AUTHOR, JONES D D, DALE A C, NYE J C, HARRINGTON R B.
- \*SOURCE, ASAE PAPER 77-4054, 1977, 24PP.
- \*KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION, DESIGN.
- \*NOTES, FILED. THE EFFECT OF A FIBER WALL IN A DIGESTER TO PROVIDE LONGER CELL RETENTION TIME WAS STUDIED USING SCREENED DAIRY COW MANURE.
- \*DATE, 770000

## ABSTRACT 1800

- \*TITLE, WOOD FOR ENERGY IN DEVELOPING COUNTRIES.
- \*AUTHOR, JONGHA J.
- \*SOURCE, UNASYLVA, AN INTERNATIONAL REVIEW OF FORESTRY AND FOREST INDUSTRIES, FAD, IN PRESS.
- \*KEYWORDS, ORGANIC, WOOD, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 770118

## ABSTRACT 1801

- \*TITLE, FOOD FROM WASTE AND NUTRITIONAL CONSIDERATIONS.
- \*AUTHOR, KAPSIOTIS G D.
- \*SOURCE, UNEP/FAD/ISS, 4/09, ROME, ITALY, 18-21 JAN 1977, 5 PP.
- \*KEYWORDS, ORGANIC, WASTES.
- \*NOTES, FILED.
- \*DATE, 770118

- TITLE, ENERGY PRODUCTION BY FIELD CROPS.
- AUTHOR, KEENER H M, ROLLER W L.
- SOURCE, ASAE PAPER 75-3021, 1975, 27 PP.
- KEYWORDS, ORGANIC, ENERGY RATIO, FERTILIZER, ECONOMICS, STATISTICS.
- NOTES, FILED. THE ENERGY REQUIREMENTS, EXPECTED AVERAGE YIELDS AND ENERGY OUTPUTS ARE PRESENTED FOR ALFALFA, POTATOES, SLASH PINE, SUGAR BEETS, WHEAT AND CORN. PLANTATION GROWN SLASH PINE GAVE A GROSS ENERGY RETURN OF 27 JOULES/JOULE OF INPUT ENERGY WHEN HARVESTED EVERY 20 YEARS. CORN AND ALFALFA RETURNED 10 JOULES OF DIGESTIBLE ENERGY FOR CATTLE PER JOULE OF INPUT ENERGY. CORN (GRAIN) RETURNED 7 JOULES AND WHEAT 4 JOULES OF DIGESTIBLE ENERGY FOR MAN FOR EACH JOULE OF INPUT ENERGY.
- DATE, 750000

## ABSTRACT 1803

- TITLE, A CRITICAL LOOK AT ALTERNATIVE ENERGY SOURCES.
- AUTHOR, KEMP C C.
- SOURCE, SWEET BRIAR SYMPOSIUM/ENERGY AND THE NATION, SWEET BRIAR COLLEGE, 30 OCT 1974, INTERTECHNOLOGY CORP, BOX 340, WARRENTON, VIRGINIA, 11 PP.
- KEYWORDS, ORGANIC, ENERGY SOURCES, FOSSIL FUELS, NUCLEAR, SOLAR, ANIMAL WASTE.
- NOTES, FILED.
- DATE, 741030

## ABSTRACT 1804

- TITLE, ADVANCES IN THE ENERGY PLANTATION CONCEPT.
- AUTHOR, KEMP C C.
- SOURCE, AAAS ANNUAL MEETING, 26-31 JAN 1975, NEW YORK, 19 PP.
- KEYWORDS, ORGANIC, FOSSIL FUELS, NUCLEAR, SOLAR, ENERGY SOURCES, AGRICULTURE, ECONOMICS.
- NOTES, FILED.
- DATE, 750126

## ABSTRACT 1805

- TITLE, GRAIN ALCOHOL IN MOTOR FUELS-AN EVALUATION.
- AUTHOR, KENORICK J G, MURRAY P J.
- SOURCE, REPORT 81, DEPT OF AGR ECON, UNIV OF NEBR., LINCOLN, NE, APRIL 1978, 60 PP.
- KEYWORDS, ORGANIC, ALCOHOL, AUTOMOBILE.
- NOTES, FILED.
- DATE, 780400

## ABSTRACT 1806

- TITLE, GOBAR GAS - WHY AND HOW.
- AUTHOR, KHADI AND VILLAGE INDUSTRIES COMMISSIONS.
- SOURCE, KHADI AND VILLAGE INDUSTRIES COMMISSION, IRLA ROAD, VILE PARLE (WEST), BOMBAY-400 056, 15 PP.
- KEYWORDS, ORGANIC, GOBARGAS, MANURE, METHANE, ANAEROBIC FERMENTATION, OPERATING PROCEDURE, ECONOMICS, INDIA.
- NOTES, FILED.
- DATE,

## ABSTRACT 1807

- TITLE, ALCOHOL AS AN ALTERNATIVE FUEL.
- AUTHOR, KIRIK H.
- SOURCE, THE ONTARIO DIGEST AND ENGR DIGEST, SEPT 1977, PP 29-31.
- KEYWORDS, ORGANIC, ALCOHOL, AUTOMOBILE, HISTORICAL.
- NOTES, FILED.
- DATE, 770900



- \*TITLE, A CANADIAN VIEWS ALCOHOL AS A FARM FUEL.
- \*AUTHOR, KIRIK M.
- \*SOURCE, AGR ENGR, 59(5)/13-14, MAY 1978.
- \*KEYWORDS, ORGANIC, ALCOHOL.
- \*NOTES, FILED. THIS IS A QUICK, TWO-PAGE QUESTION AND ANSWER STYLE REPORT IN WHICH THE AUTHOR DISCUSSES THE USE OF ALCOHOL DERIVED FROM A RENEWABLE CROP RESOURCE AS A SUBSTITUTE FOR GASOLINE AND DIESEL FUELS. THE AUTHOR CONTENDS THAT THE USE OF ALCOHOL AS A FUEL IS SURELY FEASIBLE AND EVEN ADVANTAGEOUS. THE TOPICS DISCUSSED INCLUDE THE CHOICE OF CROPS TO BE GROWN FOR CONVERSION (IN CANADA, SUGAR BEETS, POTATOES, AND THE JERUSALEM ARTICHOKE), THE COST AND SET-UP OF DISTILLERIES (INCLUDING PORTABLE ON-SITE DISTILLERIES), PROBLEMS OF ENGINE MODIFICATION TO ALLOW FOR COLD STARTING, ENGINE LUBRICATION (PLANT OILS COULD BE USED), FUEL ADDITIVES WHICH DO AWAY WITH ENGINE CORROSION DUE TO ACETIC ACID FORMATION (AND AMMONIA) AND DIESEL ENGINE MODIFICATIONS.
- \*DATE, 780500

## ABSTRACT 1809

- \*TITLE, THE POSSIBILITIES OF ALCOHOL USE AS AN ALTERNATE FUEL IN FARM MACHINERY.
- \*AUTHOR, KIRIK M.
- \*SOURCE, PREPARED FOR THE NORTHEASTERN ONTARIO AGR CONF, NEW LISKEARO, ONTARIO, 28 FEB 1978, 9 PP.
- \*KEYWORDS, ORGANIC, ALCOHOL.
- \*NOTES, FILED. THIS PAPER COVERS THE AGRICULTURAL PROBLEM THE TYPES OF ALCOHOL CROPS BEST SUITED FOR PRODUCTION IN ONTARIO, THE COST OF ALCOHOL, THE MANUFACTURING OF ALCOHOL, THE CONVERSION OF GASOLINE AND DIESEL ENGINES, A DISCRPTION OF THE BRANDT SYSTEM (THE TRUE ALCOHOL ENGINE) AND THE ADVANTAGES OF ALCOHOL. THE PAPER CONCLUDES THAT AGRICULTURAL ALCOHOL PRODUCTION HAS THE POTENTIAL TO PROVIDE JOBS, TRAIN FARMERS, AND DEVELOP NEW LAND. EXISTING FARMERS SUFFER ECONOMIC RESTRAINTS BECAUSE OF SURPLUS PRODUCTION. ALCOHOL AS A MOTOR FUEL HAS THE UNIQUE QUALITY OF HAVING A REACTICALLY UNLIMITED POTENTIAL MARKET WHICH WOULD ALLEVIATE THE SURPLUS PROBLEM.
- \*DATE, 780228

T

## ABSTRACT 1810

- \*TITLE, AN ECONOMIC ANALYSIS OF FUEL GAS PRODUCTION FROM SOLID WASTE.
- \*AUTHOR, KISPERT R G, SADEK S E, WISE D L.
- \*SOURCE, RESOURCE RECOVERY AND CONSERVATION, 1/95-109, ELSEVIER SCI PUBLISHING CO, AMSTERDAM, 1975.
- \*KEYWORDS, ORGANIC, MUNICIPAL WASTE, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 741011

## ABSTRACT 1811

- \*TITLE, AN EVALUATION OF METHANE PRODUCTION FROM SOLID WASTE.
- \*AUTHOR, KISPERT R G, SADEK S E, WISE D L.
- \*SOURCE, RESOURCE RECOVERY AND CONSERVATION, 1/245-255, ELSEVIER SCI PUBLISHING CO, AMSTERDAM, 1975.
- \*KEYWORDS, ORGANIC, MUNICIPAL WASTE, METHANE, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1812

- \*TITLE, FUEL GAS FROM ORGANIC WASTES.
- \*AUTHOR, KLASS D L, GHOSH S.
- \*SOURCE, CHEM TECH, NOV 1973, PP 689-698.
- \*KEYWORDS, ORGANIC, MUNICIPAL WASTE, PYROLYSIS, ANAEROBIC FERMENTATION, ENERGY SOURCES, CONVERSION, STATISTICS, SNG.
- \*NOTES, FILED.
- \*DATE, 731100

## ABSTRACT 1813

- \*TITLE, BIOMASS AND WASTE PRODUCTION AS ENERGY RESOURCES - UPDATE.
- \*AUTHOR, KLASS D L.
- \*SOURCE, ENERGY - BCC, 2(4)/23-28, FALL 1977.
- \*KEYWORDS, ORGANIC, WOOD, CONVERSION, EFFICIENCY.
- \*NOTES, SOLID WASTE CONVERSION IS THE BASIC TOPIC OF THIS RESEARCH.
- \*DATE, 770000

- \*TITLE, A LONG-RANGE APPROACH TO THE NATURAL GAS SHORTAGE UTILIZING NON-FOSSIL RENEWABLE CARBON.
- \*AUTHOR, KLASS D L.
- \*SOURCE, ENERGY SOURCES, 3(2)/177-196, 1977.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS, SNG, NATURAL GAS.
- \*NOTES, THE ONLY LONG-TERM SOLUTION TO SUSTAINING A NATURAL GAS ECONOMY IS TO CONVERT A MAJOR SOURCE OF RENEWABLE NONFOSSIL CARBON TO SNG. THE MOST PROMISING SOURCE OF THE CARBON IS LAND-AND WATER-BASED BIOMASS PRODUCED FROM SOLAR ENERGY BY PHOTOSYNTHESIS. THIS CONCEPT IS ASSESSED AND MAJOR TECHNOLOGICAL PROBLEMS ARE REVIEWED.
- \*DATE, 770900

## ABSTRACT 1815

- \*TITLE, WASTES AND BIOMASS AS ENERGY RESOURCES - AN OVERVIEW.
- \*AUTHOR, KLASS D L.
- \*SOURCE, IN THE BOOK CLEAN FUELS FROM BIOMASS, SEWAGE, URBAN REFUSE, AGRICULTURAL WASTES, J W WHITE, ED, INST OF GAS TECH, 3424 S STATE ST, CHICAGO, IL 60611, MARCH 1976, PP 21-58.
- \*KEYWORDS, ORGANIC, WASTES.
- \*NOTES, FILED. THE NATIONAL ECONOMY CAN BE MAINTAINED ON ORGANIC FUELS BY CONVERTING MAJOR SOURCES OF CONTINUOUSLY RENEWABLE NONFOSSIL CARBON TO SYNFUELS THAT ARE INTERCHANGEABLE WITH, OR CAN BE SUBSTITUTED FOR, NATURAL GAS AND PETROLEUM DERIVED FUELS. PROMISING SOURCES OF THIS CARBON ARE WASTE MATERIALS, SUCH AS URBAN REFUSE, AND BIOMASS PRODUCED FROM SOLAR ENERGY BY PHOTOSYNTHESIS. THE OVERVIEW OF THE DEVELOPMENT OF THIS CONCEPT PRESENTED IN THIS PAPER POINTS OUT THE BROAD SCOPE OF THE TECHNOLOGY AND ITS POTENTIAL IMPACT ON US ENERGY SUPPLIES.
- \*DATE, 760300

## ABSTRACT 1816

- \*TITLE, LIVESTOCK WASTE MANAGEMENT WITH POLLUTION CONTROL.
- \*AUTHOR, KLEIS R W.
- (SOURCE, NORTH CENTRAL REGIONAL RESEARCH PUBLICATION 222, JUNE 1975, 89 PP.
- \*KEYWORDS, ORGANIC, ANIMAL WASTE.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 1817

- \*TITLE, PRODUCTION AND USE OF GRAIN ALCOHOL AS A MOTOR FUEL - AN EVALUATION.
- \*AUTHOR, KLOSTERMAN H J, BANASIK O J, BUCHANAN M L, TAYLOR F R, HARROLD R L.
- (SOURCE, NORTH DAKOTA FARM RESEARCH, 35(2)/3-9, NOV-DEC 1977.
- \*KEYWORDS, ORGANIC, ALCOHOL, AUTOMOBILE.
- \*NOTES, FILED.
- \*DATE, 771100

## ABSTRACT 1818

- \*TITLE, PYROLYTIC CONVERSION OF AGRICULTURAL WASTES TO FUELS.
- \*AUTHOR, KNIGHT J A, TATOM J W, BOWEN M D, COLCORD A R, ELSTON L W.
- \*SOURCE, ASAE PAPER 74-5017, 1974, 25 PP.
- \*KEYWORDS, ORGANIC, WASTES, PYROLYSIS, DESIGN, ECONOMICS, GEORGIA.
- \*NOTES, FILED. AGRICULTURAL WASTES REPRESENT A SIGNIFICANT POTENTIAL SOURCE OF ENERGY. THE STEADY FLOW, LOW TEMPERATURE PYROLYSIS PROCESS DEVELOPED AT THE GEORGIA TECH ENGINEERING EXPERIMENT STATION IS A SYSTEM THAT IS CAPABLE OF CONVERTING THESE WASTES INTO CLESN-BURNING FUELS. THE PROCESS HAS BEEN DEVELOPED TO A 50 DRY TONS/DAY DEMONSTRATION FACILITY. BACKGROUND INFORMATION ON THE PYROLYSIS PROCESS AND EXPERIMENTAL PROCEDURES ARE COVERED.
- \*DATE, 740000

## ABSTRACT 1819

- \*TITLE, CROP RESIDUES IN CALIFORNIA - SOME FACTORS AFFECTING UTILIZATION.
- \*AUTHOR, KNUTSON J, MILLER G E, OSTERLI V P.
- \*SOURCE, LEAFLET 2872, DIVISION OF AGR SCI, UNIV OF CALIF, DAVIS, FEB 1976, 22 PP.
- \*KEYWORDS, ORGANIC, CALIFORNIA, WASTES.
- \*NOTES, FILED.
- \*DATE, 760200

- \*TITLE, COLD WEATHER ENERGY RECOVERY FROM ANAEROBIC DIGESTION OF SWINE MANURE.
- \*AUTHOR, KROEKER E J. ET AL.
- \*SOURCE, PRESENTED AT SEVENTH NATIONAL AGR WASTE MANAGEMENT CONF/ENERGY, AGR AND WASTE MANAGEMENT, SYRACUSE, NY, 16-18 APRIL 1975, 20 PP.
- \*KEYWORDS, ORGANIC, ANIMAL WASTE, ANAEROBIC FERMENTATION, EFFICIENCY, FERTILIZER, ENVIRONMENT.
- \*NOTES, FILED. THE PURPOSE OF THIS REPORT IS TO COMPARE EXPERIMENTAL RESULTS WITH A THEORETICAL ENERGY BALANCE FOR THE PILOT-SCALE DIGESTERS. DISCUSSION CENTERS ON ENERGY CONSUMPTION AND PRODUCTION DATA AND THE IMPLICATIONS OF THESE RESULTS FOR LARGE-SCALE ANAEROBIC DIGESTION FOR ENERGY RECOVERY.
- \*DATE, 750416

## ABSTRACT 1821

- \*TITLE, METHANE GAS PRODUCTION FROM ANIMAL WASTES.
- \*AUTHOR, LAPP H M, SCHULTE D D, BUCHANAN L C.
- \*SOURCE, PUBLICATION 1528, INFORMATION DIV, CANADA DEPT OF AGR, OTTAWA, 1974, 9PP.
- \*KEYWORDS, ORGANIC, METHANE.
- \*NOTES, FILED, NAS.
- \*DATE, 740000

## ABSTRACT 1822

- \*TITLE, START-UP OF PILOT SCALE SWINE MANURE DIGESTERS FOR METHANE PRODUCTION.
- \*AUTHOR, LAPP H M, SCHULTE D D, KROEKER E J, SPARLING A B, TOPNIK B H.
- \*SOURCE, PRESENTED AT THIRD INTERNATIONAL SYMPOSIUM ON LIVESTOCK WASTES, 21-25 APRIL 1975, CHAMPAGNE-URBANA, ILL, 21 PP.
- \*KEYWORDS, ORGANIC, MANURE, METHANE, ANAEROBIC FERMENTATION, HEAT, CANADA.
- \*NOTES, FILED.
- \*DATE, 750421

## ABSTRACT 1823

- \*TITLE, TRAVEL REPORT ON A STUDY OF METHANE PRODUCTION FROM ANIMAL WASTES BY ANAEROBIC PROCESSES IN SCOTLAND, ENGLAND, GERMANY, NORWAY AND DENMARK.
- \*AUTHOR, LAPP H M.
- \*SOURCE, PERSONAL CORRESPONDENCE, H M LAPP, DEPT OF AGR ENGR, UNIV OF MANITOBA, WINNIPEG, SEPT 1975, 48 PP.
- \*KEYWORDS, ORGANIC, METHANE, PRODUCTION, ANIMAL WASTE, ANAEROBIC FERMENTATION, SCOTLAND, RENEWABLE ENERGY, WORLD WIDE, HEAT, GERMANY, NORWAY, DENMARK, UNITED KINGDOM.
- \*NOTES, FILED.
- \*DATE, 750900

## ABSTRACT 1824

- \*TITLE, METHANE PRODUCTION FROM ANIMAL WASTES-FUNDAMENTAL CONSIDERATIONS.
- \*AUTHOR, LAPP H M, SPARLING A B, SCHULTE D D, BUCHANAN L C.
- \*SOURCE, ASAE PAPER 74-213, 24 PP.
- \*KEYWORDS, ORGANIC, METHANE, PRODUCTION, ANIMAL WASTE, CANADA, ANAEROBIC FERMENTATION, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 1825

- \*TITLE, FUEL FROM ANIMAL WASTE.
- \*AUTHOR, LAPP H M.
- \*SOURCE, ASAE PAPER 77-5531, 1977, 14 PP.
- \*KEYWORDS, ORGANIC, MANURE, GOBARGAS, HEAT, BIOGAS.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1826

- \*TITLE, BIOGAS PRODUCTION FROM ANIMAL MANURE.
- \*AUTHOR, LAPP H M. ET AL.
- \*SOURCE, BIOMASS ENERGY INST INC, 304-870 CAMBRIDGE ST, WINNIPEG, MANITOBA, CANADA, MARCH 1978, 21 PP.
- \*KEYWORDS, ORGANIC, BIOGAS, MANURE.
- \*NOTES, FILED.
- \*DATE, 780300

- \*TITLE, CROP RESIDUE - AN IMPORTANT NATIONAL RESOURCE.
- \*AUTHOR, LARSON V E.
- \*SOURCE, 261-492/ARS-239, US GOVT PRINTING OFFICE, WASHINGTON DC, 1977, 4 PP.
- \*KEYWORDS, ORGANIC, CROP RESIDUES.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1828

- \*TITLE, INCREASED PRODUCTION OF BIOGAS FROM COMDUNG BY ADDING OTHER AGRICULTURAL WASTE MATERIALS.
- \*AUTHOR, LAURA R D, IDNANI M A.
- \*SOURCE, J SCI FD AGR, 22/164-167, APRIL 1971.
- \*KEYWORDS, ORGANIC, BIOGAS, INDIA.
- \*NOTES, NAS.
- \*DATE, 710400

## ABSTRACT 1829

- \*TITLE, GASOLINE-ALCOHOL BLENDS IN INTERNAL-COMBUSTION ENGINES.
- \*AUTHOR, LICHTY L C, PHELPS C W.
- \*SOURCE, INDUSTRIAL ENGR CHEM, 20/222, 1938.
- \*KEYWORDS, ORGANIC, ENGINE, ALCOHOL.
- \*NOTES, NAS.
- \*DATE, 380000

## ABSTRACT 1830

- \*TITLE, METHANOL AND OTHER WAYS AROUND THE GAS PUMP.
- \*AUTHOR, LINCOLN J W.
- \*SOURCE, GARDEN WAY PUBLISHING, CHARLOTTE, VERMONT 05445, NOV 1975, 134 PP.
- \*KEYWORDS, ORGANIC, METHANOL, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 751100

## ABSTRACT 1831

- \*TITLE, ALCOHOL POWER - CAN IT HELP YOU MEET THE SOARING COST OF GASOLINE.
- \*AUTHOR, LINDSLEY E F.
- \*SOURCE, POPULAR SCI, APRIL 1975, PP 68-72.
- \*KEYWORDS, ORGANIC, ALCOHOL, METHANOL, ENERGY SOURCES, AUTOMOBILE, MUNICIPAL WASTE.
- \*NOTES, FILED.
- \*DATE, 750400

## ABSTRACT 1832

- \*TITLE, BYRON MCDONALD - COMPOWER HELPS RUN HIS FARM.
- \*AUTHOR, LINDSLEY E F.
- \*SOURCE, POPULAR SCI, MAY 1975, PP 106-107.
- \*KEYWORDS, ORGANIC, ANIMAL WASTE, CONVERSION, METHANE.
- \*NOTES, FILED.
- \*DATE, 750500

## ABSTRACT 1833

- \*TITLE, CONSTRUCTION MATERIALS, PAPER AND PAPERBOARD FROM AGRICULTURAL RESIDUES.
- \*AUTHOR, LINTU.
- \*SOURCE, UNEP, FAO, ROME, ITALY, 18-21 JAN 1977, 8 PP.
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 770118



- TITLE, FIELD CROPS AS A FUTURE SOURCE OF FUELS AND CHEMICAL FEEDSTOCKS.
- AUTHOR, LIPINSKY E S.
- SOURCE, PRESENTED AT THE SUN CONF IN WINNIPEG, 7/104-118, 15-20 AUG 1976.
- KEYWORDS, ORGANIC, ETHANOL, METHANOL, CONVERSION, ECONOMICS.
- NOTES, SUCH FIELD CROPS AS SUGAR CANE, SORGHUMS, SUGAR BEETS, WHEAT AND CORN ARE UNDER INVESTIGATION AS SOURCES OF FUELS AND COMMODITY CHEMICALS. ETHANOL AND METHANOL APPEAR ATTRACTIVE FOR INDUSTRIAL USE. THERMOCHEMICAL PRODUCTION OF FERTILIZER AMMONIA SEEMS ESPECIALLY INTERESTING. OPPORTUNITIES FOR USING FIELD CROPS FOR FUEL SOURCES AND CHEMICAL FEEDSTOCKS ARE REVIEWED.
- DATE, 760815

## ABSTRACT 1835

- TITLE, FUELS FROM BIOMASS - INTEGRATION WITH FOOD AND MATERIALS SYSTEMS.
- AUTHOR, LIPINSKY E S.
- SOURCE, SCIENCE, 199(4329)/644-651, 10 FEB 1978.
- KEYWORDS, ORGANIC, ENERGY CROPS, AGRICULTURE.
- NOTES, FILED. THE DEVELOPMENT OF FUELS FROM BIOMASS CAN LEAD TO DISPERSED FACILITIES THAT INCORPORATE FOOD OR MATERIALS PRODUCTION OR BOTH WITH FUEL PRODUCTION FORMING ADAPTIVE SYSTEMS THAT CAN BE MODIFIED TO MEET EVOLVING NEEDS AND CONSTRAINTS. SOME POSSIBLE SYSTEMS ANALYZED ARE BASED ON SUGAR CANE, CORN AND GUAYULE. THE TECHNOLOGY THAT IS APPROPRIATE TO EACH SYSTEM NEEDS TO BE WORKED OUT, TAKING INTO ACCOUNT ASSOCIATED FOOD AND MATERIALS OPPORTUNITIES.
- DATE, 780210

## ABSTRACT 1836

- TITLE, SUGAR CANE VS CORN VS ETHYLENE AS SOURCES OF ETHANOL FOR MOTOR FUEL AND CHEMICALS.
- AUTHOR, LIPINSKY E S.
- SOURCE, PRESENTED AT THE ASSOT MEETING, FORT WALTON BEACH, FL, 23 JUNE 1977, 24 PP.
- KEYWORDS, ORGANIC, ETHANOL, TECHNOLOGY ASSESSMENT.
- NOTES, FILED. THIS PAPER COVERS THE IDEA TO USE SUGAR CANE JUICE OR MOLASSES AS THE RAW MATERIAL TO MANUFACTURE ETNANOL WHICH IS PRESENTLY MADE FROM ETHYLENE. ETHYLENE NOW IS MADE EITHER FROM NATURAL GAS LIQUIDS OR FROM PETROLEUM PRODUCTS. FERMENTATION ETHANOL CAN BE USED EITHER AS AN INDUSTRIAL CHEMICAL OR AS A MOTOR FUEL, DEPENDING ON ECONOMIC AND INSTITUTIONAL CONSIDERATIONS. THE INITIAL RESEARCH INDICATES THAT ATTAINMENT OF LOW COST ETHANOL IS FACILITATED BY THE PRESENCE OF BAGASSE THAT CAN BE USED AS THE FUEL DISTILL ETHANOL. THUS, THE ETHANOL CONCEPT HAS THE POTENTIAL FOR ENERGY SELF-SUFFICIENCY. FURTHERMORE, ALL SALE OF STILLAGE, CANE FIBER, OR ELECTRICITY COULD PROVIDE YPRODUCT CREDITS TO KEEP THE COST OF ETHANOL DOWN.
- DATE, 770623

## ABSTRACT 1837

- TITLE, ECONOMICS OF GASOHOL.
- AUTHOR, LITTERMAN M. ET AL.
- SOURCE, ECON REPORT ER 78-10, DEPT OF AGR AND APPLIED ECON, UNIV OF MINN, ST PAUL, MN, 55108, DEC 1978, 77 PP.
- KEYWORDS, ORGANIC, CORN, WHEAT, ETHANOL, ECONOMICS.
- NOTES, FILED.
- DATE, 781200

## ABSTRACT 1838

- TITLE, WOOD ENERGY.
- AUTHOR, LLOYD S. ET AL.
- SOURCE, REPORT OF THE GOVERNORS TASK FORCE ON WOOD AS A SOURCE OF ENERGY, COMMITTEE ON NATURAL RESOURCES, MONTPELIER, VERMONT, 14 AUG 1975, 73 PP.
- KEYWORDS, ORGANIC, VERMONT, ENVIRONMENT, ECONOMICS.
- NOTES, FILED.
- DATE, 750814

## ABSTRACT 1839

- TITLE, AN OVERVIEW-UTILIZATION OF RESIDUES FROM AGRICULTURE AND AGRO-INDUSTRIES.
- AUTHOR, LOEHR R C.
- SOURCE, UNEP/FAO/ISS, 4/02, ROME, ITALY, 18-21 JAN 1977, 93 PP.
- KEYWORDS, ORGANIC, WASTES, CONVERSION.
- NOTES, FILED.
- DATE, 770118

## ABSTRACT 1840

- \*TITLE, MANURE PRODUCTION AND CHARACTERISTICS PER 1000 LB BODY WEIGHT.
- \*AUTHOR, LOUDON T.
- \*SOURCE, AGR ENGR FACTS NO 4, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, DEC 1973, 1 PP.
- \*KEYWORDS, ORGANIC, ANIMAL WASTE.
- \*NOTES, FILED.
- \*DATE, 731200

## ABSTRACT 1841

- \*TITLE, TREE POWER - AN ASSESSMENT OF THE ENERGY POTENTIAL OF FOREST BIOMASS IN CANADA.
- \*AUTHOR, LOVE P, OVEREND R.
- \*SOURCE, REPORT ER78-1, ENERGY MINES AND RESOURCES CANADA, RENEWABLE ENERGY RESOURCES BRANCH, 1978, 35 PP.
- \*KEYWORDS, ORGANIC, WOOD, CANADA.
- \*NOTES, FILED.
- \*DATE, 780000

## ABSTRACT 1842

- \*TITLE, TREE POWER AN ASSESSMENT OF THE ENERGY POTENTIAL OF FOREST BIOMASS IN CANADA.
- \*AUTHOR, LOVE P.
- \*SOURCE, REPORT ER 78-1, RENEWABLE ENERGY RESOURCE BRANCH, DEPT OF ENERGY, MINES AND RESOURCES, CANADA, 1978, 35 PP.
- \*KEYWORDS, ORGANIC, WOOD, CANADA.
- \*NOTES, FILED. THE PURPOSE OF THIS DOCUMENT IS TO PRESENT A FIRST ROUND APPROXIMATION OF THE POTENTIAL CONTRIBUTION OF FORESTRY BIOMASS TO CANADA'S ENERGY REQUIREMENTS TO THE YEAR 2025, WITH DISCUSSION OF THE ECONOMICS, TECHNICAL, SOCIAL, ENVIRONMENTAL, AND INSTITUTIONAL ISSUES THAT MAY AFFECT IMPLEMENTATION. THE PRINCIPAL OBJECTIVE IS TO EXPLORE THE COMMERCIAL ATTRACTIVENESS OF ENERGY RECOVERY FROM FORESTRY BIOMASS BETWEEN NOW AND 2025, INCLUDING A CALENDAR OF THE IMPORTANT STAGES AND COMPONENTS. THE REPORT CONCLUDES WITH A RECOMMENDATION TO INITIATE A MAJOR RESOURCE ASSESSMENT OF THE FOREST BIOMASS AS THE HIGHEST PRIORITY TOWARDS REALIZING THIS RENEWABLE ENERGY SOURCE.
- \*DATE, 780000

## ABSTRACT 1843

- \*TITLE, ALCOHOL COMES BACK TO POWER YOUR CAR.
- \*AUTHOR, LUDVIGSEN K.
- \*SOURCE, MECHANIX ILLUSTRATED, JAN 1978, PP 46, 107.
- \*KEYWORDS, ORGANIC, ALCOHOL, AUTOMOBILE, ETHANOL, METHANOL.
- \*NOTES, FILED.
- \*DATE, 780100

## ABSTRACT 1844

- \*TITLE, ASPECTS ECONOMIQUES DE LA RECUPERATION DES PAILLES.
- \*AUTHOR, MARSAL M M.
- \*SOURCE, RAPPORT DE SYNTHESE, INSTITUTE NATIONAL DE LA RECHERCHE AGRONOMIQUE, APRIL 1976, 33 PP.
- \*KEYWORDS, ORGANIC, FRANCE, ENERGY SOURCES, ECONOMICS, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 760400

## ABSTRACT 1845

- \*TITLE, ENERGY RECOVERY FROM MANURE USING PLUG-FLOW DIGESTERS.
- \*AUTHOR, MARTIN J H.
- \*SOURCE, ASAE PAPER 78-4568, 1978, 7 PP.
- \*KEYWORDS, ORGANIC, BOVINE MANURE, ANAEROBIC FERMENTATION.
- \*NOTES, FILED. TWO ANAEROBIC DIGESTERS HAVE BEEN TREATING COW MANURE IN MICHIGAN AND WISCONSIN FOR A FEW YEARS. BOTH OF THEM EMPLOY PLUG-FLOW, CONTRASTED WITH STIRRED-POT, MANAGEMENT OF THE MANURE AND OPERATE AT MESOPHILIC TEMPERATURES. THEY EXHIBIT VERY HIGH STABILITY AND GOOD METHANE YIELDS AT FEEDING RATES IN EXCESS OF 10 KG OF VOLATILE SOLIDS PER DAY PER CUBIC METER OF DIGESTER VOLUM. (0.8 LB/CUBIC FT/DAY). PREFORMANCE AND OPERATIONS ARE DESCRIBED.
- \*DATE, 780000

- \*TITLE, UTILIZATION OF CEREAL STRAW - A SCENARIO EVALUATION.
- \*AUTHOR, MCCANN D J, SADDLER H D W.
- \*SOURCE, J OF THE AUSTRALIAN INST OF AGR SCI, MARCH 1976, PP 41-47.
- \*KEYWORDS, ORGANIC, BIOMASS, AUSTRALIA.
- \*NOTES, FILED. CEREAL STRAW AS A SOURCE OF ENERGY.
- \*DATE, 760300

## ABSTRACT 1847

- \*TITLE, PHOTOBIOLOGICAL ENERGY CONVERSION IN AUSTRALIA.
- \*AUTHOR, MCCANN D J, SADDLER H D W.
- \*SOURCE, SEARCH, 7(1-2)/17-23, JAN 1976.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS, ENERGY SOURCES, AUSTRALIA.
- \*NOTES, FILED. ARTICLE DISCUSSES POSSIBLE SOURCES OF PHOTOSYNTHETIC MATERIAL AND PROCESSES FOR ENERGY CONVERSION, AND EXAMINES THE TECHNICAL, ECONOMIC AND SOCIAL IMPLICATIONS OF UTILISING SOLAR ENERGY IN THIS MANNER.
- \*DATE, 760100

## ABSTRACT 1848

- \*TITLE, THE EFFICIENT PROCESSING OF PHOTOBIOLOGICAL MATERIAL.
- \*AUTHOR, MCCANN D J, SADDLER H D W, PRINCE R G H.
- \*SOURCE, PAPER PRESENTED AT A TECH CONF OF THE INSTITUTION OF ENGINEERS, AUSTRALIA, PP 11-15, UNDATED.
- \*KEYWORDS, ORGANIC, BIOMASS, PYROLYSIS, AUSTRALIA, ECONOMICS.
- \*NOTES, FILED. PAPER DISCUSSES WAYS OF UTILISING PHOTOBIOLOGICAL MATERIAL AND EXAMINES TECH AND ECON IMPLICATIONS OF UTILISING THIS SOURCE OF SOLAR ENERGY IN THE MOST EFFICIENT MANNER.
- \*DATE-

## ABSTRACT 1849

- \*TITLE, ENERGY -- NEW CROP SOURCES.
- \*AUTHOR, MCCLURE T A, SCANTLAND D A.
- \*SOURCE, AGR ENGR, SEPT 1977, PP 17-20.
- \*KEYWORDS, ORGANIC, ENERGY CROPS, ALCOHOL.
- \*NOTES, FILED. THE IMPLICATIONS AND POTENTIAL OF CONVERTING BIOMASS TO ENERGY ARE DISCUSSED. CORN AND SUGAR CROPS ARE EMPHASIZED. BATTELLES COLUMBUS LABORATORIES, AS PART OF DOE'S FUELS FROM BIOMASS PROGRAM, UNDERTOOK A STUDY OF POTENTIAL FUEL APPLICATIONS OF SUGARCANE, SWEET SORGHUM, SUGAR BEETS, AND CORN. SOME OF THE MAJOR FINDINGS OF THIS STUDY ARE SUMMARIZED BRIEFLY IN A SERIES OF QUESTIONS AND ANSWERS.
- \*DATE, 770900

## ABSTRACT 1850

- \*TITLE, THE CALORIFIC PROJECT.
- \*AUTHOR, MECKERT G W.
- \*SOURCE, THERMOMETICS, INC, OKLAHOMA CITY, OK, 5 PP.
- \*KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION.
- \*NOTES, FILED.
- \*DATE-

## ABSTRACT 1851

- \*TITLE, METHANE - PLANNING A DIGESTOR.
- \*AUTHOR, MEYNELL P J.
- \*SOURCE, NEW YORK, NY/SCHOCKEN BOOKS, 1978, 150 PP.
- \*KEYWORDS, ORGANIC, METHANE, DESIGN.
- \*NOTES, FILED.
- \*DATE, 780000

## ABSTRACT 1852

- \*TITLE, PHI KAPPA PHI JOURNAL.
- \*AUTHOR, MICHIGAN STATE UNIVERSITY.
- \*SOURCE, PHI KAPPA PHI J, 55(1)/1-64, WINTER 1975, MICH STATE UNIV, EAST LANSING, MI 48824, 1975.
- \*KEYWORDS, ORGANIC, RESOURCES, SOCIAL IMPLICATIONS, JOURNAL, RENEWABLE ENERGY, PRODUCTION.
- \*NOTES, FILED. ENTIRE ISSUE DEVOTED TO ENERGY AND AGRICULTURE.
- \*DATE, 750000

## ABSTRACT 1853

- \*TITLE, MICHIGAN MAY GROW POTATOES FOR FUEL.
- \*AUTHOR, MICHIGAN FARMER.
- \*SOURCE, MICHIGAN FARMER, NOV , 1978, PP46
- \*KEYWORDS, ORGANIC, POTATO, ETHANOL, MICHIGAN.
- \*NOTES FILED. RENATE L DEZACHS CONCLUDES THAT POTATOES AND SUGAR BEETS WILL BECOME IMPORTANT CROPS AS THE CRISIS IN LIQUID FOSSIL FUEL ENERGY WORSENS. COMPARISONS BETWEEN POTATAES AND CORN AS A SOURCE OF ETHYL ALCOHOL.
- \*DATE, 781104

## ABSTRACT 1854

- \*TITLE, BIOMASS- A CASH CROP FOR THE FUTURE.
- \*AUTHOR, MIDWEST RESEARCH INSTITUTE.
- \*SOURCE, CONF ON THE PRODUCTION OF BIOMASS FROM GRAINS, CROP RESIDUES, FORAGES AND GRASSES FOR CONVERSION TO FUELS AND CHEMICALS, KANSAS CITY, MO, 2-3 MARCH 1977, 354 PP.
- \*KEYWORDS, ORGANIC, BIOMASS.
- \*NOTES, FILED.
- \*DATE, 770302

## ABSTRACT 1855

- \*TITLE, REPORT ON THE FIRST WORLD STRAW CONFERENCE.
- \*AUTHOR, MILES T R.
- \*SOURCE, TDM MILES, CONSULTING ENGINEER, PO BOX 216, BEAVERTON, OREGON 97005, MAY 1975, 77 PP.
- \*KEYWORDS, ORGANIC, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 750500

## ABSTRACT 1856

- \*TITLE, ENERGIES FROM THE FIELD - USA.
- \*AUTHOR, MILES T R.
- \*SOURCE, PRESENTED AT FOREST AND FIELD FUELS SYMPOSIUM, WINNIPEG, CANADA, 11-13 OCT 1977, 15 PP.
- \*KEYWORDS, ORGANIC, WASTES, USA, ECONOMICS.
- \*NOTES, BIOMASS IS DISCUSSED AS A CONTRIBUTING FACTOR TO US ENERGY NEEDS. AVAILABLE SOURCES AND BOTH LONG AND SHORT-TERM FEASIBILITY OF USE ARE EXAMINED.
- \*DATE, 771011

## ABSTRACT 1857

- \*TITLE, INDUSTRIAL ALCOHOL FROM WHEAT.
- \*AUTHOR, MILLER E S.
- \*SOURCE, AMER MILLER, JUNE 1943.
- \*KEYWORDS, ORGANIC.
- \*NOTES,
- \*DATE, 430600

## ABSTRACT 1858

- \*TITLE, ANNUAL CROPS - A RENEWABLE SOURCE FOR CELLULOSE.
- \*AUTHOR, MILLER D L.
- \*SOURCE, APPLIED POLYMER SYMPOSIUM, 28/21-25, 1975.
- \*KEYWORDS, ORGANIC, SOLAR, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1859

- \*TITLE, FERMENTATION ETHYL ALCOHOL.
- \*AUTHOR, MILLER D L.
- \*SOURCE, BICTECH AND BIOENG SYMP, 6/307-312, 1976.
- \*KEYWORDS, ORGANIC, ETHANOL, ALCOHOL.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 1860

- \*TITLE, ANNUAL CROPS - A RESOURCE FROM SOLAR ENERGY.
- \*AUTHOR, MILLER D L.
- \*SOURCE, NORTHERN REGIONAL RESEARCH LABORATORY, AGRICULTURAL RESEARCH SERVICE, USDA, PEORIA, ILL.
- \*KEYWORDS, ORGANIC, SOLAR, CONVERSION.
- \*NOTES, FILED.
- \*DATE,



## ABSTRACT 1861

- \*TITLE, ENERGY CONSUMPTION IN WASTEWATER TREATMENT.
- \*AUTHOR, MILLS R A, TCHOBANQLOUS G.
- \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975, PP 151-186.
- \*KEYWORDS, ORGANIC, ENERGY CONSUMPTION, FUEL CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1862

- \*TITLE, ECONOMIC FEASIBILITY OF METHANE GENERATION AND LIVESTOCK AND CROP WASTE RECYCLING FOR A TYPICAL IOWA FAMILY FARM.
- \*AUTHOR, MIRANOUSKI J A, PIDGEON E R, PETERSON D V.
- \*SOURCE, PRESENTED AT THE CONFERENCE ON ENERGY AND AGRICULTURE, ST LOUIS, MISSOURI, 17 JUNE 1976, 13 PP.
- \*KEYWORDS, ORGANIC, ECONOMICS, WASTES, METHANE, IOWA.
- \*NOTES, FILED.
- \*DATE, 760617

## ABSTRACT 1863

- \*TITLE, HARVEST SCHEDULING OF CROPS FOR OPTIMUM BIOMASS PRODUCTION.
- \*AUTHOR, KISHOE J W, JONES J W, GASCHO G J.
- \*SOURCE, ASAE PAPER 78-5032, 1978, 21 PP.
- \*KEYWORDS, ORGANIC, HARVESTING, MODELS.
- \*NOTES, FILED. A MODEL OF SUGARCANE BIOMASS WAS DEVELOPED USING PHYSIOLOGICAL PARAMETERS. THE GROWTH MODEL WAS COUPLED TO A DECISION-MAKING MANAGEMENT MODEL WHICH OPTIMIZED HARVEST SCHEDULING. AN EXAMPLE MANAGEMENT PROBLEM WAS PRESENTED AND RESULTS FROM THE EXAMPLE PROBLEM INDICATE THAT TWO HARVESTS PER YEAR MAXIMIZED BIOMASS. HOWEVER, NO CONSIDERATION WAS ALLOWED FOR HARVEST COST.
- \*DATE, 780300

## \* ABSTRACT 1864

- \*TITLE, COOKS WITH BIO-GAS.
- \*AUTHOR, MORAN E.
- \*SOURCE, POPULAR SCI, DEC 1975, PP 95, 109.
- \*KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION, DESIGN, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE, 751200

## ABSTRACT 1865

- \*TITLE, ALTERNATIVE ANIMAL WASTE ANAEROBIC FERMENTATION DESIGNS AND THEIR COSTS.
- \*AUTHOR, MORRIS G R, JEWELL W J, CASLER G L.
- \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MI/ANN ARBOR SCI PUBL INC, 1975, PP 317-336.
- \*KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION, DESIGN, ECONOMICS.
- \*NOTES, FILED. THE RESULTS OF THIS REPORT ARE A REVIEW OF THE STATUS OF THE AVAILABLE ANAEROBIC FERMENTATION TECHNOLOGY AND ITS APPLICATION TO ANIMAL WASTES, THE APPLICATION OF THIS TECHNOLOGY TO DEVELOP TECHNICALLY FEASIBLE SYSTEM ALTERNATIVES WHICH ARE COMPATIBLE WITH CURRENT FARM MANAGEMENT PRACTICES AND THE ASSESSMENT OF THE ECONOMIC FEASIBILITY OF INCORPORATING THE ANAEROBIC FERMENTATION SYSTEMS INTO THE FARM BOTH AS AN ALTERNATIVE ENERGY SOURCE AND A WASTE MANAGEMENT PRACTICE.
- \*DATE, 750000

## ABSTRACT 1866

- \*TITLE, ALCOHOL AS A FUEL - ENERGY AND ECONOMICS.
- \*AUTHOR, MYERS C A, STOUT B A.
- \*SOURCE, AEIS 381, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, JULY 1978.
- \*KEYWORDS, ORGANIC, ALCOHOL, ETHANOL, ECONOMICS.
- \*NOTES, FILED. AGRICULTURAL RESIDUES CANNOT SOLVE THE UNITED STATES ENERGY PROBLEMS BUT THEY CAN PROVIDE SIGNIFICANT CONTRIBUTIONS IN SPECIFIC SITUATIONS. ONE IS THAT USE OF CROPS AND RESIDUES FOR ALCOHOL PRODUCTION PRODUCES A LIQUID FUEL. ALTHOUGH MORE ENERGY CAN BE OBTAINED BY BURNING CORN THAN MAKING ETHANOL FROM IT, ONE CANNOT FILL AN AUTOMOBILE GAS TANK WITH CORN STALKS. BECAUSE OF THE HIGH ENERGY AND MATERIAL COSTS INHERENT IN THE PRODUCTION OF ETHANOL BLENDING AND FORSEEABLE NEAR FUTURE PRICES FOR CORN OR GASOLINE. SOME FORM OF A SUBSIDY WOULD BE NEEDED TO MAKE THE GASAHOL PROPOSITION ECONOMICALLY VIABLE.
- \*DATE, 780600

## ABSTRACT 1867

- \*TITLE, ALL INDIA COORDINATED PROJECT ON BIOGAS TECHNOLOGY AND UTILIZATION - PROJECT OUTLINE.
- \*AUTHOR, NATIONAL COMMITTEE ON SCIENCE AND TECHNOLOGY.
- \*SOURCE, NATIONAL COMMITTEE ON SCI AND TECH, DEPT OF SCI AND TECH, GOVT OF INDIA, NEW DELHI, INDIA, MAY 1976, 32PP.
- \*KEYWORDS, ORGANIC, INDIA, BIOGAS.
- \*NOTES, FILED.
- \*DATE, 769500

## ABSTRACT 1868

- \*TITLE, SYNTHETIC FUELS FROM MUNICIPAL, INDUSTRIAL, AND AGRICULTURAL WASTES.
- \*AUTHOR, NATIONAL TECHNICAL INFORMATION SERVICE.
- \*SOURCE, NTIS/PS-78/0495, NTIS, SPRINGFIELD, VA 22161, 1978, 116 PP.
- \*KEYWORDS, ORGANIC, AGRO-INDUSTRIAL WASTES, MUNICIPLE WASTE, BIBIOGRAPHY.
- \*NOTES, FILED. CITATIONS FOR TIS DATA BASE. SEARCH PERIOD COVERED 1964-APRIL 1978.
- \*DATE, 780000

## ABSTRACT 1869

- \*TITLE, CONSERVATION OF THE ENERGY AND MINERAL RESOURCES IN WASTE MATERIALS THROUGH PYROLYSIS.
- \*AUTHOR, NELSON D M, LOEMR R C.
- \*SOURCE, FROM BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, PROC 1975, CORNELL AGR WASTE MGT CONF, ANN ARBOR SCIENCE PUBLISHERS, PO BOX 1425, ANN ARBOR, MICH, PP 455-514.
- \*KEYWORDS, ORGANIC, PYROLYSIS, ANIMAL WASTE, DISTILLATION, ENERGY ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1870

- \*TITLE, PRETREATMENT OF CELLULOSIC WASTES TO INCREASE ENZYME REACTIVITY.
- \*AUTHOR, NESSE N, WALLICK J, HARPER J M.
- \*SOURCE, BIOTECHNOLOGY AND BIOENGINEERING, (19)/323-336, 1977.
- \*KEYWORDS, ORGANIC, ALCOHOLIC FERMENTATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1871

- \*TITLE, PLANT CROPS AS A SOURCE OF FUEL AND HYDROCARBON-LIKE MATERIALS.
- \*AUTHOR, NIELSEN P E, NISHIMURA M, OTVOS J W, CALVIN M.
- \*SOURCE, SCIENCE, 198/942-944, 2 DEC 1977.
- \*KEYWORDS, ORGANIC, ENERGY CROPS.
- \*NOTES, FILED.
- \*DATE 711252

## ABSTRACT 1872

- \*TITLE, ALCOHOL-ITS NATURE AND POTENTIAL FOR TRACTOR OR AUTOMOBILE FUEL.
- \*AUTHOR, OFOLI R Y, STOUT B A.
- \*SOURCE, AEIS 374, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, JAN 1978, 5 PP.
- \*KEYWORDS, ORGANIC, ALCOHOL, AUTOMOBILE.
- \*NOTES, FILED.
- \*DATE, 780100

## ABSTRACT 1873

- \*TITLE, ALCOHOL - ITS NATURE AND POTENTIAL FOR TRACTOR OR AUTOMOBILE FUEL.
- \*AUTHOR, OFOLI R Y, STOUT B A.
- \*SOURCE, AEIS 374, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, JAN 1978, 5 PP.
- \*KEYWORDS, ORGANIC, ALCOHOL, AUTOMOBILE, TRACTOR.
- \*NOTES, FILED. IN THIS REPORT THE SUITABILITY ALONG WITH SOME MODIFICATION ARE MENTIONED, BOTH FOR AN ENGINE TO RUN ON 100 PERCENT ALCOHOL AND TO RUN ON A MIX OF 9 TO 1 GASOLINE AND ALCOHOL. THE CHARACTERISTICS OF ALCOHOL, THE FUEL QUALITIES ALONG WITH THE ADVANTAGES AND POTENTIAL BENEFITS ARE DISCUSSED. ALSO THE ECONOMICS AND FUTURE OF ALCOHOL PRODUCTION ARE INCLUDED. IT IS CONCLUDED THAT IN SPITE OF THE UNFAVORABLE ECONOMICS AT PRESENT TIMES THAT ALCOHOL MAY FLOW OUT OF THE GAS NOZZLE SOONER THAN WE THINK, DUE TO PETROLEUM EMBARGOS, UNREST IN THE MID EAST OR THE POSSIBILITY OF GASOLINE RATIONING. ALSO WHERE ECONOMIC AND ENVIRONMENTAL FACTORS ARE CONSIDERED PRODUCING ALCOHOL IS MUCH LESS EXPENSIVE THAN EXTRACTING OIL FROM SHALES OR LIQUEFYING COAL.
- \*DATE, 780100

- TITLE, WOOD FUELS THE DEVELOPING WORLD.
- AUTHOR, OPENSHAW K.
- SOURCE, NEW SCIENTIST, 31 JAN 1974, PP 271-272.
- KEYWORDS, ORGANIC, WOOD, DEVELOPING COUNTRIES.
- NOTES, FILED, NAS. REFERS TO FAO STUDY IN TANZANIA, THAILAND, GAMBIA.
- DATE, 740131

## ABSTRACT 1875

- TITLE, ECONOMIC ANALYSIS OF DAIRY-MANURE BIO-GAS SYSTEMS.
- AUTHOR, OPPENLANDER J C, CASSELL E A, DOWNER R K.
- SOURCE, ASAE PAPER 75-4545, 32 PP.
- KEYWORDS, ORGANIC, ECONOMICS, ANIMAL WASTE, ANAEROBIC FERMENTATION, DESIGN, VERMONT.
- NOTES, FILED.
- DATE, 750090

## ABSTRACT 1876

- TITLE, ENERGY POTENTIAL OF TEXAS CROPS AND AGRICULTURAL RESIDUES-A SURVEY OF AVAILABLE RESOURCES AND PRELIMINARY ECONOMIC FEASIBILITY STUDY.
- AUTHOR, OURSBOURN C D, LEPORI W A, LACEWELL R D, LAM K Y, SCHACHT O B.
- SOURCE, MP-1361, TEXAS AGR EXPT STA, TEXAS A AND M UNIV, FEB 1978, 82 PP.
- KEYWORDS, ORGANIC, ENERGY CROPS, TEXAS, ECONOMICS.
- NOTES, FILED.
- DATE, 780200

## ABSTRACT 1877

- TITLE, ALTERNATIVE SOURCES OF ENERGY/ WIND, SUN AND AGRICULTURAL WASTE.
- AUTHOR, PAK S.
- SOURCE, IBRD, UNPUBLISHED PAPER, 30 MAY 1974, 16 PP.
- KEYWORDS, ORGANIC, ALTERNATIVES, WIND, SOLAR, METHANE, GOBARGAS.
- NOTES, FILED.
- DATE, 740530

## ABSTRACT 1878

- TITLE, METHANE PRODUCTION FROM SWINE WASTE WITH A MESOPHILIC SOLAR AND THERMOPHILIC REACTOR.
- AUTHOR, PARKER R, HUNENIK F J, HOLMES R G, DVERCASH M.
- SOURCE, ASAE PAPER 74-3033, 8PP.
- KEYWORDS, ORGANIC, ANIMAL WASTE, METHANE, HEAT, SOLAR, PRODUCTION.
- NOTES, FILED.
- DATE, 740090

## ABSTRACT 1879

- TITLE, MANITOBA CROPS AS AN ENERGY SOURCE.
- AUTHOR, PARTRIDGE J R O.
- SOURCE, PRESENTED AT FOREST AND FIELD FUELS SYMPOSIUM, WINNIPEG, CANADA, 11-13 OCT 1977, 14 PP.
- KEYWORDS, ORGANIC, WASTES, AGRICULTURE, MANITOBA.
- NOTES, CROP RESIDUES ARE DISCUSSED AS VALUABLE ORGANIC MATERIALS THAT SERVE MANY USEFUL PURPOSES IN THE SDIL. RESIDUES FROM STRAW REMOVED FROM THE LAND IS WHAT THIS PAPER FOCUSES ON.
- DATE, 771011

## ABSTRACT 1880

- TITLE, AN APPROACH TO WASTE UTILIZATION IN RURAL INDIA.
- AUTHOR, PATEL J J.
- SOURCE, UNEP/FAO SEMINAR ON RESIDUES UTILIZATION-MANAGEMENT OF AGR AND AGRO-INDUSTRIAL WASTES, FAO, ROME, 18-21 JAN 1977, 16 PP.
- KEYWORDS, ORGANIC, INDIA, WASTES.
- NOTES, FILED.
- DATE, 770121

## ABSTRACT 1881

- \*TITLE, FUELS FROM BIOMASS SYMPOSIUM.
- \*AUTHOR, PFEFFER J T, STUKEL J J.
- \*SOURCE, NTIS, US DEPT OF COMMERCE, SPRINGFIELD, VA 22161, 18-19 APRIL 1977, 213 PP.
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 770418

## ABSTRACT 1882

- \*TITLE, COMMERCIAL SIZE ANAEROBIC DIGESTER PERFORMANCE WITH DAIRY MANURE.
- \*AUTHOR, PIGG D L.
- \*SOURCE, ASAE PAPER 77-4055, 1977, 19PP.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, DAIRY, MANURE, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. RESULTS OF 18 MONTHS OPERATION OF A MIXED AND HEATED EXPERIMENTAL DIGESTER.
- \*DATE, 770000

## ABSTRACT 1883

- \*TITLE, SOLAR ENERGY CONVERSION BY LIVING SYSTEMS AND THE ENERGY ECONOMY.
- \*AUTHOR, PIMENTEL D. ET AL.
- \*SOURCE, DEPT OF ENTOMOLOGY, COLLEGE OF AGR AND LIFE SCI, CORNELL UNIV, ITHACA, NY 14853, 27 APRIL 1977, 23 PP.
- \*KEYWORDS, ORGANIC, SOLAR, ENERGY CONSUMPTION, BIOMASS, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 770427

## ABSTRACT 1884

- \*TITLE, METHANE FROM MANURE - IS IT WORTH THE CORROSIVE ACIDS, DANGER OF EXPLOSIONS, HIGH INITIAL COST, WASTE DISPOSAL PROBLEMS.
- \*AUTHOR, POLLARD B.
- \*SOURCE, MICHIGAN FARMER, 2 MARCH 1974, P 36.
- \*KEYWORDS, ORGANIC, MANURE, METHANE, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 740302

## ABSTRACT 1885

- \*TITLE, FLOWER POWER - PROSPECTS FOR PHOTOSYNTHETIC ENERGY.
- \*AUTHOR, POOLE A D, WILLIAMS R H.
- \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(5)/48-57, MAY 1976.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS, BIOMASS, WASTES.
- \*NOTES, FILED.
- \*DATE, 750500

## ABSTRACT 1886

- \*TITLE, ENERGY BY THE BUSHEL.
- \*AUTHOR, PORTER J.
- \*SOURCE, AGWAY COOPERATOR, PP 14-15, APRIL 1978.
- \*KEYWORDS, ORGANIC, ENERGY CROPS.
- \*NOTES, FILED.
- \*DATE, 780400

## ABSTRACT 1887

- \*TITLE, ALTERNATE USES OF ANIMAL MANURE.
- \*AUTHOR, POS J.
- \*SOURCE, TECH REPORT 126-44, SCHOOL OF ENGR, UNIV OF GUELPH, ONTARIO, CANADA, 1978, 15 PP.
- \*KEYWORDS, ORGANIC, WASTES, MANURE, ANAEROBIC FERMENTATION.
- \*NOTES, FILED. THIS REPORT DEALS MAINLY WITH THE USE OF ANIMAL MANURE AS AN ALTERNATIVE SOURCE OF ENERGY. A BRIEF OUTLINE OF THE VALUE OF POTENTIAL ENERGY AVAILABLE FROM THE TOTAL LIVESTOCK POPULATION IN ONTARIO. THREE BASIC USES, NAMELY FERTILIZER, FEED AND FUEL AS 6+XG SSED. THE MAJOR PORTION OF THE REPORT IS CONCERNED WITH ANAEROBIC DIGESTION OF MANURE.
- \*DATE, 780000

## ABSTRACT 1888

- \*TITLE, COMPOSTING.
- \*AUTHOR, POS J.
- \*SOURCE, TECH REPORT 126-37, SCHOOL OF ENGR, UNIV OF GUELPH, ONTARIO, CANADA, 1977, 9PP.
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 770000



- \*TITLE, BIO-GAS PLANTS--PROJECTS, PROBLEMS, TASKS.
- \*AUTHOR, PRASAD C R, PRASAD K, REDDY A K V.
- \*SOURCE, ECONOMIC AND POLITICAL WEEKLY, BOMBAY, INDIA, 9(32-34), AUG 1974.
- \*KEYWORDS, ORGANIC, BIOGAS, INDIA, ECONOMICS, WIND, SOLAR.
- \*NOTES, FILED. AUTHORS FROM INDIAN INST OF SCI, BANGALORE.
- \*DATE, 740800

## ABSTRACT 1890

- \*TITLE, THAT MANURE PIT - IS IT A GOLDMINE.
- \*AUTHOR, PRATT M.
- \*SOURCE, AGR ENGR, JUNE 1975, PP 19-20.
- \*KEYWORDS, ORGANIC, MANURE, ENERGY ACCOUNTING, FERTILIZER, METHANE, PRODUCTION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 1891

- \*TITLE, METHANE - PROCEEDINGS OF A ONE DAY SEMINAR.
- \*AUTHOR, PYLE L, FRAENKEL P L.
- \*SOURCE, LONDON/INTERMEDIATE TECHNOLOGY PUBLICATIONS LTD, 1975, 51 PP.
- \*KEYWORDS, ORGANIC, METHANE, ANAEROBIC FERMENTATION, DESIGN, MARKETING, DEVELOPING COUNTRIES, INDIA, UNITED KINGDOM, ECONOMICS, HEAT.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1892

- \*TITLE, BIOLOGIC\*L CONVERSION OF ORGANIC REFUSE TO METHANE.
- \*AUTHOR, QUINDRY G E. ET AL.
- \*SOURCE, DEPT OF CIVIL ENGR, UNIV OF ILL, URBANA, IL 61801, NOV 1976, 107 PP.
- \*KEYWORDS, ORGANIC, METHANE, ANAEROBIC FERMENTATION, MUNICIPAL WASTE.
- \*NOTES, FILED. URBAN SOLID WASTES CONTAIN SIGNIFICANT QUANTITIES OF ENERGY THAT CAN BE RECLAIMED. BIOCONVERSION OF THE ORGANIC REFUSE TO METHANE BY ANAEROBIC FERMENTATION IS ONE MECHANISM BY WHICH THIS ENERGY CAN BE RECLAIMED. THIS REPORT CONTAINS THE RESULTS OF AN INVESTIGATION OF REFUSE FERMENTATION AT A THERMOPHILIC OPERATING TEMPERATURE OF 60 DEGREES C. RESULTS OF DEWATERING OF THE FERMENTOR RESIDUE BY VACUUM FILTRATION IS PRESENTED. RESULTS OF PRETREATMENT OF THE REFUSE BY A HOT-CAUSTIC PROCESS ARE PRESENTED. TREATMENT REQUIREMENTS FOR THE CENTRATE FILTRATE MATHEMATICAL SIMULATOR OF THE FERMENTATION PROCESS, VACUUM FILTRATION PROCESS, VACUUM FILTRATION PROCESS, SCHREDDING AND SEPARATION PROCESS AND RESIDUE DISPOSAL PROCESSES HAS BEEN CONSTRUCTED. RESULTS FROM THE SIMULATION RUNS ARE PRESENTED.
- \*DATE, 751100

## ABSTRACT 1893

- \*TITLE, LIQUID FUELS.
- \*AUTHOR, REED T.
- \*SOURCE, PRESENTED AT WASHINGTON CENTER FOR METROPOLITAN STUDIES CONF ON BIOCONVERSION, WASHINGTON DC, 10-12 MARCH 1976, PP 366-390.
- \*KEYWORDS, ORGANIC, WOOD, PYROLYSIS, CONVERSION, NATURAL GAS, METHANOL.
- \*NOTES, THE FUELS THAT CAN BE PRODUCED FROM BIOMASS BY PRESENTLY AVAILABLE TECHNOLOGY ARE EVALUATED AS POTENTIAL NATURAL GAS SUBSTITUTES. IN PARTICULAR, WOOD GAS, METHANOL, AND PYROLYSIS OILS ARE AVAILABLE IN SUFFICIENT QUANTITIES TO FULFILL MOST OF THE NEEDS PRESENTLY BEING MET BY NATURAL GAS AND OIL.
- \*DATE, 760310

## ABSTRACT 1894

- \*TITLE, ECONOMICS AND ENERGY REQUIREMENTS OF ETHANOL PRODUCTION.
- \*AUTHOR, REILLY P J.
- \*SOURCE, DEPT OF CHEM ENGR AND NUCLEAR ENGR, IOWA STATE UNIV, AMES, IA 50011, JAN 1978, 22 PP.
- \*KEYWORDS, ORGANIC, ETHANOL, ECONOMICS.
- \*NOTES, FILED. THIS PAPER EXAMINES THE ENERGY REQUIREMENTS AND ECONOMICS, BOTH PRESENT AND FUTURE, OF THE PROCESS TO PRODUCE AND USE ETHANOL AS A 10 PERCENT MIXTURE WITH GASOLINE (GASOHOL). IT IS ASSUMED THROUGHOUT THAT THE LOWEST PRICED GRAIN-CORN- IS USED AS A FEEDSTOCK AND THAT THE LOWEST PRICED FUEL - COAL - IS USED AS AN ENERGY SOURCE. NO CONSIDERATION IS GIVEN TO THE MERITS OF GASOHOL AS A FUEL OTHER THAN THE EFFECT ON THE ENERGY REQUIREMENTS AND ECONOMICS OF THE PROCESS, NOR IS THERE ANY DISCUSSION OF THE POTENTIAL USE OF GASOHOL IN OTHER COUNTRIES WHERE ECONOMIC CONDITIONS MAY BE QUITE DIFFERENT FROM THOSE HERE.
- \*DATE, 780100

## ABSTRACT 1895

- \*TITLE, ENERGY FROM SOLID WASTE.
- \*AUTHOR, REINDL J.
- \*SOURCE, UNIV OF WISC EXTENSION 62778, DEC 1975, 4 PP.
- \*KEYWORDS, ORGANIC, MUNICIPAL WASTE.
- \*NOTES, FILED.
- \*DATE, 751200

## ABSTRACT 1896

- \*TITLE, ENERGY - IT CAN BE A LOT OF GARBAGE.
- \*AUTHOR, REKSTAD G M.
- \*SOURCE, FACTORY MAGAZINE, DEC 1974, PP 41-42.
- \*KEYWORDS, ORGANIC, INDUSTRY, MUNICIPAL WASTE, ENERGY SOURCES, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 741200

## ABSTRACT 1897

- \*TITLE, ENERGY FROM BIOCONVERSION OF WASTE MATERIALS.
- \*AUTHOR, DE RENZO D J.
- \*SOURCE, NOYES DATA CORP, PARK RIDGE, NJ, 1977, 223PP.
- \*KEYWORDS, ORGANIC, CONVERSION, WASTES.
- \*NOTES, POLLUTION TECHNOLOGY REVIEW 33.
- \*DATE, 770000

## ABSTRACT 1898

- \*TITLE, THE GENERATION OF METHANE FROM WASTE MATERIALS.
- \*AUTHOR, REYNOLDS G F.
- \*SOURCE, APPROPRIATE TECH, 2(2)/11-13, AUG 1975.
- \*KEYWORDS, ORGANIC, METHANE, WASTES, DEVELOPING COUNTRIES, INDIA, ANAEROBIC FERMENTATION, PAKISTAN.
- \*NOTES, FILED.
- \*DATE, 750800

## ABSTRACT 1899

- \*TITLE, MICROBIAL POPULATION OF FEEDLOT WASTE AND ASSOCIATED SITES.
- \*AUTHOR, RHODES R A, HRUBANT G R.
- \*SOURCE, APPLIED MICROBIOLOGY, 24(3)/369-377, SEPT 1972.
- \*KEYWORDS, ORGANIC, MANURE.
- \*NOTES, FILED.
- \*DATE, 720900

## ABSTRACT 1900

- \*TITLE, SOLID SUBSTRATE FERMENTATION OF FEEDLOT WASTE COMBINED WITH FEED GRAINS.
- \*AUTHOR, RHODES R A, ORTON W L.
- \*SOURCE, TRANSACTIONS OF THE ASAE, 18(4)/728-733, 1975.
- \*KEYWORDS, ORGANIC, MANURE, NITROGEN.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1901

- TITLE, THE FEASIBILITY OF GENERATING ELECTRICITY IN THE STATE OF VERMONT USING WOOD AS A FUEL - A STUDY.
- AUTHOR, RICH J P, BAUER P H.
- SOURCE, JPR ASSOCIATES, INC, REGISTERED LAND SURVEYORS AND CONSULTING FORESTERS PO BOX 1195, STOWE, VERMONT, AUG 1975, 127 PP.
- KEYWORDS, ORGANIC, WOOD, ELECTRICAL, ENVIRONMENT, ECONOMICS.
- NOTES, FILED.
- DATE, 750809

## ABSTRACT 1902

- TITLE, DEVELOPMENT OF A SMALL INSTITUTIONAL HEATING PLANT TO UTILIZE FOREST RESIDUE FUELS.
- AUTHOR, RILEY J G.
- SOURCE, ASAE PAPER 76-101, 1976.
- KEYWORDS, ORGANIC, WOOD, WASTE HEAT.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 1903

- TITLE, SOLAR ENERGY UTILIZATION BY PHOTOSYNTHETIC PRODUCTION OF SOLID FUEL.
- AUTHOR, RILEY J G, SMITH M.
- SOURCE, ASAE PAPER 77-4018, 1977.
- KEYWORDS, ORGANIC, WOOD, CONVERSION, ALTERNATIVE FUELS, ECONOMICS.
- NOTES, FILED. THIS PAPER DISCUSSES THE GROWING AND HARVESTING OF FOREST BIOMASS FOR FUEL. MACHINERY AND PRODUCTION REQUIREMENTS ARE DISCUSSED. 1) WOOD FUEL PRODUCTION, 2) UTILIZATION OF WOOD FUELS - BIOCONVERSION THROUGH ANAEROBIC DIGESTION, FERMENTATION, AND BIOPHOTOLYSIS, AND THERMOCHEMICAL CONVERSION THROUGH PYROLYSIS, GASIFICATION AND DIRECT COMBUSTION. AN INTEGRATED SYSTEM IS ANALYZED. CONVERSION OF WOOD RESOURCES TO FUELS IS ECONOMIC.
- DATE, 770000

## ABSTRACT 1904

- TITLE, BIOCONVERSION-FUELS FROM BIOMASS.
- AUTHOR, ROBERTSON E E.
- SOURCE, PHILADELPHIA, PA/FRANKLIN INST PRESS, 1977, 72 PP.
- KEYWORDS, ORGANIC, BIOMASS.
- NOTES, FILED.
- DATE, 770000

## ABSTRACT 1905

- TITLE, SHOULD CANADA PLAN TO HARNESS MORE RENEWABLE BIOMASS ENERGY.
- AUTHOR, ROBERTSON E E.
- SOURCE, PRESENTED AT THE FOURTH ANNUAL MEETING OF THE SOLAR ENERGY SOC OF CANADA, UNIV OF WESTERN ONTARIO, LONDON, ONTARIO, CANADA, 20-24 AUG 1978, 10 PP.
- KEYWORDS, ORGANIC, SOLAR, CANADA.
- NOTES, FILED.
- DATE, 780820

## ABSTRACT 1906

- TITLE, BIOCONVERSION FUELS FROM BIOMASS.
- AUTHOR, ROBERTSON E E.
- SOURCE, PHILADELPHIA, PA/FRANKLIN INST PRESS, 1977, 72 PP.
- KEYWORDS, ORGANIC, CONVERSION, ECONOMICS.
- NOTES, FILED. IT IS CONCLUDED THAT THERE IS GROWING STATISTICAL EVIDENCE OF THE SUCCESSFUL ECONOMIC USE OF RENEWABLE BIOMASS ENERGY. HOWEVER, IT IS POINTED OUT THAT THIS SUBJECT HAS RAMIFICATIONS FOR MANY OF THE SCIENTIFIC AND TECHNOLOGICAL FIELDS, NOT TO MENTION ITS ENVIRONMENTAL, ECOLOGICAL, SOCIAL AND ECONOMIC IMPLICATIONS. AMONG OTHER THINGS, BRIEF EXPLANATIONS OF OXYGEN/CARBON DIOXIDE CYCLE, SIGNIFICANCE OF BIOTA ENERGY SYSTEM, METABOLISM ANABOLISM AND CATABOLISM, THE ORIGINS OF BIOMASS, THE HISTORICAL USE OF BIOMASS AS AN ENERGY SOURCE, BIOCONVERSION ENERGY ELEMENTS AND PROCESSES SUCH AS DNA, THE DOUBLE HELIX AND ITS OFFSPRINGS, CARBON AND CARBON DIOXIDE, NITROGEN AND A LOOK AT THE FUTURE PROSPECTS FOR ECONOMIC AND ENVIRONMENTAL ACCEPTABLE USES FOR FUELS FROM BIOMASS ARE COVERED. ALSO AN ATTEMPT IS MADE TO POINT OUT AREAS IN NEED OF FURTHER ATTENTION IF A SATISFACTORY RATE OF COMMERCIALIZATION IS TO TAKE PLACE.
- DATE, 770000

## ABSTRACT 1907

- \*TITLE, PERPETUALLY RENEWABLE BIOMASS PROSPECTS - A COMPARISON OF US AND CANADIAN ECOSYSTEM CARRYING CAPACITIES VS NEEDS.
- \*AUTHOR, ROBERTSON E E.
- \*SOURCE, PRESENTED AT ISES/SES OF CANADA SHARING THE SUN CONF, 7/157-180, 15-20 AUG 1976.
- \*KEYWORDS, ORGANIC, REQUIREMENTS, USA, CANADA.
- \*NOTES, SOLAR, CLIMATIC, AND OTHER PERPETUALLY RENEWABLE ECOSYSTEM PREREQUISITES FOR BIOMASS FORMATION ARE DISCUSSED. GEOGRAPHICAL AREAS IN THE US AND CANADA SATISFY THE PREREQUISITES.
- \*DATE, 760815

## ABSTRACT 1908

- \*TITLE, A 1900 CUBIC METER DIGESTER FOR LAYING-MEN MANURE, IOWA.
- \*AUTHOR, ROCEY D A.
- \*SOURCE, ASAE PAPER 78-4569, 1978.
- \*KEYWORDS, ORGANIC, POULTRY, ANAEROBIC FERMENTATION, ECONOMICS.
- \*NOTES, FILED. DESCRIPTION AND OPERATING EXPERIENCES OF THE SUNNY TIME ANAEROBIC DIGESTER IS PRESENTED, ALONG WITH PERFORMANCE DATA AND AN ECONOMICAL ANALYSIS.
- \*DATE, 780000

## ABSTRACT 1909

- \*TITLE, GROWN ORGANIC MATTER AS A FUEL RAW MATERIAL RESOURCE.
- \*AUTHOR, ROLLER W L. ET AL.
- \*SOURCE, OARDC, WOOSTER, OH 44691, OCT 1975.
- \*KEYWORDS, ORGANIC, FOOD PRODUCTION.
- \*NOTES, FILED. THE MAIN TEXT IS AN ANALYSIS OF THE POSSIBILITY THAT THE US CAN AND WILL SPARE ENOUGH PRODUCTIVE CAPACITY FROM PRODUCTION OF FOOD, FEED AND FIBER TO ENABLE THE DEVELOPMENT OF A SYNTHETIC FUEL PRODUCTION INDUSTRY USING GROWN ORGANIC MATTER AS A FEEDSTOCK. GENERAL CONCLUSION - GIVEN THE EXISTING AND FORESEEABLE TRADE-OFFS BETWEEN FOOD AND FUEL AS A GOAL OF GROWN ORGANIC MATTER PRODUCTION, THE OTHER ENERGY CONVERSION TECHNOLOGIES THAT SHOW PROMISE AND LASTLY THE EXISTENCE OF A REASONABLE LEVEL OF WORLD TRADE, THE US LAND USE PRIORITY WILL CONTINUE TO BE ON FOOD PRODUCTION. HOWEVER, THE INFUSION OF ENERGY R AND D FUNDS TO INVESTIGATE WAYS TO PRODUCE LIQUID FUELS FROM LIGNEOUS ORGANIC MATTER FOR ESSENTIAL MECHANICAL PROPULSION WOULD APPEAR TO BE OF MERIT. VAST PROGRAMS TO INVESTIGATE THE GROWING OF ORGANIC MATTER ON TILLABLE LAND FOR CONVERSION TO HEATING FUELS SHOULD BE SUBJECTED TO THE GREATEST SCRUTINY.
- \*DATE, 751000

## ABSTRACT 1910

- \*TITLE, ENERGY FROM BIOMASS - AN OVERVIEW OF ENVIRONMENTAL ASPECTS.
- \*AUTHOR, ROOP R O.
- \*SOURCE, TECH FOR ENERGY CONSERVATION, ALBUQUERQUE, NM, 23 JAN 1978, 15 PP.
- \*KEYWORDS, ORGANIC, WASTES, CONVERSION, ENVIRONMENT.
- \*NOTES, FILED. RECENT LITERATURE REGARDING ENERGY FROM BIOMASS IS REVIEWED IN ORDER TO DELINEATE ENVIRONMENTAL ISSUES AND SUGGEST RESEARCH NEEDED FOR ASSESSMENT OF THIS ENERGY OPTION. POTENTIAL SOURCES OF BIOMASS FOR CONVERSION TO ENERGY INCLUDE AGRICULTURAL AND FORESTRY RESIDUES, MUNICIPAL AND INDUSTRIAL WASTES, BIOMASS PLANTATIONS, AND FRESHWATER AND MARINE-GROWN PLANT MATERIAL. THE IMPACTS OF USING WASTES AND OF GROWING BIOMASS FOR FUEL ARE SUMMARIZED.
- \*DATE, 780123

## ABSTRACT 1911

- \*TITLE, METHANE PRODUCTION FROM FARM WASTES AS A SOURCE OF TRACTOR FUEL.
- \*AUTHOR, ROSENBERG G.
- \*SOURCE, AGRICULTURE, 58(9)/487-494, DEC 1951.
- \*KEYWORDS, ORGANIC, METHANE, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 511200

## ABSTRACT 1912

- \*TITLE, PHOTOSYNTHETIC MATERIALS FOR ENERGY CONVERSION - AN AUSTRALIAN STUDY.
- \*AUTHOR, SADDLER H D W.
- \*SOURCE, PRESENTED AT EUROPEAN SEMINAR ON BIOLOGICAL SOLAR ENERGY CONVERSION SYSTEMS, GRENoble - AUSTRANS, 9-12 MAY 1977, 15PP.
- \*KEYWORDS, ORGANIC, BIOMASS, AUSTRALIA.
- \*NOTES, FILED. TECHNICAL AND ECONOMIC FEASIBILITY OF BIOLOGICAL ENERGY CONVERSION IN AUSTRALIA.
- \*DATE, 770509



- TITLE, AN ASSESSMENT OF CROP PRODUCTION FOR ENERGY IN AUSTRALIA.
- AUTHOR, SAODLER H D W, MCCANN D J, PITMAN M G.
- SOURCE, AUSTRALIAN FORESTRY, 39(1)/5-15, 1975.
- KEYWORDS, ORGANIC, PHOTOSYNTHESIS, AUSTRALIA.
- NOTES, FILED. THE ECONOMIC AND TECHNICAL FEASIBILITY OF PRODUCING ENERGY FROM PLANTS, AND THE UTILISATION OF SUCH WASTES AS SAUMILL RESIDUES AND URBAN REFUSE, IS CONSIDERED. VARIOUS MEANS OF CONVERTING CROP MATERIALS TO SYNTHETIC LIQUID OR GASEOUS FUELS ARE DESCRIBED.
- DATE, 750000

## ABSTRACT 1914

- TITLE, ORGANIC WASTES AND ENERGY CROPS AS POTENTIAL SOURCES OF FUEL IN AUSTRALIA.
- AUTHOR, SAODLER H D W.
- SOURCE, ENERGY RESEARCH CENTRE, SCHOOL OF BIOLOGICAL SCI, UNIV OF SYDNEY, SYDNEY, AUSTRALIA NSW 2006, 1975, 30PP.
- KEYWORDS, ORGANIC, BIOMASS, WASTES, AUSTRALIA.
- NOTES, FILED. ESTIMATES ARE GIVEN ON THE PRODUCTION OF CARBON BY PLANTS AND THE QUANTITIES OF DIFFERENT TYPES OF ORGANIC WASTES PRODUCED EACH YEAR. THE COSTS OF GROWING AND CONVERTING SOME SELECTED PLANTS FOLLOWS.
- DATE, 750000

## ABSTRACT 1915

- TITLE, BIO-GAS ACHIEVEMENTS AND CHALLENGES.
- AUTHOR, SATHIANATHAN M A.
- SOURCE, ASSOC OF VOLUNTARY AGENCIES FOR RURAL DEV, NEW DELHI, INDIA 110048, JUNE 1975, 192 PP.
- KEYWORDS, ORGANIC, BIOGAS, INDIA, HISTORICAL, DESIGN, ECONOMICS.
- NOTES, FILED. THIS BOOK EXAMINES THE POSSIBILITIES OF BIO-GAS PLANTS TO MEET ENERGY NEEDS OF RURAL INDIA. A FEW CASE STUDIES HAVE BEEN MADE AND POSSIBILITIES AND LIMITATIONS OF EXPERIMENTS EXAMINED. ALSO COVERED - HISTORICAL BACKGROUND, WAYS TO IMPROVE PRODUCTION AND QUALITY OF THE BIOGAS, WAYS TO USE THE GAS AND THE SLUDGE, DIFFERENT DESIGNS FOR DIFFERENT FEED STOCK AND CLIMATIC CONDITIONS. A SECTION ON BIOGAS PLANTS IN OPERATION, ECONOMIC ASPECTS AND A LIST OF ITEMS THAT NEED FURTHER RESEARCH AND DEVELOPMENT. VERY COMPLETE.
- DATE, 750600

## ABSTRACT 1916

- TITLE, ANALYSIS OF COTON GIN WASTE FOR ENERGY.
- AUTHOR, SCHACHT O B.
- SOURCE, ASAE PAPER 783544, 1978.
- KEYWORDS, ORGANIC, COTTON, WASTES.
- NOTES, FILED. CHEMICAL AND OTHER ANALYSES WERE CONDUCTED ON COTTON GIN WASTE COLLECTED FROM SEVERAL TEXAS GINS.
- DATE, 7800

## ABSTRACT 1917

- TITLE, EFFICIENCY OF PHOTOSYNTHESIS AS A SOLAR ENERGY CONVERTER.
- AUTHOR, SCHNEIDER T R.
- SOURCE, ENERGY CONVERSION, 13/77-85, 1973, PERGAMON PRESS (UK).
- KEYWORDS, ORGANIC, SOLAR, PHOTOSYNTHESIS, ANAEROBIC FERMENTATION.
- NOTES, FILED.
- DATE, 730000

## ABSTRACT 1918

- TITLE, SOCIO-ECONOMIC ASPECTS OF AGRICULTURAL AND AGRO-INDUSTRIAL RESIDUE UTILIZATION.
- AUTHOR, SZCZEPANIK E F.
- SOURCE, UNEP, FAO, ROME, ITALY, 18-21 JAN 1977, 10 PP.
- KEYWORDS, ORGANIC, WASTES.
- NOTES, FILED. THE PURPOSE OF THIS PAPER IS TO BRING TOGETHER THE MOST IMPORTANT SOCIAL AND ECONOMIC CONSIDERATIONS WHICH HAVE BEEN RECENTLY RAISED IN THE READILY AVAILABLE PUBLICATIONS WITH REGARD TO THE UTILIZATION AND MANAGEMENT OF AGRICULTURAL AND AGRO-INDUSTRIAL RESIDUES. AFTER THE PRESENTATION OF THE MAIN SOCIO-ECONOMIC NEEDS OF RESIDUE UTILIZATION, THE PAPER DEALS, IN TURN, WITH DEMAND AND SUPPLY CONSIDERATIONS. IN THE CONCLUDING SECTION, THE MAJOR IMPLICATIONS FOR GOVERNMENT POLICY ARE OUTLINED. THE EMPHASIS IS ON FOOD AND FEED FROM WASTES BECAUSE USES AS A FEED SUPPLEMENT AND AS A FERTILIZER OR SOIL CONDITIONER SEEMS TO OFFER THE GREATEST OPPORTUNITIES FOR THE UTILIZATION OF AGRICULTURAL RESIDUES IN THE NEAR FUTURE.
- DATE, 770118

- \*TITLE, WOOD HEATING HANDBOOK.
- \*AUTHOR, SELF C.
- \*SOURCE, TAB BOOKS, BLUE RIDGE SUMMIT, PA 17214, MARCH 1977, 235 PP.
- \*KEYWORDS, ORGANIC, WOOD, HEAT, DESIGN, OPERATING PROCEDURE.
- \*NOTES, FILED.
- \*DATE, 770300

## ABSTRACT 1920

- \*TITLE, THE ANAEROBIC DIGESTION OF LIVESTOCK WASTES TO PRODUCE METHANE, 1946 - JUNE 1975, A BIBLIOGRAPHY WITH ABSTRACTS.
- \*AUTHOR, SHADDOCK G.
- \*SOURCE, AGR ENGR DEPT, UNIV OF MINN, ST PAUL, 1975, 103 PP.
- \*KEYWORDS, ORGANIC, METHANE, BIBLIOGRAPHY, MANURE.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1921

- \*TITLE, THE WOODBURNERS ENCYCLOPEDIA.
- \*AUTHOR, SHELTON J, SHAPIRO A B.
- \*SOURCE, VERMONT CROSSROADS PRESS, INC, BOX 333, WAITSFIELD, VERMONT 05673, 1977, 155 PP.
- \*KEYWORDS, ORGANIC, WOOD, HEAT, DESIGN, STORAGE.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1922

- \*TITLE, METHANE PRODUCTION FROM ANAEROBIC FERMENTATION OF BEEF MANURE.
- \*AUTHOR, SHIELDS F D, TRAGITT G N.
- \*SOURCE, ASAE PAPER 78-4010, 1978, 15 PP.
- \*KEYWORDS, ORGANIC, METHANE, MANURE, ANAEROBIC FERMENTATION.
- \*NOTES, FILED. INTERMEDIATE SCALE ANAEROBIC FERMENTATION REACTORS WERE OPERATED AT FIVE DIFFERENT TEMPERATURE - DETENTION TIME COMBINATIONS. MANURE FROM A CONCRETE - FLOOR BEEF FEEDLOT WAS USED AS A SUBSTRATE. METHANE PRODUCTION WAS HINDERED AT HIGHER LOADINGS.
- \*DATE, 780000

## ABSTRACT 1923

- \*TITLE, ENGINEERING AND ECONOMIC ASPECTS OF FARM DIGESTERS.
- \*AUTHOR, SIEVERS D M, FISCHER J R, MEADOR N F, FULHAGE C D, SHANKLIN M D.
- \*SOURCE, ASAE PAPER 75-4541, 15-18 DEC 1975, 12 PP.
- \*KEYWORDS, ORGANIC, MANURE, DESIGN.
- \*NOTES, FILED. PAPER DESCRIBES THE DESIGN CRITERIA USED AND CAPITAL COSTS INVOLVED FOR THE UNIV OF MISSOURI CONFINED SWINE FARM.
- \*DATE, 751215

## ABSTRACT 1924

- \*TITLE, ENERGY BALANCE FOR ETHYL ALCOHOL PRODUCTION FROM CROPS.
- \*AUTHOR, DA SILVA J G, SERRA G E.
- \*SOURCE, SCIENCE, 201/903-906, 8 SEPT 1978.
- \*KEYWORDS, ORGANIC, ETHANOL, ACCOUNTING.
- \*NOTES, FILED.
- \*DATE, 780908

## ABSTRACT 1925

- \*TITLE, BUILDING A BIO-GAS PLANT.
- \*AUTHOR, SINGH R B.
- \*SOURCE, COMPOST SCIENCE, MARCH-APRIL 1972, PP 12-14.
- \*KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, INDIA, OPERATING PROCEDURE, BIOGAS, MANURE, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 720300

- TITLE, TECHNICAL REPORT ON BIO-GAS PLANT.
- AUTHOR, SINGH R B.
- SOURCE, 606AR GAS RESEARCH STA, AJITHAL, ETAWAH, INOIA, 1975, 32 PP.
- KEYWORDS, ORGANIC, BIOGAS, ECONOMICS, TECHNOLOGY ASSESSMENT, INDIA.
- NOTES, FILED.
- DATE, 750003

## ABSTRACT 1927

- TITLE, SOLAR ENERGY COLLECTION BY BIOCONVERSION.
- AUTHOR, SITTON O C, GAODY J L.
- SOURCE, REPORT 769017, SOC OF AUTOMOTIVE ENGR, 12-17 SEPT 1976, 7 PP.
- KEYWORDS, ORGANIC, PHOTOSYNTHESIS, CONVERSION, METHANE, ECONOMICS, TECHNOLOGY ASSESSMENT.
- NOTES, PHOTOSYNTHETIC EFFICIENCIES OF DIFFERENT CROPS FOR SOLAR ENERGY COLLECTION BY BIOCONVERSION ARE COMPARED. AVAILABILITY OF LAND IN THE US FOR BIOMASS PRODUCTION IS ANALYZED. USE OF WASTES FROM PRESENT AGRICULTURAL CROPS WHICH REQUIRE NO ADDITIONAL LAND IS DISCUSSED. A PROCESS DESIGN AND THE ECONOMICS OF METHANE PRODUCTION BY BIOCONVERSION FOR DIFFERENT CROP MATERIALS ARE PRESENTED.
- DATE, 760912

## ABSTRACT 1928

- TITLE, AN ECONOMIC ANALYSIS OF METHANE GENERATION - INTERNAL COSTS AND EXTERNAL BENEFITS.
- AUTHOR, SLANE T C, CHRISTENSEN R L, WILLIS C E, LIGHT R G.
- SOURCE, BULLETIN 618, MASS AGR EXPT STA, COLLEGE OF FOOD AND NATURAL RESOURCES, UNIV OF MASS, AMHERST, JAN 1975, 30 PP.
- KEYWORDS, ORGANIC, METHANE, ECONOMICS, MANURE.
- NOTES, FILED.
- DATE, 750100

## ABSTRACT 1929

- TITLE, PROCESSING ANIMAL WASTES FOR FEED AND INDUSTRIAL PRODUCTS.
- AUTHOR, SLONEKER J M, ET AL.
- SOURCE, FROM SYMPOSIUM - PROCESSING AGRICULTURAL AND MUNICIPAL WASTES, AVI PUBL CO, BOX 831, WESTPORT, CONN, 1973, 15 PP.
- KEYWORDS, ORGANIC, ANIMAL WASTE, ANAEROBIC FERMENTATION.
- NOTES, FILED.
- DATE, 730000

## ABSTRACT 1930

- TITLE, TWO-PHASE ANAEROBIC DIGESTION OF POULTRY WASTE.
- AUTHOR, SMITH R E, REED M J, KIKER J T.
- SOURCE, ASAE PAPER 75-4544, 23 PP.
- KEYWORDS, ORGANIC, ANIMAL WASTE, ANAEROBIC FERMENTATION, DESIGN, OPERATING PROCEDURE.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 1931

- TITLE, METHANE GENERATION.
- AUTHOR, SMITH R J, FEHR R L, MIRANOVSKI J A, PIDGEON E R, PERSSON S, BARTLETT H D, REGAN R W.
- SOURCE, PRESENTED AT CORNELL UNIV AGR WASTE MANAGEMENT CONF, ITHACA, NY, 1977, PP 341-437.
- KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, METHANE, IOWA.
- NOTES, THE ROLE OF AN ANAEROBIC DIGESTER ON A CENTRAL IOWAN FARM IS EVALUATED. THE PENNSYLVANIA STATE UNIVERSITY BIOGAS GENERATOR AND OTHER SYSTEMS ARE DISCUSSED.
- DATE, 770000

## ABSTRACT 1932

- TITLE, ENERGY RECOVERY AND RESOURCE RECYCLING.
- AUTHOR, SNOYER N W.
- SOURCE, CHEM ENGR, OESKBOOK ISSUE, 21 OCT 1974, PP 65-72.
- KEYWORDS, ORGANIC, MUNICIPAL WASTE, ENERGY SOURCES, RECYCLING, CONVERSION, ECONOMICS.
- NOTES, FILED.
- DATE, 741021

- \*TITLE, ENZYMATIC HYDROLYSIS OF CELLULOSIC WASTES TO GLUCOSE.
- \*AUTHOR, SPANO L A, MEDEIROS J, MANDELS M.
- \*SOURCE, RESOURCE RECOVERY AND CONSERVATION, 1(3)/279-295, APRIL 1976.
- \*KEYWORDS, ORGANIC, WASTES, CONVERSION.
- \*NOTES, THE PRODUCTION AND MODE OF ACTION OF THE CELLULOSE COMPLEX PRODUCED DURING THE GROWTH OF THE FUNGUS TRICHODERMA VIRIDE, AND THE APPLICATION OF SUCH ENZYMES FOR THE CONVERSION OF VARIOUS MUNICIPAL, AGRICULTURAL, AND INDUSTRIAL CELLULOSIC WASTES TO GLUCOSE SUGAR ARE DISCUSSED. PROCESS VARIABLES ARE DESCRIBED AS THEY AFFECT PROCESS CONVERSION RATES.
- \*DATE, 760400

## ABSTRACT 1934

- \*TITLE, BIO - GAS (GOBAR GAS) AND MANURE FROM THE WASTE OF FARM ANIMALS.
- \*AUTHOR, SRINASAN H R.
- \*SOURCE, UNEP/FAO SEMINAR ON RESIDUES UTILIZATION-MANAGEMENT OF AGR AND AGRO-INDUSTRIAL WASTES, FAO, ROME, 18-21 JAN 1977, 13 PP.
- \*KEYWORDS, ORGANIC, BIOGAS, WASTES, HISTORICAL, DESIGN, INDIA.
- \*NOTES, FILED.
- \*DATE, 770121

## ABSTRACT 1935

- \*TITLE, AN EVALUATION OF THE USE OF AGRICULTURAL RESIDUES AS AN ENERGY FEEDSTOCK - VOL II.
- \*AUTHOR, STANFORD RESEARCH INSTITUTE.
- \*SOURCE, SRI PROJECT 3520, SRI, MENLO PARK, CA 94025, JULY 1976, 608 PP.
- \*KEYWORDS, ORGANIC, WASTES, USA.
- \*NOTES, FILED.
- \*DATE, 760700

## ABSTRACT 1936

- \*TITLE, CROP, FORESTRY AND MANURE RESIDUE INVENTORY - CONTINENTAL UNITED STATES - VOL II - EAST-NORTH CENTRAL.
- \*AUTHOR, STANFORD RESEARCH INSTITUTE.
- \*SOURCE, SRI PROJECT 5093, SRI, MENLO PARK, CA 94025, JUNE 1976, 253 PP.
- \*KEYWORDS, ORGANIC, WASTES, ILLINOIS, INDIANA, MICHIGAN, OHIO, WISCONSIN.
- \*NOTES, FILED.
- \*DATE, 760600

## ABSTRACT 1937

- \*TITLE, SHORT-ROTATION FORESTRY AS A SOLAR ENERGY TRANSDUCER AND STORAGE SYSTEM.
- \*AUTHOR, STANFORD G.
- \*SOURCE, GREEN HILLS CENTER AND EXPT STA, CEDAR HILL, TEXAS, JUNE 1976, 35 PP.
- \*KEYWORDS, ORGANIC, BIOMASS, ENERGY BUDGET.
- \*NOTES, FILED.
- \*DATE, 760600

## ABSTRACT 1938

- \*TITLE, AN EVALUATION OF THE USE OF AGRICULTURAL RESIDUES AS AN ENERGY FEEDSTOCK, VOLUME 1.
- \*AUTHOR, STANFORD RESEARCH INSTITUTE.
- \*SOURCE, PAPER SUBMITTED TO NSF ADVANCED ENERGY RESEARCH AND TECH BY SRI.
- \*KEYWORDS, ORGANIC, CROP RESIDUES, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. OF CROP RESIDUES, ABOUT 75 PERCENT IS RETURNED TO THE SOIL. THERE IS CONTROVERSY OVER WHAT FRACTION OF THIS CAN BE REMOVED FOR ENERGY CONVERSION WITHOUT ADVERSE AFFECTS ON NUTRIENT LEVELS. CONVERSION OF BIOMASS TO SNG IS ECONOMIC ONLY FOR A LARGE INSTALLATION BUT NOT FOR SMALL SYSTEMS. BIOMASS IS A LONG-TERM ENERGY OPTION WITH IMPACT IN THE YEAR 2000 AND BEYOND. CONSIDERATIONS OTHER THAN ECONOMICS ARE THE AFFECT ON SOIL EROSION, FERTILIZER REQUIREMENTS, AND THE AFFECT ON SOIL TILTH.
- \*DATE, 760700



- \*TITLE, REPORT ON STRAW UTILIZATION CONFERENCE.
- \*AUTHOR, STANFORTH A R.
- \*SOURCE, AGR DEV AND ADVISORY SERVICE OF THE MINISTRY OF AGR, FISHERIES AND FOOD, OXFORD, ENGLAND, 23 JAN 1976, 69 PP.
- \*KEYWORDS, ORGANIC, AGRICULTURE, UNITED KINGDOM.
- \*NOTES, FILED.
- \*DATE, 7:0123

## ABSTRACT 1940

- \*TITLE, SURVEY OF AGRICULTURAL AND AGRO-INDUSTRIAL RESIDUES IN SELECTED COUNTRIES IN AFRICA.
- \*AUTHOR, STANTON W R.
- \*SOURCE, UNEP/FAO/ISS.4/07, ROME, FAO, ROME, ITALY, 18-21 JAN 1977, 29 PP.
- \*KEYWORDS, ORGANIC, AGRO-INDUSTRIAL WASTES, AFRICA.
- \*NOTES, FILED.
- \*DATE, 770118

## ABSTRACT 1941

- \*TITLE, MICROBIOLOGICAL CONVERSION OF WASTES WITH SPECIAL REFERENCE TO THE APPLICATION TO DEVELOPING COUNTRIES.
- \*AUTHOR, STANTON W R.
- \*SOURCE, UNEP/FAO/ISS.4/16, ROME, ITALY, 18-21 JAN 1977, 29 PP.
- \*KEYWORDS, ORGANIC, WASTES, CONVERSION, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 770118

## ABSTRACT 1942

- \*TITLE, NUCLEAR POWER FOR THE PRODUCTION OF SYNTHETIC FUELS AND FEEDSTOCKS.
- \*AUTHOR, STEINBERG M.
- \*SOURCE, REPORT 769189, SOC OF AUTOMOTIVE ENGR, 12-17 SEPT 1976, 9 PP.
- \*KEYWORDS, ORGANIC, NUCLEAR, METHANOL, WASTES, ECONOMICS, EFFICIENCY.
- \*NOTES, THIS REPORT PRESENTS A PROCESS WHERE NUCLEAR POWER CAN SUPPLY PREMIUM SYNTHETIC CARBONACEOUS FUELS AND FEEDSTOCKS. THE PROCESS CONSISTS OF GENERATING HYDROGEN AND OXYGEN BY ELECTROLYTIC DECOMPOSITION OF WATER. PRODUCTION COSTS FOR SYNTHETIC FUELS AND FEEDSTOCKS AND CAPITAL OUTLAYS ARE INCLUDED.
- \*DATE, 760912

## ABSTRACT 1943

- \*TITLE, ORGANIC ENERGY RESOURCES.
- \*AUTHOR, STOUT B A.
- \*SOURCE, PHI KAPPA PHI JOURNAL, 15(1)/9-14, WINTER 1975.
- \*KEYWORDS, ORGANIC, ENERGY SOURCES, RENEWABLE ENERGY, CONSERVATION, ECONOMICS, SOCIAL IMPLICATIONS, ANIMAL WASTE, MUNICIPAL WASTE, SNG.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1944

- \*TITLE, ENERGY FROM ORGANIC RESIDUES.
- \*AUTHOR, STOUT B A, LOUDON T L.
- \*SOURCE, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, 1976, 51 PP. (UNFAO)
- \*KEYWORDS, ORGANIC, AGRO-INDUSTRIAL WASTES, CONVERSION, ALTERNATIVE FUELS.
- \*NOTES, FILED. THIS PAPER EXPLORES THE USE OF ORGANIC RESIDUES AS ALTERNATIVE FUEL SOURCES. BOTH WET AND DRY CONVERSION PROCESSES ARE CONSIDERED INCLUDING ANAEROBIC FERMENTATION, COMBUSTION IN EXCESS AIR OR IN A CONTROLLED ATMOSPHERE, PYROLYSIS, HYROGASIFICATION AND HYDROGENATION. AGRICULTURAL ENERGY NEEDS, ENERGY SOURCES AND THE AVAILABILITY OF ORGANIC RESIDUES ARE DISCUSSED AS IS AN ASSESSMENT OF THE FEASIBILITY OF EACH PROCESS AND THE TECHNOLOGIES AVAILABLE FOR CONVERSION OF ORGANIC RESIDUES TO MORE USEFUL SOLID, LIQUID OR GASEOUS FORMS.
- \*DATE, 760901

## ABSTRACT 1945

- \*TITLE, DIESEL OIL AND ETHANOL MIXTURES FOR DIESEL-POWERED FARM TRACTORS.
- \*AUTHOR, STRAIT J. ET AL.
- \*SOURCE, AG ENGR DEPT. UNIV OF MINN, ST PAUL MN 55108, DEC 29, 1978, 40 PP.
- \*KEYWORDS, ORGANIC, ETHANOL, DIESEL, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. ABSOLUTE ETHANOL CAN BE MIXED WITH NO. 1 DIESEL NORMALLY ENCOUNTERED DURING THE CROPPING SEASON. WHEN ENGINES WERE OPERATED ON FUELS CONTAINING ETHANOL, THE MAXIMUM HORSEPOWER OUTPUT WAS REDUCED, FUEL CONSUMPTION INCREASED ENGINE NOISE INCREASED AND DELAY PERIOD EXTENDED. THESE CHARACTERISTICS INCREASED IN MAGNITUDE AS THE PROPORTION OF ETHANOL IN THE FUEL INCREASED. THESE IS RISK OF POSSIBLE ACCELERATED WEAR OF THE ENGINE CYLINDERS SURFACE AND FUEL INJECTION SYSTEM COMPONENTS.
- \*DATE, 781229

## ABSTRACT 1946

- \*TITLE, HEALTH ASPECTS OF AGRICULTURAL RESIDUE UTILIZATION.
- \*AUTHOR, STRAUCH D.
- \*SOURCE, UNEP/FAO/ISS,4/04, ROME, ITALY, 18-21 JAN 1977, 13 PP.
- \*KEYWORDS, ORGANIC, WASTES, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 770118

## ABSTRACT 1947

- \*TITLE, FEASIBILITY OF ETHANOL FROM GRAIN IN MONTANA.
- \*AUTHOR, STROUP R, MILLER T.
- \*SOURCE, REPORT 118, MONTANA AGR EXPT STA, MONTANA STATE UNIV, BOZEMAN, MT, JAN 1978, 25 PP.
- \*KEYWORDS, ORGANIC, ETHANOL, MONTANA.
- \*NOTES, FILED.
- \*DATE, 780100

## ABSTRACT 1948

- \*TITLE, FIBER, FUEL AND FOOD FROM WHOLE-TREE CHIPS.
- \*AUTHOR, STUROS J A, DICKSON R E.
- \*SOURCE, ASAE PAPER 77-1578, 1977, 7 PP.
- \*KEYWORDS, ORGANIC, WOOD, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1949

- \*TITLE, ENERGY FROM FEEDLOT MANURE.
- \*AUTHOR, SWEETEN J M.
- \*SOURCE, AGR EXTENSION SERVICE, AGR ENGR DEPT, TEXAS A AND M UNIV, COLLEGE STATION, 21 OCT 1974, 4 PP.
- \*KEYWORDS, ORGANIC, ENERGY SOURCES, MANURE, TEXAS, FERTILIZER.
- \*NOTES, FILED.
- \*DATE, 751021

## ABSTRACT 1950

- \*TITLE, ENERGY FORESTS AND FUEL PLANTATIONS.
- \*AUTHOR, SZEBO G C, KEMP C C.
- \*SOURCE, CHEM TECH, MAY 1973, PP 275-284.
- \*KEYWORDS, ORGANIC, ENERGY SOURCES, NUCLEAR, FOSSIL FUELS, ECONOMICS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 730500

## ABSTRACT 1951

- \*TITLE, IRRIGATED FUELWOOD PLANTATIONS.
- \*AUTHOR, TAINSH A.
- \*SOURCE, WORLD CROPS, NOV/DEC 1969, P 346.
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 691100

## ABSTRACT 1952

- \*TITLE, RESEARCH ON GAS ENGINE WHICH RUNS ON AGRICULTURAL WASTE.
- \*AUTHOR, TAKEDA S.
- \*SOURCE, UNPUBLISHED, FARM POWER AND MACHINERY LAB, DEPT OF AGR MACHINERY, MIE UNIV, JAPAN.
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1953

- \*TITLE, RESEARCH ON GAS ENGINE DRIVEN BY AGRICULTURAL WASTE.
- \*AUTHOR, TAKEDA S, SAKAI J.
- \*SOURCE, THE BULLETIN OF THE FACULTY OF AGRICULTURE, NO 53, MIE UNIV, TSU, JAPAN, DEC 1976, PP 187-203.
- \*KEYWORDS, ORGANIC, WASTES, TECHNOLOGY ASSESSMENT, DESIGN, JAPAN, ENGINE.
- \*NOTES, FILED.
- \*DATE, 761200

## ABSTRACT 1954

- \*TITLE, A MOBILE PYROLYTIC SYSTEM FOR CONVERSION OF AGRICULTURE AND FORESTRY WASTES INTO CLEAN FUELS.
- \*AUTHOR, TATOM J W, ET AL.
- \*SOURCE, GEORGIA TECH ENGR EXPT STA, ATLANTA, GA, 17 PP.
- \*KEYWORDS, ORGANIC, WASTES, CONVERSION, PYROLYSIS, DESIGN.
- \*NOTES, FILED. THIS PAPER DEMONSTRATES THE IMPORTANCE OF AGRICULTURAL AND FORESTRY WASTES AS A POTENTIAL NATIONAL SOURCE OF SIGNIFICANT QUANTITIES OF CLEAN FUELS. THE PYROLYTIC CONVERSION CONCEPT USING THE GEORGIA TECH ENGINEERING EXPERIMENT STATION (EES) PROCESS DESCRIBED PROVIDES A SUPERIOR TECHNICAL AND ECONOMIC MEANS FOR UTILIZING THESE WASTES AS FUELS. THE TECHNIQUES REQUIRED FOR PROCESSING THESE WASTES THROUGH THE EES CONVERTER ARE AVAILABLE AND METHODS FOR TAILORING THE OPERATING PARAMETERS TO THE TYPE OF WASTE FEED FOR MAXIMUM OIL AND CHAR PRODUCTION ARE UNDERSTOOD. THE PORTABLE UNIT DESIGN APPEARS TECHNICALLY FEASIBLE AND ITS ECONOMICS APPEAR TO BE HIGHLY DESIRABLE.
- DATE

## ABSTRACT 1955

- \*TITLE, A MOBILE PYROLYTIC SYSTEM FOR CONVERSION OF AGRICULTURAL AND FORESTRY WASTES INTO CLEAN FUELS.
- \*AUTHOR, TATOM J W, COLCORD A R, KNIGHT J A, ELSTON L W, HARTOZ F H.
- \*SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MI/AMH ARBOR SCI PUBL INC, 1975, PP 271-288.
- \*KEYWORDS, ORGANIC, WASTES, PYROLYSIS, DESIGN, ECONOMICS.
- \*NOTES, FILED. A PROMISING CONCEPT IS PRESENTED IN THIS REPORT THAT MAY OVERCOME MANY OF THE PROBLEMS ASSOCIATED WITH THE USE OF AGRICULTURAL AND FORESTRY WASTES. A MOBILE PYROLYTIC CONVERTOR WHICH COULD BE BROUGHT TO THE SOURCE OF THE WASTES AND THERE CONVERT THESE BULKY, WET, LOW-ENERGY MATERIALS INTO DENSE, DRY, HIGH ENERGY CHARCOAL FUEL, SIMILAR TO POWDERED COAL, WHICH CAN BE ECONOMICALLY TRANSPORTED AND BURNED CLEANLY AND EFFICIENTLY IN EXISTING SUSPENSION OR STOKER FIRED COAL SYSTEMS. A LOW TEMPERATURE, STEADY FLOW, PARTIAL OXIDATION PYROLYSIS SYSTEM HAS BEEN DEVELOPED AND IS READILY SUITED FOR THE MOBILE CONCEPT DESCRIBED. A FINAL PAPER WILL FULLY DESCRIBE THIS SYSTEM AND THE RESULTS OF AN INVESTIGATION CONDUCTED FOR THE EPA.
- \*DATE, 750000

## ABSTRACT 1956

- \*TITLE, PYROLYTIC CONVERSION OF AGRICULTURAL AND FORESTRY WASTES TO ALTERNATE ENERGY SOURCES IN INDONESIA.
- \*AUTHOR, TATOM J W, ET AL.
- \*SOURCE, PREPARED BY THE ECON DEV LAB, ENGR EXPT STA, GEORGIA INST OF TECH, FOR AID, OFFICE OF SCI AND TECH, WASHINGTON DC 20523, FEB 1977, 45 PP.
- \*KEYWORDS, ORGANIC, WASTES, PYROLYSIS, INDONESIA.
- \*NOTES, FILED. THE STUDY INVOLVED AN INVESTIGATION OF THE PRODUCTION OF AGRICULTURAL AND FORESTRY WASTES IN INDONESIA, AN EVALUATION OF THE MARKET FOR THE CHAR OIL AND GAS WHICH ARE PRODUCTS OF THE PYROLYTIC CONVERSION SYSTEM DESIGN AND AN APPROXIMATE ECONOMIC EVALUATION OF THE SYSTEM. THE PRELIMINARY DESIGN STUDY HAS PRODUCED THREE DIFFERENT APPROPRIATE TECHNOLOGY ONE-TON-PER-DAY SYSTEMS USING RICE HULLS AS THE FUEL AND FOR USE AT TYPICAL RICE MILLS. IN ADDITION TO THE ABOVE, THE NEED FOR A FOLLOW-UP DEMONSTRATION PROGRAM IS DISCUSSED AND A PROGRAM PLAN DEVISED.
- \*DATE, 772300

## ABSTRACT 1957

- \*TITLE, CONVERSION OF FEED LOT WASTE INTO SINGLE CELL PROTEIN ANIMAL FEED.
- \*AUTHOR, TENDERDY R P, ET AL.
- \*SOURCE, DEPT OF MICROBIOLOGY, DEPT OF AGR AND CHEM ENGR COLORADO STATE UNIV, FORT COLLINS, CO, 80523, 28 PP.
- \*KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, ANIMAL FEED.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 1958

- \*TITLE, WOOD BURNING STOVES.
- \*AUTHOR, THOMPSON J F.
- \*SOURCE, ENGR NOTEBOOK, DEPT OF AGR ENGR, UNIV OF CALIF, BERKELEY, CA 94720, DEC 1977, 5 PP.
- \*KEYWORDS, ORGANIC, WOOD.
- \*NOTES, FILED. STOVE CONSTRUCTION, TYPES, AND EFFICIENCIES ARE PRESENTED ALONG WITH AVAILABLE PUBLICATIONS.
- \*DATE, 771200

## ABSTRACT 1959

- \*TITLE, AN ASSESSMENT OF ANEROBIC DIGESTION IN US AGRICULTURE.
- \*AUTHOR, THORNTON T.
- \*SOURCE, NTIS, US DEPT OF COMMERCE, 5285 PORT ROYAL RD, SPRINGFIELD, VA 22161, MARCH 1978 PP 40.
- \*KEYWORDS, ORGANIC, WASTES, ANAEROBIC FERMENTATION, TECHNOLOGY ASSESSMENT, ECONOMICS.
- \*NOTES, FILED. THOUGH ANAEROBIC DIGESTION HAS BEEN AVOCATED AS A SOURCE OF FUEL, FEED, AND FERTILIZER, ITS WIDESPREAD ADOPTION IN AMERICAN AGRICULTURE IS DOUBTFUL. THE COST AND COMPLEXITY OF MOST DIGESTIVE SYSTEMS MAKE THEM DIFFICULT TO INCORPORATE IN AGRICULTURAL OPERATIONS. ALTHOUGH SITE SPECIFIC APPLICATIONS MAY BE FEASIBLE, THESE WILL NOT HAVE A MAJOR IMPACT ON THE AGRICULTURAL SECTOR. AS A SOURCE OF ENERGY, THERE IS LITTLE POSSIBILITY OF ANAEROBIC DIGESTION PROVIDING EVEN A SMALL PERCENTAGE OF THE NATIONAL ENERGY REQUIREMENTS.
- \*DATE, 780300

## ABSTRACT 1960

- \*TITLE, FROM BIODUNG TO BIOGAS - HISTORICAL REVIEW OF EUROPEAN EXPERIENCE.
- \*AUTHOR, TIETJEN C.
- \*SOURCE, FROM THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT - PRDC 1975 CORNELL AGR WASTE MANAGEMENT CONF, ANN ARBOR SCIENCE PUBLISHERS INC, MICH, PP 247-257.
- \*KEYWORDS, ORGANIC, HISTORICAL, WASTES, ENERGY SOURCES, CONVERSION, FRANCE, GERMANY, MANURE, ANAEROBIC FERMENTATION, INDIA, UNITED KINGDOM.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1961

- \*TITLE, ALCOHOL PRODUCTION FROM AGRICULTURAL PRODUCTS - FACTS AND ISSUES.
- \*AUTHOR, TYNER W E, OKOS M R.
- \*SOURCE, CES PAPER 29, PURDUE UNIV, WEST LAFAYETTE, IN 47907, JAN 1978, 15 PP.
- \*KEYWORDS, ORGANIC, ALCOHOL.
- \*NOTES, FILED. THE INTENTION OF THIS PAPER IS NOT TO TAKE SIDES IN THE CONTROVERSY OF ALCOHOL PRODUCTION NOR TO PROVIDE DEFINITIVE ANSWERS TO ALL THE IMPORTANT QUESTIONS. RATHER THE GOALS ARE TO COMMUNICATE SOME BASIC FACTS, DEFINITIONS, AND CONVERSION RATIOS THAT ARE CENTRAL TO UNDERSTANDING THE ISSUES, AND FURTHER, TO RAISE IMPORTANT QUESTIONS AND IDENTIFY IMPORTANT ISSUES ON WHICH FURTHER RESEARCH IS NEEDED. THIS PAPER MEETS ITS GOALS.
- \*DATE, 780100

## ABSTRACT 1962

- \*TITLE, WOOD AS A SOURCE OF ENERGY.
- \*AUTHOR, UN-ECONOMIC AND SOCIAL COUNCIL.
- \*SOURCE, SECOND AFRICAN MEETING ON ENERGY, ACCRA, GHANA, 1-12 MARCH 1976, ECONOMIC COMMISSION FOR AFRICA, UNITED NATIONS ECONOMIC AND SOCIAL COUNCIL, 3 PP.
- \*KEYWORDS, ORGANIC, AFRICA, WOOD.
- \*NOTES, FILED.
- \*DATE, 760301



- TITLE, BIOGAS TECHNOLOGY AND UTILIZATION.
- AUTHOR, UN-ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC.
- SOURCE, ESCAP, 18 OCT 1975, 146 PP.
- KEYWORDS, ORGANIC, BIOGAS, DESIGN, ECONOMICS, BIBLIOGRAPHY, THAILAND, INDIA, JAPAN, KOREA, PAKISTAN, PHILIPPINES.
- NOTES, FILED.
- DATE, 751018

## ABSTRACT 1964

- TITLE, ORGANIC MATERIALS AS FERTILIZERS.
- AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.
- SOURCE, FAO SOILS BULLETIN 27, REPORT OF THE FAO/SIOA EXPERT CONSULTATION, 2-6 DEC 1974.
- KEYWORDS, ORGANIC, FERTILIZER.
- NOTES, NAS.
- DATE, 741202

## ABSTRACT 1965

- TITLE, WASTE AND ORGANIC MATERIALS AS FERTILIZERS.
- AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.
- SOURCE, UNEP/FAO/ISS, 4/11, ROME, ITALY, 18-21 JAN 1977, 5PP.
- KEYWORDS, ORGANIC, WASTES, FERTILIZER.
- NOTES, FILED.
- DATE, 770118

## ABSTRACT 1966

- TITLE, LEGAL ASPECTS OF AGRICULTURAL AND AGRO-INDUSTRIAL WASTE MANAGEMENT.
- AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.
- SOURCE, UNEP/FAO/ISS, 4/25, ROME, ITALY, 18-21 JAN 1977, 47 PP.
- KEYWORDS, ORGANIC, WASTES.
- NOTES, FILED.
- DATE, 770118

## ABSTRACT 1967

- TITLE, DRAFT FINAL REPORT OF UNEP/FAO SEMINAR ON RESIDUE UTILIZATION - MANAGEMENT OF AGRICULTURAL AND AGRO-INDUSTRIAL WASTES.
- AUTHOR, UN-FOOD AND AGRICULTURE ORGANIZATION.
- SOURCE, FAC, ROME, ITALY, 18-21 JAN 1977, 37 PP.
- KEYWORDS, ORGANIC, WASTES.
- NOTES, FILED. THE MAJOR OBJECTIVES OF THE SEMINAR WERE TO 1, PROVIDE A SURVEY OF THE MAIN PROBLEMS AS WELL AS THE OCCURRENCE OF WASTES AND RESIDUES ASSOCIATED WITH AGRICULTURE, FISHERIES, FORESTRY AND AGRO-INDUSTRIES, 2, REVIEW THE AVAILABLE EXPERIENCE AND TECHNOLOGY FOR SOLVING THESE PROBLEMS, 3, DISCUSS ECONOMIC, SOCIAL AND POLITICAL SITUATIONS THAT ARE COMPATIBLE WITH AND CONDUCTIVE TO ENVIRONMENTALLY SOUND RESIDUE UTILIZATION, 4, IDENTIFY EXISTING GAPS AND POSSIBLE ACTION PROGRAMS TO FILL SUCH GAPS, 5, TO ASSESS THE RELATIVE IMPORTANCE AND PRIORITIES OF SUCH ACTION PROGRAMS, TAKING INTO ACCOUNT THE PARTICULAR INTERESTS AND REQUIREMENTS OF DEVELOPING COUNTRIES, 6, OUTLINE A LIST OF RECOMMENDATIONS AND SUMMARIES OF THE PRESENTATIONS AND DISCUSSIONS.
- DATE, 770118

## ABSTRACT 1968

- TITLE, 50 COW BIO-GAS PRODUCTION UNIT.
- AUTHOR, UNIVERSITY OF WISCONSIN.
- SOURCE, COOPERATIVE EXTENSION SERVICE, UNIV OF WISC, MADISON, WI, JULY 1974, 2 PP.
- KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, OPERATING PROCEDURE.
- NOTES, FILED.
- DATE, 740700

## ABSTRACT 1969

- TITLE, RECOVERY OF ENERGY FROM FARM SOLID WASTES AND TIMBER PRODUCTION RESIDUES.
- AUTHOR, UNIVERSITY OF MINNESOTA.
- SOURCE, FINAL REPORT OF RESOURCE RECOVERY GRANT-IN-AID PROJECT, CENTER FOR STUDIES OF THE PHYSICAL ENVIR, UNIV OF MINN, DULUTH, MN, DEC 1975.
- KEYWORDS, ORGANIC, WOOD, WASTES.
- NOTES, AID. DOCUMENT ABOUT 1 INCH THICK.
- DATE, 751200

- \*TITLE, FUELS FROM BIOMASS PROGRAM.
- \*AUTHOR, US-DEPARTMENT OF ENERGY.
- \*SOURCE, DOE/ET-0022/1, US DEPT OF ENERGY, DIV OF SOLAR TECH, WASHINGTON DC 20545, JAN 1978, 98 PP.
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED. PROGRAM SUMMARY.
- \*DATE, 780109

## ABSTRACT 1971

- \*TITLE, GASOHOL FROM GRAIN - THE ECONOMIC ISSUES.
- \*AUTHOR, US-DEPARTMENT OF AGRICULTURE.
- \*SOURCE, ESCS 11, ECON, STATISTICS, AND COOPERATIVE SERVICE, USDA, WASHINGTON DC, 19 JAN 1978, 18 PP.
- \*KEYWORDS, ORGANIC, ALCOHOL, ECONOMIC6.
- \*NOTES, FILED.
- \*DATE, 780119

## ABSTRACT 1972

- \*TITLE, FUELS FROM BIOMASS PROGRAM.
- \*AUTHOR, US-DEPARTMENT OF ENERGY.
- \*SOURCE, US DEPT OF ENERGY, DIV OF SOLAR TECH, WASHINGTON DC 20545, JAN 1978, 98 PP.
- \*KEYWORDS, ORGANIC, CONVERSION, ALTERNATIVE FUELS.
- \*NOTES, FILED. THE OVER-ALL OBJECTIVE OF THE FUELS FROM BIOMASS PROGRAM IS TO DEVELOP THE CAPABILITY FOR CONVERTING RENEWABLE BIOMASS RESOURCES INTO CLEAN FUELS, PETROCHEMICAL SUBSTITUTES, AND OTHER ENERGY-INTENSIVE PRODUCTS THAT CAN SUPPLEMENT SIMILAR PRODUCTS MADE FROM CONVENTIONAL FOSSIL FUELS. THE FUELS FROM BIOMASS PROGRAM CONCENTRATES ON PLANT MATERIALS GROWN ON LAND (TERRESTRIAL) AND IN WATER (AQUATIC). THESE MATERIALS INCLUDE FOREST AND CROP RESIDUES, CROPS GROWN ON ENERGY FARMS FOR THEIR ENERGY CONTENT, AND ANIMAL MANURES. THE PROGRAM DOES NOT INCLUDE CONVERSION OF MUNICIPAL SOLID WASTES OR INDUSTRIAL WASTES. THIS PUBLICATION IS A LIST OF CURRENT PROJECTS AND SUMMARIES, WITH TWO MAIN AREAS OF CONCENTRATION AND THEIR COMPONENTS - 1) PRODUCTION AND COLLECTION OF BIOMASS, A) RESIDUE PRODUCTION, B) SILVICULTURE PRODUCTION, C) AGRICULTURAL PRODUCTION, D) AQUATIC PRODUCTION, 2) CONVERSION OF BIOMASS, A) ANAEROBIC DIGESTION, B) FERMENTATION, C) BIOPHOTOLYSIS, D) THERMOCHEMICAL CONVERSIONS, E) PHOTOELECTROLYSIS.
- \*DATE, 780100

## ABSTRACT 1973

- \*TITLE, FUELS FROM BIOMASS PROGRAM - PROGRAM AND PROJECT STATUS.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, ERDA, DIV OF SOLAR ENERGY, WASHINGTON DC, NOV 1976, 41 PP.
- \*KEYWORDS, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 761130

## ABSTRACT 1974

- \*TITLE, BIOCONVERSION.
- \*AUTHOR, US-HOUSE.
- \*SOURCE, HEARING BEFORE THE SUBCOMMITTEE ON ENERGY OF THE COMMITTEE ON SCI AND ASTRONAUTICS, US HOUSE OF REP, 13 JUNE 1974, 425 PP.
- \*KEYWORDS, ORGANIC, PHOTOSYNTHESIS, ALTERNATIVE FUELS.
- \*NOTES, FILED. THIS MATERIAL CONTAINS CONTRIBUTIONS FROM SEVERAL AUTHORITIES IN THE FIELD OF BIOMASS. TOPICS COVERED INCLUDED - BIOLOGICAL PROCESS FOR THE CONVERSION OF SOLID ORGANIC MATERIAL TO FUEL GAS, MARKETS AND TECHNOLOGY FOR RECOVERY OF ENERGY FROM SOLID WASTES, MUNICIPALITIES INVOLVED IN CONVERSION OF SOLID WASTE TO ENERGY, A SYSTEM FOR METHANE RECOVERY AND FERTILIZER PRODUCTION FROM GARBAGE AND SEWAGE, BIOCONVERSION OF SOLAR ENERGY FOR USEFUL PURPOSES, SOLAR ENERGY UTILIZATION BY CONVERSION, CONSIDERABLE MATERIAL ON EFFECTIVE UTILIZATION OF SOLAR ENERGY TO PRODUCE CLEAN FUEL, ECONOMICS OF PRODUCTION AND UTILIZATION. A VERY USEFUL REFERENCE.
- \*DATE, 740613

## ABSTRACT 1975

- \*TITLE, HIGHER PRODUCTIVITY THROUGH ENERGY PLANTATIONS.
- \*AUTHOR, VAIL C W, FRASER M D, HENRY J F.
- \*SOURCE, ASAE PAPER 75-7502, 6 PP.
- \*KEYWORDS, ORGANIC, ENERGY SOURCES, RENEWABLE ENERGY, LAND USE, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 1976

- TITLE, THE GAS FARM.
- AUTHOR, WALTERS S.
- SOURCE, MECHANICAL ENGR, SEPT 1975, PP 44-45.
- KEYWORDS, ORGANIC, COAL GASIFICATION, ENERGY SOURCES, SNG, WASTES, CONVERSION, AGRICULTURE, ANAEROBIC FERMENTATION.
- NOTES, FILED.
- DATE, 750900

## ABSTRACT 1977

- TITLE, FUEL AND ENERGY PRODUCTION BY BIOCONVERSION OF BOTH MUNICIPAL AND AGRICULTURAL WASTE MATERIALS OF THE ART.
- AUTHOR, WARE S A.
- SOURCE, ENVIR PROTECTION TECH SERIES, EPA-R2 600/ 2-76-148, AUG 1976, 64 PP.
- KEYWORDS, ORGANIC, AGRO-INDUSTRIAL WASTES, CONVERSION.
- NOTES,
- DATE, 760800

## ABSTRACT 1978

- TITLE, FUEL AND ENERGY PRODUCTION BY BIOCONVERSION OF WASTE MATERIALS.
- AUTHOR, WARE S A.
- SOURCE, ENVIR PROTECTION TECH SERIES, EPA 600/ 2-76-148, 1976, 65 PP.
- KEYWORDS, ORGANIC, WASTES, CONVERSION.
- NOTES,
- DATE, 760000

## ABSTRACT 1979

- TITLE, BIOMASS AS A LONG RANGE SOURCE OF HYDROCARBONS.
- AUTHOR, WATERMAN W W, KLASS D L.
- SOURCE, PRESENTED AT THE INST OF GAS TECH SYMPOSIUM ON CLEAN FUELS FROM BIOMASS AND WASTES, ORLANDO, FL, 25-28 JAN 1977, PP 29-49.
- KEYWORDS, ORGANIC, WASTES, FOSSIL FUELS, SUPPLY DEMAND.
- NOTES, POSSIBLE LONG/TERM SOURCES OF LIQUID AND GASEOUS HYDROCARBONS ARE EXAMINED. US FOSSIL FUEL RESOURCES AND DEMANDS ARE REVIEWED. TECHNOLOGY APPLICABLE TO BIOMASS AND ORGANIC WASTES OFFERS THE POTENTIAL OF SUPPLYING ALL OR MOST CURRENT NON-FUEL NEEDS FOR CARBONACEOUS MATERIALS AND A LARGE PORTION OF SYNTHETIC FUEL REQUIREMENTS IN THE FUTURE.
- DATE, 770125

## ABSTRACT 1980

- TITLE, ETHANOL FOR MOTOR FUEL FROM BIOMASS.
- AUTHOR, WAYMAN M.
- SOURCE, PRESENTED AT FOREST AND FIELD FUELS SYMPOSIUM, WINNIPEG, MANITOBA, CANADA, 11-13 OCT 1977, 13 PP.
- KEYWORDS, ORGANIC, WOOD, ETHANOL, ECONOMICS.
- NOTES, THIS REPORT DISCUSSES THE ADVANTAGES OF USING ETHANOL FROM BIOMASS IN CANADA. AS A SOURCE OF BIOMASS THE UNDERUTILIZED WOOD SPECIES IN CANADIAN FORESTS ARE CONSIDERED. THE ECONOMICS OF ETHANOL ARE ALSO DISCUSSED.
- DATE, 771011

## ABSTRACT 1981

- TITLE, FERMENTATION OF FEEDLOT WASTE FILTRATE BY FUNGI AND STREPTOMYCETES.
- AUTHOR, WEINER B A, RHODES R A.
- SOURCE, APPLIED MICROBIOLOGY, 28(5)/845-850, NOV 1974.
- KEYWORDS, ORGANIC, MANURE, ANAEROBIC FERMENTATION.
- NOTES, FILED.
- DATE, 741100

## ABSTRACT 1982

- TITLE, GROWTH OF INDIGENOUS ORGANISMS IN AERATED FILTRATE OF FEEDLOT WASTE.
- AUTHOR, WEINER B A, RHODES R A.
- SOURCE, APPLIED MICROBIOLOGY, 28(3)/448-451, SEPT 1974.
- KEYWORDS, ORGANIC, MANURE.
- NOTES, FILED.
- DATE, 740900



## ABSTRACT 1983

- \*TITLE, FESCUE AND COASTAL BERMUDAGRASS NUTRIENT RECOVERY FROM SWINE ANAEROBIC LAGOON EFFLUENTS.
- \*AUTHOR, WESTERMAN P W. ET AL.
- \*SOURCE, ASAE PAPER 78-4561, 1978.
- \*KEYWORDS, ORGANIC, SWINE, WASTES, AGRICULTURE, IRRIGATION.
- \*NOTES, FILED.
- \*DATE, 780000

## ABSTRACT 1984

- \*TITLE, METHANOL AS A GASOLINE EXTENDER - A CRITIQUE.
- \*AUTHOR, WIGG E E.
- \*SOURCE, SCIENCE, 186(4166)/785-790, 29 NOV 1974.
- \*KEYWORDS, ORGANIC, METHANOL, COAL, ENGINE, AUTOMOBILE, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 741129

## ABSTRACT 1985

- \*TITLE, PILOT STUDIES ON THE BIOCONVERSION OF CELLULOSE AND PRODUCTION OF ETHANOL.
- \*AUTHOR, WILKE C R.
- \*SOURCE, LAWRENCE BERKELEY LABORATORY, UNIV OF CALIF, BERKELEY CA, JUNE 30, 1977 36 PP.
- \*KEYWORDS, ORGANIC, ETHANOL, TECHNOLOGY ASSESSMENT, ECONOMICS.
- \*NOTES, FILED. THIS REPORT SUMMARIZES BRIEFLY THE PROGRESS OVER THE PERIOD OF JANUARY 31 TO JUNE 30, 1977, ON THOSE PORTIONS OF THE PROGRAM PRIMARILY UNDER SOLAR ENERGY DIVISION SPONSORSHIP. THESE INCLUDE, AN ANALYSIS AND EVALUATION OF POTENTIAL RAW MATERIALS, AND ECONOMIC STUDIES AND PILOT PLANT PROCESS DEVELOPMENT AND DESIGN STUDIES.
- \*DATE, 770630

## ABSTRACT 1986

- \*TITLE, GENERATION OF LOW-BTU FUEL GAS FROM AGRICULTURAL RESIDUES EXPERIMENTS WITH A LABORATORY-SCALE GAS PRODUCER.
- \*AUTHOR, WILLIAMS R O, HORSFIELD B.
- \*SOURCE, FOOD, FERTILIZER AND AGR RESIDUES, PROCEEDINGS OF THE 1977 CORNELL AGR WASTE MANAGEMENT CONF, 1977, PP 465-487.
- \*KEYWORDS, ORGANIC, PRODUCER GAS GENERATION, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 1987

- \*TITLE, UTILIZATION OF BIOGAS FOR FARM PRODUCTION ENERGY.
- \*AUTHOR, WILLIAMS D W. ET AL.
- \*SOURCE, INST FOR MAN AND ENVIR, STATE UNIV OF NEW YORK, PLATTSBURG, NY 14853, 1975, 26 PP.
- \*KEYWORDS, ORGANIC, BIOGAS, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. THE DIRECT INPUTS ON BEEF AND DAIRY FARMS WERE DETERMINED AND COMPARED WITH THE POTENTIAL BIOGAS PRODUCTION FROM THE ANAEROBIC DIGESTION OF THE ANIMAL MANURES. THE EQUIPMENT REQUIRED FOR UTILIZING THE BIOGAS AS REPLACEMENT FOR CONVENTIONAL ENERGY FORMS WAS REVIEWED. AN ASSESSMENT OF TECHNICAL AND ECONOMIC FEASIBILITY WAS MADE.
- \*DATE, 750000

## ABSTRACT 1988

- \*TITLE, GENERATION OF LOW-BTU FUEL GAS FROM AGRICULTURAL RESIDUES, EXPERIMENTS WITH A LABORATORY SCALE GAS PRODUCER.
- \*AUTHOR, WILLIAMS R O, HORSFIELD B.
- \*SOURCE, DEPT OF AGR ENGR, UNIV OF CALIF, DAVIS, CA 95616, APRIL 1977, 28 PP.
- \*KEYWORDS, ORGANIC, GAS PRODUCER, DESIGN.
- \*NOTES, FILED. TWO SUCCESSIVE LABORATORY-SCALE DOWNDRAFT GAS PRODUCERS WERE CONSTRUCTED AT THE UNIV OF CALIF, DAVIS. APPARATUS AND EXPERIMENTAL PROCEDURES ARE DESCRIBED. THE GAS PRODUCER WAS TESTED WITH DIFFERENT GRATE ARRANGEMENTS, VARIOUS FIREBOX CONFIGURATIONS, AND DIFFERENT TYPES OF FUELS. THE GRATE/FIREBOX CONFIGURATION IS OF EXTREME IMPORTANCE IN PROVIDING FOR THE CONTINUOUS SUPPLY OF GOOD QUALITY GAS. CONVERSION EFFICIENCIES IN EXCESS OF 70 PERCENT CAN BE READILY ACHIEVED, AND 80 PERCENT IS POSSIBLE WITH IDEALLY SIZED MATERIALS.
- \*DATE, 770400



- TITLE, MEETING ON FARM ENERGY DEMAND THROUGH BIOMASS CONVERSION.
- AUTHOR, WILLIAMS D W, MCANIFF R J, LARSON D L.
- SOURCE, DEPT OF SOIL, WATER AND ENGR, UNIV OF ARIZONA, TUCSON, AZ, 85721, 23-25 JAN 1979, 14 PP.
- KEYWORDS, ORGANIC, AGRICULTURE, ENERGY CROPS.
- NOTES, FILED. PRESENTED AT THE 3RD NATIONAL CONF AND EXHIBITION ON TECH FOR ENERGY CONSERVATION.
- DATE, 790123

## ABSTRACT 1990

- TITLE, MEASUREMENT OF EXTERNAL LEARNING BENEFITS FROM METHANE GENERATION ON COMMERCIAL POULTRY FARMS.
- AUTHOR, WILLIS C E, CHRISTENSEN R L.
- SOURCE, MASS AGR EXPT STA, UNIV OF MASS, AMHERST, 17 JUNE 1976, 21 PP.
- KEYWORDS, ORGANIC, METHANE, ECONOMICS.
- NOTES, FILED.
- DATE, 760617

## ABSTRACT 1991

- TITLE, SCOPE FOR STRAW.
- AUTHOR, WILTON B.
- SOURCE, SPAN, 18(1)/32-34, 1975.
- KEYWORDS, ORGANIC, USA, UNITED KINGDOM, ACCOUNTING.
- NOTES, FILED.
- DATE, 75000C

## ABSTRACT 1992

- TITLE, WOOD BURNING.
- AUTHOR, WINKELMANN H.
- SOURCE, FAO FORESTRY OCCASIONAL PAPER NO 1, ROME, DEC 1958, 64 PP.
- KEYWORDS, ORGANIC, WOOD, ENERGY SOURCES, HEAT, SWITZERLAND, FRANCE, SWEDEN, FINLAND, UNITED KINGDOM, USA, CANADA, AUSTRIA, INDIA.
- NOTES, FILED.
- DATE, 581200

## ABSTRACT 1993

- TITLE, FUEL GAS PRODUCTION FROM SOLID WASTE.
- AUTHOR, WISE D L, SADEK S E, KISPERT R G, ANDERSON L C, WALKER D M.
- SOURCE, BIOTECH AND BIOENGR SYMP, 5/285-301, 1975.
- KEYWORDS, ORGANIC, MUNICIPAL WASTE, PYROLYSIS, BIOGAS.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 1994

- TITLE, DRY ANAEROBIC DIGESTION.
- AUTHOR, WONG-CHONG G M.
- SOURCE, IN THE BOOK ENERGY, AGRICULTURE AND WASTE MANAGEMENT, W J JEWELL, ANN ARBOR, MICH/ANN ARBOR SCI PUBLISHERS INC, 1975, PP 361-372.
- KEYWORDS, ORGANIC, ANAEROBIC FERMENTATION, TECHNOLOGY ASSESSMENT, MANURE, MUNICIPAL WASTE.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 1995

- TITLE, STEAM GASIFICATION OF BIOMASS - PROGRESS REPORT.
- AUTHOR, WRIGHT-MALTA INC.
- SOURCE, WRIGHT-MALTA INC, BALLSTON SPA, NY, 11 MARCH 1977, 7 PP.
- KEYWORDS, ORGANIC, GASIFICATION.
- NOTES, NTIS, C00/4124-1.
- DATE, 770311

- \*TITLE, STEAM GASIFICATION OF BIOMASS.
- \*AUTHOR, WRIGHT-MALTA INC.
- \*SOURCE, WRIGHT-MALTA INC, BALLSTON SPA, NY, 20 JULY 1977, 6 PP.
- \*KEYWORDS, ORGANIC, GASIFICATION.
- \*NOTES, NTIS, COO/4124-3.
- \*DATE, 770720

## ABSTRACT 1997

- \*TITLE, A STUDY OF THE NUTRITIVE VALUE OF OREGON GRASS STRAWS.
- \*AUTHOR, YOUNGBERG H, YOUGH L.
- \*SOURCE, AGRONOMIC CROP SCI REPORT, RESEARCH EXT, OREGON STATE UNIV, JULY 1976, 12 PP.
- \*KEYWORDS, ORGANIC, FOOD ENERGY.
- \*NOTES, FILED.
- \*DATE, 760700

## PETROLEUM 1998 -- 2031

## ABSTRACT 1998

- \*TITLE, IMPORTATION OF PETROLEUM.
- \*AUTHOR, ABELSON P H.
- \*SOURCE, SCIENCE, 180(4091)/15 JUNE 1973.
- \*KEYWORDS, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 730615

## ABSTRACT 1999

- \*TITLE, THE WORLD PETROLEUM MARKET.
- \*AUTHOR, ADELMAN M A.
- \*SOURCE, BALTIMORE, MD/JOHN HOPKINS UNIV PRESS, 1972.
- \*KEYWORDS, PETROLEUM, HISTORICAL, MARKETING, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 720000

## ABSTRACT 2000

- \*TITLE, THE ENERGY GAP.
- \*AUTHOR, AMERICAN PETROLEUM INSTITUTE.
- \*SOURCE, AMER PETROLEUM INST, 1801 K ST N W, WASHINGTON D C, 14 PP.
- \*KEYWORDS, PETROLEUM, SUPPLY DEMAND.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 2001

- \*TITLE, FACTS ABOUT OIL.
- \*AUTHOR, AMERICAN PETROLEUM INSTITUTE.
- \*SOURCE, AMER PETROLEUM INST, 1801 K ST N W, WASHINGTON D C, 46 PP.
- \*KEYWORDS, PETROLEUM, PRODUCTION, TRANSPORTATION, MARKETING.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 2002

- \*TITLE, MIDEAST OIL STOPS FLOWING - AND US FEELS FIRST PINCH.
- \*AUTHOR, ANON.
- \*SOURCE, US NEWS AND WORLD REPORT, 19 NOV 1973, PP 27-30.
- \*KEYWORDS, PETROLEUM, USA, MIDDLE EAST, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 731119

## ABSTRACT 2003

\*TITLE, CASE HISTORIES OF OIL AND GAS FIELDS IN ASIA AND THE FAR EAST.  
 \*AUTHOR, ANON.  
 \*SOURCE, U N MINERAL RESOURCES DEV SERIES NO 37, 1969, 90 PP.  
 \*KEYWORDS, PETROLEUM.  
 \*NOTES, NAS.  
 \*DATE, 690000

## ABSTRACT 2004

\*TITLE, OIL AND THE POOR COUNTRIES.  
 \*AUTHOR, ANON.  
 \*SOURCE, ENVIRONMENT, 16(2)/10-14, MARCH 1974.  
 \*KEYWORDS, PETROLEUM, DEVELOPING COUNTRIES, INDIA.  
 \*NOTES, FILED.  
 \*DATE, 740300

## ABSTRACT 2005

\*TITLE, WHAT ABOUT OIL SHALE.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES 11, BATTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH, JUNE 1974, 6 PP.  
 \*KEYWORDS, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 740600

## ABSTRACT 2006

\*TITLE, TAR SAND.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES 15, BATTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH, OCT 1974, 6 PP.  
 \*KEYWORDS, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 741000

## ABSTRACT 2007

\*TITLE, UNDERSTANDING THE OIL SITUATION.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES 5, BATTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH, DEC 1973, 6 PP.  
 \*KEYWORDS, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 731200

## ABSTRACT 2008

\*TITLE, RELUCTANT RESERVOIRS - THE OIL-RECOVERY PROBLEM.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES 20-21, BATTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH, MARCH-APRIL 1975, 6 PP.  
 \*KEYWORDS, PETROLEUM.  
 \*NOTES, FILED.  
 \*DATE, 750300

## - ABSTRACT 2009

\*TITLE, BP STATISTICAL REVIEW OF THE WORLD OIL INDUSTRY-1975.  
 \*AUTHOR, BRITISH PETROLEUM CO LTD.  
 \*SOURCE, KAO INGLIS, PUBLIC AFFAIRS AND INFO DEPT, BRITISH PETROLEUM CO LTD,  
 BRITANNIC HOUSE, MOOR LANE, LONDON EC2Y 9BU, 1976, 32 PP.  
 \*KEYWORDS, PETROLEUM, INDUSTRY, ENERGY CONSUMPTION, STATISTICS.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 2010

\*TITLE, THE STORY OF OIL.  
 \*AUTHOR, BURTON M J.  
 \*SOURCE, AMER PETROLEUM INST, 1271 AVE OF THE AMERICAS, N Y.  
 \*KEYWORDS, PETROLEUM, TRANSPORTATION.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 2011

- \*TITLE, OIL SHALE AND THE ENERGY CRISIS.
- \*AUTHOR, DINNEEN G U, COOK G L.
- \*SOURCE, TECHNOLOGY REVIEW, JAN 1974, PP 26-33.
- \*KEYWORDS, PETROLEUM, CONVERSION.
- \*NOTES, FILED. DIFFERENT TECHNIQUES FOR THE MINING AND PROCESSING OF OIL SHALE ARE DISCUSSED ALONG WITH THE POTENTIAL OF OIL SHALE TO FUEL CONVERSION.
- \*DATE, 749100

## ABSTRACT 2012

- \*TITLE, WORLD OIL PRODUCTION.
- \*AUTHOR, FLOWER A R.
- \*SOURCE, SCIENTIFIC AMER, 238(3)/42-49, MARCH 1978.
- \*KEYWORDS, PETROLEUM, WORLD WIDE, INTERNATIONAL.
- \*NOTES, FILED.
- \*DATE, 789300

## ABSTRACT 2013

- \*TITLE, SHALE OIL . . . HOW SOON.
- \*AUTHOR, GANNON R.
- \*SOURCE, POPULAR SCIENCE, SEPT 1974, PP 80-83, 114.
- \*KEYWORDS, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 740900

## ABSTRACT 2014

- \*TITLE, COPING WITH THE ENERGY SHORTAGE.
- \*AUTHOR, GRANVILLE M F.
- \*SOURCE, ADDRESS TO THE ROTARY CLUB OF ATLANTA, ATLANTA, GEORGIA, 26 NOV 1973, 13 PP.
- \*KEYWORDS, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 731126

## ABSTRACT 2015

- \*TITLE, ENERGY POLICY STATEMENT.
- \*AUTHOR, GULF OIL CORP.
- \*SOURCE, GULF OIL CORP, GULF BLDG, PITTSBURGH, PA, 19 PP.
- \*KEYWORDS, PETROLEUM, POLICY.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 2016

- \*TITLE, GUIDE TO NATIONAL PETROLEUM COUNCIL REPORT ON UNITED STATES ENERGY OUTLOOK.
- \*AUTHOR, MCLEAN J G, DAVIS W B.
- \*SOURCE, PRESENTED TO NATIONAL PETROLEUM COUNCIL, 11 DEC 1972.
- \*KEYWORDS, PETROLEUM, SUPPLY DEMAND, POLICY.
- \*NOTES, FILED.
- \*DATE, 721211

## ABSTRACT 2017

- \*TITLE, OIL SHALE - A HUGE RESOURCE OF LOW-GRADE FUEL.
- \*AUTHOR, METZ W D.
- \*SOURCE, SCIENCE, 184/1271-1275, 21 JUNE 1974.
- \*KEYWORDS, PETROLEUM, PRODUCTION, ENVIRONMENT.
- \*NOTES, FILED.
- \*DATE, 740621



## ABSTRACT 2018

- TITLE, IMPACT OF OIL TECHNOLOGY ON IRAN - 1901-1951.
- AUTHOR, MOGHARI M.
- SOURCE, COMMITTEE ON TECH AND SOCIAL CHANGE IN FOREIGN CULTURES, IOWA STATE UNIV, AMES, FEB 1975, 169 PP.
- KEYWORDS, PETROLEUM, IRAN.
- NOTES, AID.
- DATE, 750200

## ABSTRACT 2019

- TITLE, WORLO ENERGY OUTLOOK AND OPEC PRICES.
- AUTHOR, OSHEA T.
- SOURCE, ENERGY REPORT FROM CHASE, ENERGY ECON DIV OF THE CHASE MANHATTAN BANK NA, NEW YORK, NY 10015, JAN 1977, 4 PP.
- KEYWORDS, PETROLEUM, MIDDLE EAST, POLICY.
- NOTES, FILED.
- DATE, 770100

## ABSTRACT 2020

- TITLE, LUBRICATION - A TECHNICAL PUBLICATION DEVOTED TO THE SELECTION AND USE OF LUBRICANTS, PETROLEUM ENERGY.
- AUTHOR, PETERSON F S.
- SOURCE, TEXACO INC, 135 E 42ND ST, N Y, OCT-DEC 1975, VOL 61, PP 57-72.
- KEYWORDS, PETROLEUM, LUBRICATION, CONSERVATION.
- NOTES, FILED.
- DATE, 751000

## ABSTRACT 2021

- TITLE, ENHANCED RECOVERY.
- AUTHOR, SHELL OIL CO.
- SOURCE, SHELL REPORTS, SHELL OIL CO, PO BOX 2463, HOUSTON, TX, JULY 1975, 6 PP.
- KEYWORDS, PETROLEUM.
- NOTES, FILED.
- DATE, 750700

## ABSTRACT 2022

- TITLE, OFFSHORE OIL.
- AUTHOR, SHELL OIL CO.
- SOURCE, SHELL REPORTS, SHELL OIL CO, PO BOX 2463, HOUSTON, TX, JULY 1975, 7 PP.
- KEYWORDS, PETROLEUM, ECONOMICS.
- NOTES, FILED.
- DATE, 750700

## ABSTRACT 2023

- TITLE, CURRENT ENERGY OUTLOOK.
- AUTHOR, SHELL OIL CO.
- SOURCE, SHELL REPORTS, SHELL OIL CO, PO BOX 2463, HOUSTON, TX, JULY 1975, 4 PP.
- KEYWORDS, PETROLEUM.
- NOTES, FILED.
- DATE, 750700

## ABSTRACT 2024

- TITLE, INTERNATIONAL PETROLEUM ANNUAL 1974.
- AUTHOR, SOUTHARD L G.
- SOURCE, DIV OF PETROLEUM AND NATURAL GAS, BUREAU OF MINES, WASHINGTON, D C 20241, MARCH 1976, 36 PP.
- KEYWORDS, PETROLEUM, INTERNATIONAL, HISTORICAL, STATISTICS.
- NOTES, FILED.
- DATE, 760300

## ABSTRACT 2025

- TITLE, ENERGY AND THE NEED FOR TAX INCENTIVES.
- AUTHOR, TEXACO INC.
- SOURCE, PUBLIC RELATIONS DIV, TEXACO INC, 135 E 42ND ST, NEW YORK, NY, 15 PP.
- KEYWORDS, PETROLEUM, ECONOMICS.
- NOTES, FILED.
- DATE,

- \*TITLE, TEXACO INC - ANNUAL REPORT 1972.
- \*AUTHOR, TEXACO INC.
- \*SOURCE, TEXACO INC, 135 E 42ND ST, NEW YORK, NY, 1972, 32 PP.
- \*KEYWORDS, PETROLEUM, WORLD WIDE.
- \*NOTES, FILED.
- \*DATE, 720000

## ABSTRACT 2027

- \*TITLE, DEVELOPMENT OF PETROLEUM REFINERIES IN AFRICA.
- \*AUTHOR, UN-ECONOMIC AND SOCIAL COUNCIL.
- \*SOURCE, UNITED NATIONS ECON AND SOCIAL COUNCIL, ECDN COMMISSION FOR AFRICA, SECOND AFRICAN MEETING ON ENERGY, ACCRA, GHANA, 1-12 MARCH 1976, 31 PP.
- \*KEYWORDS, PETROLEUM, AFRICA.
- \*NOTES, FILED.
- \*DATE, 760301

## ABSTRACT 2028

- \*TITLE, PROPOSED STANDBY GASOLINE RATIONING PLAN.
- \*AUTHOR, US-DEPARTMENT OF ENERGY.
- \*SOURCE, US DEPT OF ENERGY, ECON REGULATORY ADMINISTRATION, OFFICE OF REGULATIONS AND EMERGENCY PLANNING, WASHINGTON DC 20461, JUNE 1978, 103 PP.
- \*KEYWORDS, PETROLEUM, POLICY.
- \*NOTES, FILED.
- \*DATE, 780600

## ABSTRACT 2029

- \*TITLE, OIL SHALE.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, USERDA, OFFICE OF PUBLIC AFFAIRS, WASHINGTON DC, 1975, 8 PP.
- \*KEYWORDS, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 2030

- \*TITLE, RECOMMENDATION ON THE OIL CRISIS AND DEVELOPMENT COOPERATION.
- \*AUTHOR, VAN OOSTVEEN J H.
- \*SOURCE, NATIONAL ADV COUNCIL FOR ASST TO DEV CO, PLEIN 23, THE HAGUE, NETHERLANDS, 45 PP.
- \*KEYWORDS, PETROLEUM.
- \*NOTES,
- \*DATE,

## ABSTRACT 2031

- \*TITLE, ENERGY AND NATIONAL SECURITY.
- \*AUTHOR, ZARB F G.
- \*SOURCE, FEDERAL ENERGY NEWS, FEDERAL ENERGY ADMINISTRATION, WASHINGTON DC, 19 NOV 1975, 6 PP.
- \*KEYWORDS, PETROLEUM, GENERAL.
- \*NOTES, FILED.
- \*DATE, 751119

## POLICY 2032 -- 2061

## ABSTRACT 2032

- \*TITLE, STATEMENT OF POLICY - ENERGY.
- \*AUTHOR, AMERICAN PETROLEUM INSTITUTE.
- \*SOURCE, AMER PETROLEUM INST, 1801 K ST NW, WASHINGTON DC, DEC 1973, 11 PP.
- \*KEYWORDS, POLICY, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 731200

\*TITLE, PROCEEDINGS OF THE CONFERENCE ON NATIONAL ENERGY POLICY.  
 \*AUTHOR, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.  
 \*SOURCE, AAAS, 1515 MASS AVE, NW, WASHINGTON DC 20005, 1977, 135 PP.  
 \*KEYWORDS, POLICY, USA.  
 \*NOTES, FILED.  
 \*DATE, 770300

## ABSTRACT 2034

\*TITLE, ENERGY POLICY FOR THE US FOOD SYSTEM - A SUBPART OF A NATIONAL ENERGY POLICY.  
 \*AUTHOR, ANON.  
 \*SOURCE, CONFERENCE SPONSORED BY THE ENGR FOUNDATION AND THE ASAE, ASILIMOR CONFERENCE GROUNDS, PACIFIC GROVE, CALIF, 6-11 FEB 1977, 26 PP.  
 \*KEYWORDS, POLICY, CONSERVATION, ALTERNATIVES, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 770211

## ABSTRACT 2035

\*TITLE, JAPANS NEW ENERGY POLICY.  
 \*AUTHOR, ANON.  
 \*SOURCE, MINISTRY OF INTERNATIONAL TRADE AND INOUSTRY, TOKYO, JAPAN, MARCH 1976, 87 PP.  
 \*KEYWORDS, POLICY, JAPAN, ECONOMICS, CONSERVATION, SUPPLY DEMAND.  
 \*NOTES, FILED.  
 \*DATE, 760300

## ABSTRACT 2036

\*TITLE, MY CASE FOR NATIONAL PLANNING.  
 \*AUTHOR, BRAOSHAW T.  
 \*SOURCE, FORTUNE, FEB 1977, PP 100-104.  
 \*KEYWORDS, POLICY, FOSSIL FUELS.  
 \*NOTES, FILED.  
 \*DATE, 770200

## ABSTRACT 2037

\*TITLE, THE NATIONAL ENERGY PLAN -- A CRITIQUE.  
 \*AUTHOR, COMMONER B.  
 \*SOURCE, CENTER FOR THE BIOLOGY OF NATURAL SYSTEMS, WASHINGTON UNIV, ST LOUIS, MO, 1977, 38 PP.  
 \*KEYWORDS, POLICY, CONSERVATION, ECONOMICS, ENVIRONMENT.  
 \*NOTES, FILED. PRESENTED AT NATIONAL LEAGUE OF CITIES, TASK FORCE ON ENERGY MEETING, WASHINGTON DC, 10 MAY 1977.  
 \*DATE, 770000

## ABSTRACT 2038

\*TITLE, AGRICULTURAL POLICY IMPLICATIONS OF CHANGING ENERGY PRICES AND SUPPLIES.  
 \*AUTHOR, CONNOR L J.  
 \*SOURCE, CONF ON ENERGY AND AGR, 16-19 JUNE 1976, WASHINGTON UNIV, 18 PP.  
 \*KEYWORDS, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 760616

## ABSTRACT 2039

\*TITLE, THE POLITICS OF ENERGY.  
 \*AUTHOR, COUGHLIN S H.  
 \*SOURCE, PRINTED FROM NATIONAL VOTER, SUMMER 1977.  
 \*KEYWORDS, POLICY.  
 \*NOTES, FILED. THE ENERGY SITUATION IS DISCUSSED IN ACCORDANCE WITH PRESIDENT CARTERS ENERGY PROPOSALS.  
 \*DATE, 770000

## ABSTRACT 2040

\*TITLE, ENERGY RESOURCE DECISIONS.  
 \*AUTHOR, OORING O C.  
 \*SOURCE, AGR ENGR, 60(2)/10-11, FEB 1979.  
 \*KEYWORDS, POLICY, USA.  
 \*NOTES, FILED.  
 \*DATE, 790210

## ABSTRACT 2041

- \*TITLE, US ENERGY POLICY - WHICH DIRECTION.
- \*AUTHOR, FOWLER J M, KRYGER K C, CAREY H H.
- \*SOURCE, US DEPT OF ENERGY, TECHNICAL INFO OFFICE, PO BOX 62, OAK RIDGE, TN 37830, JAN 1978, 89 PP.
- \*KEYWORDS, POLICY.
- \*NOTES, FILED.
- \*DATE, 780100

## ABSTRACT 2042

- \*TITLE, ENERGY POLICY AND RESEARCH IN AGRICULTURE.
- \*AUTHOR, GAVETT E E.
- \*SOURCE, US DEPT OF AGR, ECON RESEARCH SERVICE, 1977, 11 PP, UNPUBLISHED.
- \*KEYWORDS, POLICY, AGRICULTURE.
- \*NOTES, FILED. DISCUSSED ARE THE POSSIBLE IMPLICATIONS OF THE PRESIDENTS 1977 NATIONAL ENERGY PLAN ON US AGRICULTURE.
- \*DATE, 770000

## ABSTRACT 2043

- \*TITLE, USING LAND TO SAVE ENERGY.
- \*AUTHOR, HARWOOD C C.
- \*SOURCE, CAMBRIDGE, MA/BALLINGER PUBLISHING CO, 1977, 333PP.
- \*KEYWORDS, POLICY, BUILDINGS, CONSERVATION, EFFICIENCY, LEGISLATION, LAND USE.
- \*NOTES, FILED. THE CONSERVATION OF ENERGY BY EFFICIENT HOUSING OR BUILDING DESIGN AND LOCATION. DEVELOPING ADMINISTRATIVE POLICY THAT IS ENERGY CONSERVATIVE.
- \*DATE, 770000

## ABSTRACT 2044

- \*TITLE, THE ENERGY (NON) CRISIS.
- \*AUTHOR, HILL R C.
- \*SOURCE, ASAE PAPER, PRESENTED AT UNIV OF MAINE, ORONO, 19-21 AUG 1973, 6 PP.
- \*KEYWORDS, POLICY, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 730819

## ABSTRACT 2045

- \*TITLE, THE ENERGY CRISIS AND US FOREIGN POLICY.
- \*AUTHOR, HUNTER R E.
- \*SOURCE, DEV PAPER 14, OVERSEAS DEV COUNCIL, AUG 1973, 68 PP.
- \*KEYWORDS, POLICY, INTERNATIONAL, SUPPLY DEMAND, SOVIET UNION.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 2046

- \*TITLE, ENERGY OPTIONS - EXAMINING SOURCES AND DEFINING GOVERNMENTS ROLE.
- \*AUTHOR, LEAGUE OF WOMEN VOTERS.
- \*SOURCE, PUBL 628, LEAGUE OF WOMEN VOTERS, 1730 M ST NW, WASHINGTON DC 20036, 1977, 54 PP.
- \*KEYWORDS, POLICY, ENERGY SOURCES.
- \*NOTES, FILED. OVERVIEW OF PRESENT ENERGY SOURCES IS PRESENTED FOLLOWED BY AN EXAMINATION OF CURRENT AND FUTURE ENERGY POLICY.
- \*DATE, 770000

## ABSTRACT 2047

- \*TITLE, THE ENERGY SYNDROME
- \*AUTHOR, LINDBERG L N. ED.
- \*SOURCE, LEXINGTON, MA/D C HEATH AND CO, 1977, 382PP.
- \*KEYWORDS, POLICY, UNITED KINGDOM, CANADA, FRANCE, HUNGARY, INDIA, SWEDEN, INTERNATIONAL, USA.
- \*NOTES, FILED. ENERGY POLICIES OF NUMEROUS UNIQUE NATIONS ARE PRESENTED AND COMPARED. ENERGY POLICY IMPLICATIONS AND CONSTRAINTS ARE ALSO INCLUDED.
- \*DATE, 770000



## ABSTRACT 2048

\*TITLE, 1978 FORUM ON THE FUTURE OF VIRGINIA AGRICULTURE - PAPERS ON ENERGY POLICY.  
 \*AUTHOR, MARSHALL J P. ET AL.  
 \*SOURCE, MD 263, DEPT OF AGR ECON, VIRGINIA POLYTECHNIC INST AND STATE UNIV, BLACKSBURG, VA 24061, MAY 1978, 90 PP.  
 \*KEYWORDS, POLICY, AGRICULTURE, FOSSIL FUELS, ECONOMICS, VIRGINIA.  
 \*NOTES, FILED.  
 \*DATE, 780500

## ABSTRACT 2049

\*TITLE, A NATIONAL ENERGY POLICY.  
 \*AUTHOR, MCCORMACK M.  
 \*SOURCE, MECHANICAL ENGR, 97(5)/16-19, MAY 1975.  
 \*KEYWORDS, POLICY, USA.  
 \*NOTES, FILED.  
 \*DATE, 750500

## ABSTRACT 2050

\*TITLE, TOWARD A NATIONAL ENERGY POLICY.  
 \*AUTHOR, MOBIL OIL CORP.  
 \*SOURCE, MOBIL OIL CORP, 150 E 42ND ST, NEW YORK, NY, 1975, 12 PP.  
 \*KEYWORDS, POLICY, INDUSTRY, USA.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 2051

\*TITLE, THE REAL CHALLENGE - INCREASING ENERGY SUPPLY.  
 \*AUTHOR, MOBIL OIL CORP.  
 \*SOURCE, MOBIL CORP, 150 E 42ND ST, NEW YORK, NY 10017, 1977, 11 PP.  
 \*KEYWORDS, POLICY, SOCIAL IMPLICATIONS.  
 \*NOTES, FILED. AN OIL COMPANYS VIEW ON WHAT THE US ENERGY POLICY SHOULD BE. CURRENT ENERGY POLICY IS CRITICIZED.  
 \*DATE, 770000

## ABSTRACT 2052

\*TITLE, NIXONS BLUEPRINT FOR MEETING THE ENERGY CRISIS.  
 \*AUTHOR, NIXON R.  
 \*SOURCE, US NEWS AND WORLD REPORT, 19 NOV 1973, PP 116-118.  
 \*KEYWORDS, POLICY, USA.  
 \*NOTES, FILED.  
 \*DATE, 731119

## ABSTRACT 2053

\*TITLE, THE INVISIBLE CRISIS - ENERGY POLICY ALONG THE ROAD TO 1985 AND BEYOND.  
 \*AUTHOR, RASK N, GROVE B, COAN R T, DISQUE I A, MATHEWS E B.  
 \*SOURCE, ESS-559, DEPT OF AGR ECON AND RURAL SOCIOLOGY, OHIO STATE UNIV, COLUMBUS, OH 43210, MARCH 1978, 41 PP.  
 \*KEYWORDS, POLICY, USA.  
 \*NOTES, FILED. SCRIPT FOR SLIDE TAPE.  
 \*DATE, 780300

## ABSTRACT 2054

\*TITLE, 1977 ENERGY POLICY ILLUSTRATIONS.  
 \*AUTHOR, RASK N.  
 \*SOURCE, ESS-558, DEPT OF AGR ECON AND RURAL SOCIOLOGY, OHIO STATE UNIV, COLUMBUS, OH 43210, 1977, 57 PP.  
 \*KEYWORDS, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 2055

\*TITLE, ENERGY USE POLICIES IN AGRICULTURE - FEDERAL AND STATE.  
 \*AUTHOR, ROBEL R J.  
 \*SOURCE, PRESENTED AT THE ENGINEERING FOUNDATIONS CONFERENCE ON ENERGYS ROLE IN FOOD PRODUCTION, PACIFIC GROVE, CALIF, 9 FEB 1977, 17 PP.  
 \*KEYWORDS, POLICY, PETROLEUM, NATURAL GAS, COAL, NUCLEAR.  
 \*NOTES, FILED.  
 \*DATE, 770209

## ABSTRACT 2056

- \*TITLE, THE PRESIDENTS ENERGY PROPOSAL - IS IT ENOUGH.
- \*AUTHOR, TYNER W E, DOERING O C.
- \*SOURCE, CES PAPER NO 26, AGR ECON DEPT, PURDUE UNIV, WEST LAFAYETTE, IN, MAY 1977, 16 PP.
- \*KEYWORDS, POLICY.
- \*NOTES, FILED. SUMMARIZED ARE THE MAJOR COMPONENTS OF PRESIDENT CARTERS ENERGY PROGRAM AND THE LIKELY IMPACTS OF THE SET OF PROPOSALS.
- \*DATE, 770500

## ABSTRACT 2057

- \*TITLE, CTAB RECOMMENDATIONS FOR A NATIONAL ENERGY PROGRAM.
- \*AUTHOR, US-DEPARTMENT OF COMMERCE.
- \*SOURCE, US DEPT OF COMMERCE, COMMERCE TECH ADVISORY BOARD, MARCH 1975, 73 PP.
- \*KEYWORDS, POLICY, SUPPLY DEMAND, ENERGY SOURCES, USA.
- \*NOTES, FILED.
- \*DATE, 750300

## ABSTRACT 2058

- \*TITLE, ENERGY POLICY IN PERSPECTIVE.
- \*AUTHOR, VOGELY W A.
- \*SOURCE, PROFESSOR OF MINERAL ECON, PENN STATE UNIV, UNIV PARK, PA 16802, 1976, 15 PP.
- \*KEYWORDS, POLICY, HISTORICAL, USA, FOSSIL FUELS.
- \*NOTES, FILED.
- \*DATE, 761019

## ABSTRACT 2059

- \*TITLE, REFLECTIONS ON THE ENERGY WARS.
- \*AUTHOR, WEINBERG A M.
- \*SOURCE, AMER SCIENTIST, 66/153-158, MARCH-APRIL 1978.
- \*KEYWORDS, POLICY, SOLAR, NUCLEAR.
- \*NOTES, FILED.
- \*DATE, 780300

## ABSTRACT 2060

- \*TITLE, ENERGY AND U S FOREIGN POLICY.
- \*AUTHOR, YAGER J A, STEINBERG E B.
- \*SOURCE, CAMBRIDGE, MASS/BALLINGER PUB CO, 1975, 473 PP.
- \*KEYWORDS, POLICY, INTERNATIONAL, USA, PETROLEUM.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 2061

- \*TITLE, ACCEPTABILITY OF ENERGY POLICIES TO MID-MICHIGAN FAMILIES.
- \*AUTHOR, ZUICHES J J.
- \*SOURCE, RESEARCH REPORT 298, DEV AND PUBLIC AFFAIRS, AGR EXPT STA, MICH STATE UNIV, EAST LANSING, MARCH 1976, 7 PP.
- \*KEYWORDS, POLICY, MICHIGAN, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 760300

## PUMPS 2062 -- 2071

## ABSTRACT 2062

- \*TITLE, COMPARING PUMPING ENERGY COSTS.
- \*AUTHOR, ABERNATHY G H, HOMN C M.
- \*SOURCE, WESTERN REGIONAL AGR ENGR SERVICE, WINTER 1975, P 19.
- \*KEYWORDS, PUMPS, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750000

\*TITLE, THE BELLOWS PUMP.  
 \*AUTHOR, ANON.  
 \*SOURCE, APPROPRIATE TECH, 2(3)/8, NOV 1975.  
 \*KEYWORDS, PUMPS, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 751100

## ABSTRACT 2064

\*TITLE, THE HUMPHREY PUMP.  
 \*AUTHOR, DUNN P D.  
 \*SOURCE, APPROPRIATE TECH, 2(1)/20-21, MAY 1975.  
 \*KEYWORDS, PUMPS, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 750500

## ABSTRACT 2065

\*TITLE, HYDRAULIC RAM.  
 \*AUTHOR, FAIRBANK W C.  
 \*SOURCE, IDEA SHEET 56, AGR ENGR DEPT, CORNELL UNIV, ITHACA,  
 NY 14853, FEB 1979, 2 PP.  
 \*KEYWORDS, PUMPS.  
 \*NOTES, FILED.  
 \*DATE, 790200

## ABSTRACT 2066

\*TITLE, FIELD RESEARCH AND TESTING OF A WATER HAND PUMP FOR USE IN DEVELOPING COUNTRIES.  
 \*AUTHOR, FANNON R D.  
 \*SOURCE, BATTELLE COLUMBUS LAB, 505 KING AVE, COLUMBUS, OHIO, 31 JAN 1975, 21 PP  
 \*KEYWORDS, PUMPS, INTERNATIONAL, DESIGN, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 750131

## ABSTRACT 2067

\*TITLE, CONSIDERATIONS IN USING SOLAR ENERGY TO DRIVE IRRIGATION PUMPS.  
 \*AUTHOR, LARSON D L, SANDS C D.  
 \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE  
 MANAGEMENT VOL 1, FAZZOLARE R A, SMITH C B, EDITORS,  
 ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 751-757.  
 \*KEYWORDS, PUMPS, SOLAR, IRRIGATION.  
 \*NOTES, FILED.  
 \*DATE, 771024

## ABSTRACT 2068

\*TITLE, FESIBILITY OF USING SOLAR ENERGY TO DRIVE IRRIGATION PUMPS.  
 \*AUTHOR, LARSON D L, SANDS C D, TOWLE C JR.  
 \*SOURCE, ASAE PAPER 76-2531, 1976, 18 PP.  
 \*KEYWORDS, PUMPS, SOLAR, IRRIGATION, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 2069

\*TITLE, SOLAR WATER PUMP FOR LIFT IRRIGATION.  
 \*AUTHOR, RAO D P, RAO R S.  
 \*SOURCE, DEPT OF CHEM ENGR, ISIRLA INST OF TECH AND SCI, PULANI  
 (RAJASTHAN), INDIA 333031, 1976, 18 PP.  
 \*KEYWORDS, PUMPS, SOLAR, IRRIGATION, DESIGN, INDIA.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 2070

- TITLE, THE DESIGN AND CONSTRUCTION OF LOW-COST WIND POWERED WATER PUMPING SYSTEMS.
- AUTHOR, SHERMAN M H.
- SOURCE, ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC, EXPERT WORKING GROUP ON THE USE OF SOLAR AND WIND ENERGY, BANGKOK, 2-9 MARCH 1976, 36 PP.
- KEYWORDS, PUMPS, WIND, DESIGN, TECHNOLOGY ASSESSMENT, ASIA.
- NOTES, FILED.
- DATE, 760309

## ABSTRACT 2071

- TITLE, A MANUAL ON THE HYDRAULIC RAM FOR PUMPING WATER.
- AUTHOR, WATT S B.
- SOURCE, INTERMEDIATE TECH PUB LTD, 9 KING ST, LONDON WC2E 8HN, ENGLAND, MAY 1975, 38 PP.
- KEYWORDS, PUMPS.
- NOTES, FILED.
- DATE, 750500

## REQUIREMENTS 2072 -- 2093

## ABSTRACT 2072

- TITLE, FUEL REQUIRED FOR FIELD OPERATIONS.
- AUTHOR, AYRES G E.
- SOURCE, A E 1079, COOPERATIVE EXTENSION SERVICE, IOWA STATE UNIV, AMES, MARCH 1974, 2 PP.
- KEYWORDS, REQUIREMENTS.
- NOTES, FILED.
- DATE, 740300

## ABSTRACT 2073

- TITLE, HOW MUCH FUEL DO YOU USE ON THE FARM.
- AUTHOR, BERGE D I.
- SOURCE, FACT SHEET, COOPERATIVE EXTENSION PROGRAMS, UNIV OF WISC, MADISON, MAY 1974, 2 PP.
- KEYWORDS, REQUIREMENTS.
- NOTES, FILED.
- DATE, 740500

## ABSTRACT 2074

- TITLE, ENERGY REQUIREMENTS FOR FRUIT PRODUCTION IN CALIFORNIA.
- AUTHOR, CERVINKA V.
- SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT VOL 1, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 719-723.
- KEYWORDS, REQUIREMENTS, FRUITS AND VEGETABLES, PRODUCTION.
- NOTES, FILED.
- DATE, 771024

## ABSTRACT 2075

- TITLE, ENERGY REQUIREMENTS FOR TILLAGE ON COASTAL PLAINS SOILS.
- AUTHOR, COLLINS N E, KEMBLE L J, WILLIAMS T H, HANDY W E.
- SOURCE, ASAE PAPER 78-1517, 1978, 52 PP.
- KEYWORDS, REQUIREMENTS, CORN, SOYBEANS, TILLAGE.
- NOTES, FILED. THIS PAPER COMPARES TILLAGE SYSTEMS FOR CORN AND SOYBEANS, AND SPEEDS FOR MAXIMIZING DRAFT HAVE BEEN DETERMINED.
- DATE, 780000



- \*TITLE, AVERAGE AMOUNTS OF FUEL CONSUMED FOR VARIOUS FARMING OPERATIONS.
- \*AUTHOR, CROMWELL R P.
- \*SOURCE, EXTENSION INFO SHEET 10, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, NOV 1973, 2 PP.
- \*KEYWORDS, REQUIREMENTS.
- \*NOTES, FILED.
- \*DATE, 731100

## ABSTRACT 2077

- \*TITLE, ESTIMATES OF FUEL CONSUMPTION FOR FARMING AND RANCHING OPERATIONS UNDER TYPICAL NORTH DAKOTA CONDITIONS.
- \*AUTHOR, FRITH R R, PROMERSBERGER W J.
- \*SOURCE, BULLETIN 493, AGR ENGR DEPT, AGR EXPT STA, NORTH DAKOTA STATE UNIV, FARGO, 1972, 10 PP.
- \*KEYWORDS, REQUIREMENTS, NORTH DAKOTA.
- \*NOTES, FILED.
- \*DATE, 720000

## ABSTRACT 2078

- \*TITLE, AN ANALYSIS OF ENERGY AND MATERIAL REQUIREMENTS AND PRODUCTION COSTS OF ALTERNATIVE LIVESTOCK PRODUCTION SYSTEMS.
- \*AUTHOR, HOLTMAN J B, CONNOR L J.
- \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT VOL 1, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10523/PERGAMON PRESS INC, 24-28 OCT 1977, PP 789-798.
- \*KEYWORDS, REQUIREMENTS, ANIMAL PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 2079

- \*TITLE, ENERGY CONSUMPTION FOR SEVERAL CORN PRODUCTION METHODS.
- \*AUTHOR, HULL D O.
- \*SOURCE, A E 1083, COOPERATIVE EXTENSION SERVICE, IOWA STATE UNIV, AMES, DEC 1974, 4 PP.
- \*KEYWORDS, REQUIREMENTS.
- \*NOTES, FILED.
- \*DATE, 741200

## ABSTRACT 2080

- \*TITLE, ESTIMATING FARM FUEL REQUIREMENTS FOR CROP PRODUCTION AND LIVESTOCK OPERATIONS.
- \*AUTHOR, HULL D O, HIRNING M J.
- \*SOURCE, PM-567, COOPERATIVE EXTENSION SERVICE, IOWA STATE UNIV, AMES, FEB 1974, 4 PP.
- \*KEYWORDS, REQUIREMENTS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 740200

## ABSTRACT 2081

- \*TITLE, TRACTOR INSTRUMENTATION FOR MEASURING FUEL AND ENERGY REQUIREMENTS.
- \*AUTHOR, KOERTNER R G, BASHFORD L L, LANE D E.
- \*SOURCE, TRANSACTIONS OF THE ASAE, 20(3)/402-405, 1977.
- \*KEYWORDS, REQUIREMENTS, TRACTOR, FUEL CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2082

- \*TITLE, ENERGY REQUIREMENTS OF KANSAS - NEBRASKA PRODUCTION AGRICULTURE.
- \*AUTHOR, KRAMER J A, SCHROCK M D, SHELTON D P.
- \*SOURCE, ASAE PAPER 78-1518, 1978, 31 PP.
- \*KEYWORDS, REQUIREMENTS, FUEL CONSUMPTION, TILLAGE, KANSAS, NEBRASKA.
- \*NOTES, FILED. THIS PAPER SUMMERIZES BY OPERATION, CROP, AND LOCATION RECORDS FROM OVER 230,000 HA OF OPERATIONS CONSUMING ABOUT 2,500,000 L OF FUEL. THIS SUMMERY CAN BE USED TO PREDICT FUEL USAGE OF FIELD OPERATIONS AND AS A GUIDE TO DETERMINE THE CONSERVATION POTENTIAL OF CULTURAL PRACTICE CHANGES.
- \*DATE, 780000

- TITLE, ENERGY REQUIREMENTS FOR IRRIGATED CROP PRODUCTION.
- AUTHOR, LARSON D L, FANGMEIER D D.
- SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT VOL 1, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 743-750.
- KEYWORDS, REQUIREMENTS, IRRIGATION.
- NOTES, FILED.
- DATE, 771024

## ABSTRACT 2084

- TITLE, EVALUATING ENERGY REQUIREMENTS OF MACHINES IN THE FIELD.
- AUTHOR, LUTH H J, FLOYD V G, HEISE R P.
- SOURCE, ASAE PAPER 78-1588, 1978, 16 PP.
- KEYWORDS, REQUIREMENTS, TRACTOR, FIELD.
- NOTES, FILED.
- DATE, 780000

## ABSTRACT 2085

- TITLE, EVALUATING ENERGY REQUIREMENTS OF MACHINES IN THE FIELD.
- AUTHOR, LUTH H J, FLOYD V G, HEISE R P.
- SOURCE, ASAE PAPER 78-1588, 1978, 16 PP.
- KEYWORDS, REQUIREMENTS.
- NOTES, FILED. ENERGY TESTS OF MOLDBOARD PLOWS AND FORAGE HARVESTERS ILLUSTRATE THE USE OF A MOBILE TELEMETRY-COMPUTER SYSTEM.
- DATE, 780000

## ABSTRACT 2086

- TITLE, ESTIMATED FUEL REQUIREMENTS FOR FARM PRODUCTION IN ILLINOIS, 1972-1974.
- AUTHOR, SCHWART R B, SIEMENS J C, HILL L D.
- SOURCE, A E 4347, AGR ECON DEPT, UNIV OF ILLINOIS, URBANA-CHAMPAIGN, 11 MARCH 1974, 4 PP.
- KEYWORDS, REQUIREMENTS.
- NOTES, FILED.
- DATE, 740311

## ABSTRACT 2087

- TITLE, ENERGY CONSERVATION BY RECROPPING PLASTIC MULCH COVERED TOMATO BEDS.
- AUTHOR, SHAW L N, FLUCK R C, BRYAN H H.
- SOURCE, ASAE PAPER 78-1509, 1978, 10 PP.
- KEYWORDS, REQUIREMENTS, FRUIT AND VEGETABLE, ENERGY ACCOUNTING, ECONOMICS.
- NOTES, FILED. AN ENERGY ANALYSIS COMPARING THE PRODUCTION OF SINGLE TOMATO AND SQUASH CROPS BY CONVENTIONAL METHODS TO DOUBLE CROPPING OF BEDS WITH SQUASH FOLLOWING TOMATOES.
- DATE, 780000

## ABSTRACT 2088

- TITLE, FUEL USE ESTIMATES FOR FLORIDA AGRICULTURAL PRODUCTION.
- AUTHOR, SMERDON E T, ET. AL.
- SOURCE, AGR GROWTH IN AN INDUSTRIAL AGE, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE, 47 PP, UNDATED.
- KEYWORDS, REQUIREMENTS, FLORIDA, AGRICULTURE, STATISTICS.
- NOTES, FILED.
- DATE,

## ABSTRACT 2089

- TITLE, ENERGY REQUIREMENTS OF SELECTED DRYLAND WHEAT CROPPING SYSTEMS.
- AUTHOR, SMITH J A, FORNSTROM K J.
- SOURCE, ASAE PAPER 78-1516, 1978, 13 PP.
- KEYWORDS, REQUIREMENTS, TILLAGE, FIELD.
- NOTES, FILED. ENERGY REQUIREMENTS FOR NO-TILL AND CONVENTIONAL TILLAGE DRYLAND WHEAT CROPPING METHODS WERE COMPARED.
- DATE, 780000

## ABSTRACT 2090

- TITLE, ENERGY TO KEEP AGRICULTURE GOING.
- AUTHOR, US-DEPARTMENT OF AGRICULTURE.
- SOURCE, ENERGY LETTER, USDA, OFFICE OF COMMUNICATION, DEC 1973, 7 PP.
- KEYWORDS, REQUIREMENTS, STATISTICS, USA, CANADA, JAPAN.
- NOTES, FILED.
- DATE, 731200

- TITLE, ENERGY REQUIREMENTS FOR CORN PRODUCTION USING VARIOUS TILLAGE PRACTICES AND UNDER-ROW RIPPING.
- AUTHOR, VAUGHAN D H, SMITH E S, BRANN D E.
- SOURCE, ASAE PAPER 78-1519, 1978, 8 PP.
- KEYWORDS, REQUIREMENTS, TILLAGE, CORN, ENERGY ACCOUNTING, VIRGINIA.
- NOTES, FILED. AN ANALYSIS IS PRESENTED OF THE ENERGY REQUIREMENTS OF VARIOUS PRIMARY TILLAGE PRACTICES WITH AND WITHOUT UNDER-ROW RIPPING FOR CORN PRODUCTION IN VIRGINIA. INPUTS INCLUDE FUEL FOR FIELD MACHINERY OPERATIONS AND ENERGY REQUIREMENTS FOR THE MANUFACTURE OF AGRICULTURAL CHEMICALS AND MACHINERY AND REPAIR PARTS.
- DATE, 780000

## ABSTRACT 2092

- TITLE, FUEL REQUIREMENTS FOR SELECTED FARMING OPERATIONS.
- AUTHOR, WHITE R G.
- SOURCE, AEIS 285, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, DEC 1973, 5 PP.
- KEYWORDS, REQUIREMENTS.
- NOTES, FILED.
- DATE, 731200

## ABSTRACT 2093

- TITLE, SIMULATION OF CROP RESPONSE TO ENERGY INPUTS.
- AUTHOR, WILLIAMS D W, CHANCELLOR W J.
- SOURCE, TRANSACTIONS OF ASAE, 18(3)/459-466, 1975.
- KEYWORDS, REQUIREMENTS, MODELS, FOSSIL FUELS, CALIFORNIA.
- NOTES, FILED.
- DATE, 750000

## SOCIAL IMPLICATIONS 2094 -- 2105

## ABSTRACT 2094

- TITLE, TECHNOLOGY AS A DETERRENT TO DEHUMANIZATION.
- AUTHOR, DAVIS R.
- SOURCE, SCIENCE, 185(4153)/1 P, 30 AUG 1974.
- KEYWORDS, SOCIAL IMPLICATIONS.
- NOTES, FILED.
- DATE, 740830

## ABSTRACT 2095

- TITLE, EMPLOYMENT IMPACTS OF ENERGY POLICY.
- AUTHOR, EDENS T C, KLONSKY K.
- SOURCE, PRESENTED AT THE MICHIGAN HOUSE-SENATE ENERGY COMMITTEE FUTURE ENERGY TECH TRANSFERS IN MICH- A LEGISLATIVE SYMPOSIUM, 8-9 JUNE 1977, 27 PP.
- KEYWORDS, SOCIAL IMPLICATIONS, LABOR, ECONOMICS, SUPPLY DEMAND, MICHIGAN.
- NOTES, FILED.
- DATE, 770608

## ABSTRACT 2096

- TITLE, JOBS AND ENERGY.
- AUTHOR, GROSSMAN R, DANEKER G.
- SOURCE, ENVIR FOR FULL EMPLOYMENT, SPRING 1977, 21 PP.
- KEYWORDS, SOCIAL IMPLICATIONS, LABOR, POLICY, EFFICIENCY.
- NOTES, FILED.
- DATE, 770000

- \*TITLE, THE SOCIOLOGICAL IMPACT OF AN ENERGY-SHORT SOCIETY.
- \*AUTHOR, HATCHER E.
- \*SOURCE, FARM ELECTRIFICATION COUNCIL, FOOD AND ENERGY SYMPOSIUM, WASHINGTON D C, 20 AUG 1975, 8 PP.
- \*KEYWORDS, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 750820

## ABSTRACT 2098

- TITLE, ENERGY, ECOLOGY AND ECONOMICS.
- \*AUTHOR, KOENIG H E.
- \*SOURCE, PRESENTED AT ENERGY AND LIFE SYMPOSIUM, MICH STATE UNIV, 1 MARCH 1974, 12 PP.
- \*KEYWORDS, SOCIAL IMPLICATIONS, ECONOMICS.
- \*NOTES, FILED.
- DATE, 740301

## ABSTRACT 2099

- \*TITLE, ENERGY AND LIFE-STYLE.
- \*AUTHOR, MAZUR A, ROSA E.
- \*SOURCE, SCIENCE, 186/607-610, 15 NOV 1974.
- \*KEYWORDS, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 741115

## ABSTRACT 2100

- \*TITLE, SOME ECONOMIC AND SOCIAL IMPACTS OF THE ENERGY DILEMMA ON THE RURAL COMMUNITY AND AGRICULTURAL PRODUCTION.
- \*AUTHOR, MCKENZIE B A, DOERING O C.
- \*SOURCE, AGR ENGR DEPT, PURDUE UNIV, WEST LAFAYETTE, IN, 31 JAN 1974, 4 PP.
- \*KEYWORDS, SOCIAL IMPLICATIONS, ECONOMICS, AGRICULTURE, PRODUCTION.
- \*NOTES, FILED.
- \*DATE, 740131

## ABSTRACT 2101

- \*TITLE, ENERGY AND THE POOR.
- \*AUTHOR, MORRISON D E.
- \*SOURCE, DEPT OF SOCIOLOGY, MICH STATE UNIV, EAST LANSING, MICH 48824, APRIL 1977, 3 PP.
- \*KEYWORDS, SOCIAL IMPLICATIONS, CONSERVATION, HOME, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 770300

## ABSTRACT 2102

- \*TITLE, GROWTH, ENVIRONMENT, EQUITY AND SCARCITY.
- \*AUTHOR, MORRISON D E.
- \*SOURCE, SOCIAL SCI QUARTERLY, 57(2)/292-306, SEPT 1976.
- \*KEYWORDS, SOCIAL IMPLICATIONS, ENVIRONMENT, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 2103

- \*TITLE, EQUITY IMPACTS OF SOME MAJOR ENERGY ALTERNATIVES.
- \*AUTHOR, MORRISON D E.
- \*SOURCE, DEPT OF SOCIOLOGY, MICH STATE UNIV, EAST LANSING, MI 48824, MAY 1977, 26 PP.
- \*KEYWORDS, SOCIAL IMPLICATIONS, ALTERNATIVES, CONSERVATION, NUCLEAR, COAL.
- \*NOTES, FILED. PREPARED FOR PUBLICATION IN THE CONAES RISK/IMPACT PANEL REPORT.
- \*DATE, 770500

## ABSTRACT 2104

- \*TITLE, ENERGY AND SOCIAL CHANGE.
- \*AUTHOR, OTOOLE J.
- \*SOURCE, CAMBRIDGE, MA/MIT PRESS, 1978, 184 PP.
- \*KEYWORDS, SOCIAL IMPLICATIONS.
- \*NOTES, FILED.
- \*DATE, 780000



- TITLE, THE SOCIAL IMPLICATIONS OF THE ENERGY CRISIS.
- AUTHOR, TAYLOR J F A.
- SOURCE, PHI KAPPA PHI JOURNAL, 15(1)/32-34, WINTER 1975.
- KEYWORDS, SOCIAL IMPLICATIONS.
- NOTES, FILED.
- DATE, 750000

## SOLAR 2106 -- 2432

## ABSTRACT 2106

- TITLE, A SOLAR SYSTEM FOR SWINE HOUSE HEATING, COOLING.
- AUTHOR, AGRICULTURAL ENGINEERING.
- SOURCE, AGR ENGR, 59(3)/24-25, MARCH 1978.
- KEYWORDS, SOLAR, ANIMAL, COOLING, SWINE, BUILDINGS.
- NOTES, FILED.
- DATE, 786300

## ABSTRACT 2107

- TITLE, SOLAR ENERGY-FOR POULTRY AND LIVESTOCK PRODUCTION.
- AUTHOR, ALABAMA POULTRY AND EGG ASSOCIATION.
- SOURCE, PROC OF SYMPOSIUM ON USE OF SOLAR ENERGY FOR POULTRY AND LIVESTOCK PRODUCTION, EROA, ASAE, USOA, ALABAMA POULTRY AND EGG ASSOC, SOUTHEASTERN POULTRY AND EGG ASSOC, AUBURN, AL. 9-10 NOV 1976, 200 PP.
- KEYWORDS, SOLAR, POULTRY, LIVESTOCK, BUILDINGS.
- NOTES, FILED
- DATE, 761109

## ABSTRACT 2108

- TITLE, PROCEEDINGS OF THE SOLAR HEATING AND COOLING FOR BUILDINGS WORKSHOP.
- AUTHOR, ALLEN R.
- SOURCE, NSF/RA/N-73-004, PREPARED FOR THE NATIONAL SCIENCE FOUNDATION, RESEARCH APPLIED TO NATIONAL NEEDS BY THE DEPARTMENT OF MECHANICAL ENGINEERING, UNIVERSITY OF MARYLAND, WASHINGTON, D C, 21-23 MARCH 1973, 226 PP.
- KEYWORDS, SOLAR, HEAT, CONSERVATION, COOLING.
- NOTES, FILED.
- DATE, 730323

## ABSTRACT 2109

- TITLE, SOLAR ENERGY IN DEVELOPING COUNTRIES - PERSPECTIVES AND PROSPECTS.
- AUTHOR, ALTMEN M. ET AL.
- SOURCE, A REPORT OF AN AD HOC ADVISORY PANEL OF THE BOARD OF SCI AND TECH FOR INTERNATIONAL DEV, OFFICE OF THE FOREIGN SECRETARY, NAS, WASHINGTON D C, MARCH 1972, 49 PP.
- KEYWORDS, SOLAR, HEAT, DRYING.
- NOTES, FILED.
- DATE, 720300

## ABSTRACT 2110

- TITLE, THE INTEGRATION OF SOLAR STILLS INTO MINIMUM COST DWELLINGS FOR ARID AREAS.
- AUTHOR, ALVARO R, ACHESON A, LAVANO T A.
- SOURCE, BRACE RESEARCH INST, 11 PP, UNDATED.
- KEYWORDS, SOLAR, DISTILLATION.
- NOTES, NAS.
- DATE,

\*TITLE, SOLAR STEAM COOKER.  
\*AUTHOR, ALWARD R.  
\*SOURCE, DO-IT-YOURSELF LEAFLET L-4, BRACE RESEARCH INST, OCT 1972.  
\*KEYWORDS, SOLAR.  
\*NOTES,  
\*DATE, 721000

## ABSTRACT 2112

\*TITLE, PROCEEDINGS OF THE 1978 ANNUAL MEETING OF THE AMERICAN SECTION OF THE INTERNATIONAL SOLAR ENERGY SOCIETY - VOL 2.1.  
\*AUTHOR, AMERICAN SECTION OF THE INTERNATIONAL SOLAR ENERGY SOCIETY.  
\*SOURCE, AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, PUBL OFFICE, MCDOWELL HALL, UNIV OF DELAWARE, NEWARK, DE 19711, AUG 1978, 1337 PP.  
\*KEYWORDS, SOLAR, AGRICULTURE, ITALY, DRYING.  
\*NOTES, FILED. CONTAINS SECTIONS ON AGRICULTURE, BIO-CHEMISTRY AND ENGINEERING.  
\*DATE, 780800

## ABSTRACT 2113

\*TITLE, THE SOLAR HOME BOOK - HEATING, COOLING AND DESIGNING WITH THE SUN.  
\*AUTHOR, ANDERSON B, RIORDAN M.  
\*SOURCE, HARRISVILLE, NH 03450/CHESHIRE BOOKS, 1976, 297PP.  
\*KEYWORDS, SOLAR, HOME, DESIGN.  
\*NOTES, FILED. THE BOOK SERVES AS A GUIDE FOR HOMEOWNERS, BUILDERS, DESIGNERS, ARCHITECTS, CONTRACTORS AND TRADESPEOPLE INTERESTED IN USING SOLAR HEATING AND COOLING. SOME CURRENT SOLAR HOMES ARE EXAMINED. MAPS, TABLES AND CHARTS ON THE SUN AND SOLAR COLLECTING MATERIALS, AID THE READER IN DESIGN.  
\*DATE, 760006

## ABSTRACT 2114

\*TITLE, USES OF THE SUN IN THE SERVICE OF MAN.  
\*AUTHOR, ANDROSKY A.  
\*SOURCE, AEROSPACE REPORT NO ATR-74(9970)-1, THE AEROSPACE CORP, SYSTEMS EVALUATION OFFICE, EL SEGUNDO, CALIF, OCT 1973, 37 PP.  
\*KEYWORDS, SOLAR, DEVELOPING COUNTRIES.  
\*NOTES, FILED, NAS.  
\*DATE, 731003

## ABSTRACT 2115

\*TITLE, POWER TO THE PEOPLE FROM LEAVES OF GRASS.  
\*AUTHOR, ANON.  
\*SOURCE, NEW SCIENTIST, 3 AUG 1972, P 228.  
\*KEYWORDS, SOLAR.  
\*NOTES, FILED.  
\*DATE, 720803

## ABSTRACT 2116

\*TITLE, SOLAR EQUIPMENT MANUFACTURERS.  
\*AUTHOR, ANON.  
\*SOURCE, SOLAR ENERGY INDUSTRIES, DIRECTORY AND BUYER S GUIDE, 1001 CONNECTICUT AVE, WASHINGTON D C.  
\*KEYWORDS, SOLAR, ADVERTISEMENT.  
\*NOTES, FILED.  
\*DATE-

## ABSTRACT 2117

\*TITLE, SOLAR POWER FOR YOUR HOUSE - HOW PRACTICAL NOW.  
\*AUTHOR, ANON.  
\*SOURCE, CHANGING TIMES, MARCH 1976, PP 43-46.  
\*KEYWORDS, SOLAR, HOME.  
\*NOTES, FILED.  
\*DATE, 760300

\*TITLE, ENERGY FROM THE SUN.  
 \*AUTHOR, ANON.  
 \*SOURCE, ENERGY PERSPECTIVES 12, BATTELLE MEMORIAL INST, 505 KING AVE,  
 COLUMBUS, OH, JULY 1974, 6 PP.  
 \*KEYWORDS, SOLAR, STORAGE, HEAT, COOLING.  
 \*NOTES, FILED.  
 \*DATE, 740700

## ABSTRACT 2119

\*TITLE, SOLAR CELLS.  
 \*AUTHOR, ANON.  
 \*SOURCE, RTC LA RADIOTECHNIQUE - COMPELEC, 130 AVENUE LEDRU-ROLLIN, 75540  
 PARIS CEDEX 11, FRANCE, 1975, 18PP.  
 \*KEYWORDS, SOLAR, PHOTOVOLTAIC, FRANCE.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 2120

\*TITLE, NON-CONVENTIONAL AND NON-POLLUTING SOURCES OF ENERGY.  
 \*AUTHOR, ANON.  
 \*SOURCE, ITEM 4(C) OF THE PROVISIONAL AGENDA, ADVISORY COMMITTEE ON THE  
 APPLICATION OF SCI AND TECH TO DEVELOPMENT, TWENTY-FIRST SESSION, GENEVA,  
 17-28 NOV 1975, 86 PP.  
 \*KEYWORDS, SOLAR, WIND, HEAT, COOLING, PHOTOVOLTAIC, WATER POWER, ELECTRICAL,  
 DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 751117

## ABSTRACT 2121

\*TITLE, USE OF SOLAR ENERGY FOR HEATING PURPOSES - SOLAR COOKING.  
 \*AUTHOR, ANON.  
 \*SOURCE, PROC OF THE UNITED NATIONS CONF ON NEW SOURCES OF ENERGY, VOL 5, ROME,  
 AUG 1961, PP 331-332.  
 \*KEYWORDS, SOLAR, HEAT.  
 \*NOTES, FILED.  
 \*DATE, 610800

## ABSTRACT 2122

\*TITLE, SOLAR POND SHOWS PROMISE IN ENERGY CONSERVATION.  
 \*AUTHOR, ANON.  
 \*SOURCE, NATIONAL HOG FARMER, OCT 1975, P 83.  
 \*KEYWORDS, SOLAR, HEAT, STORAGE.  
 \*NOTES, FILED.  
 \*DATE, 751000

## ABSTRACT 2123

\*TITLE, SOLAR POWER COMES TO THE COUNTRY.  
 \*AUTHOR, ANON.  
 \*SOURCE, THE FURROW, JULY-AUG 1975, PP 16-17.  
 \*KEYWORDS, SOLAR, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 750700

## ABSTRACT 2124

\*TITLE, HOW SOLAR HEAT CAN COOL YOUR HOME.  
 \*AUTHOR, ANON.  
 \*SOURCE, POPULAR SCI, SEPT 1975, PP 68-71.  
 \*KEYWORDS, SOLAR, AIR CONDITIONING, HEAT.  
 \*NOTES, FILED.  
 \*DATE, 750900

## ABSTRACT 2125

\*TITLE, SOLAR AND GEOTHERMAL ENERGY - NEW COMPETITION FOR THE ATOM.  
 \*AUTHOR, ANON.  
 \*SOURCE, SCIENCE, 186/811-812, 29 NOV 1974.  
 \*KEYWORDS, SOLAR, GEOTHERMAL.  
 \*NOTES, FILED.  
 \*DATE, 741129

## ABSTRACT 2126

\*TITLE, COCINA SOLAR - MANUAL DE CONSTRUCCION.  
 \*AUTHOR, ANON.  
 \*SOURCE, VITA, 3706 RHODE ISLAND AVE, MT RAINIER, MARYLAND, 18 PP, UNDATED.  
 \*KEYWORDS, SOLAR, HOME.  
 \*NOTES, FILED. IN SPANISH.  
 \*DATE,

## ABSTRACT 2127

- \*TITLE, APPROPRIATE TECHNOLOGIES FOR SEMIARID AREAS - WIND AND SOLAR ENERGY FOR WATER SUPPLY.
- \*AUTHOR, ANON.
- \*SOURCE, CONFERENCE REPORT GERMAN FOUNDATION FOR INTERNATIONAL DEV, SEMINAR CENTRE FOR ECONOMIC AND SOCIAL DEVELOPMENTS, WEST BERLIN, 20 SEPT 1975, 334 PP.
- \*KEYWORDS, SOLAR, WIND, PUMPS, ECONOMICS, DESIGN, DISTILLATION, ELECTRICAL, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 750920

## ABSTRACT 2128

- \*TITLE, ENERGIE SOLAIRE - POSSIBILITES UTILISATION DANS LES PAYS DU SAHEL.
- \*AUTHOR, ANON.
- \*SOURCE, ETUDES OF DOCUMENTS 18, MINISTERE DE LA COOPERATION, DIRECTION DES PROGRAMMES, SOUS-DIRECTION DES ECONOMIQUES ET DE LA PLANIFICATION, JUNE 1975, 45 PP.
- \*KEYWORDS, SOLAR, PUMPS, ANIMAL DRAFT, DIESEL, WIND, AFRICA.
- \*NOTES, FILED.
- \*DATE, 750600

## ABSTRACT 2129

- \*TITLE, A GUIDE TO FEDERAL PROGRAMS OF POSSIBLE ASSISTANCE TO THE SOLAR ENERGY COMMUNITY.
- \*AUTHOR, ANON.
- \*SOURCE, SCI POLICY RESEARCH DIV, CONGRESSIONAL RESEARCH, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1977, 529PP.
- \*KEYWORDS, SOLAR, GENERAL, AGRICULTURE, MARKETING, HOME, DEVELOPMENT, POLICY.
- \*NOTES, FILED. REPORT PROVIDES DETAILED INFORMATION ON THE WIDE RANGE OF FINANCIAL AND INFORMATIONAL PROGRAMS PRESENTLY AVAILABLE TO THE SOLAR ENERGY COMMUNITY. PRESENTLY AVAILABLE SERVICES OF 21 AGENCIES OF THE FEDERAL GOVT ARE IDENTIFIED.
- \*DATE, 770000

## ABSTRACT 2130

- \*TITLE, SOLAR CROP DRYING CONFERENCE.
- \*AUTHOR, ANON.
- \*SOURCE, PROC OF THE SOLAR CROP DRYING CONF, USDA, ASAE; ERDA, DEPT OF BIOLOGICAL AND AGR ENGR, RALEIGH, NC, 30 JUNE 1977, 145 PP.
- \*KEYWORDS, SOLAR, DRYING.
- \*NOTES, FILED.
- \*DATE, 770630

## ABSTRACT 2131

- \*TITLE, SOLAR ENERGY AND ELECTRIC UTILITIES--SHOULD THEY BE INTERFACED.
- \*AUTHOR, ASBURY J G, MUELLER R O.
- \*SOURCE, SCIENCE, 195(4277)/445-450, 4 FEB 1977.
- \*KEYWORDS, SOLAR, ELECTRICAL, ECONOMICS.
- \*NOTES, FILED. IN MANY APPLICATIONS ADAPTING SOLAR ENERGY TO ELECTRIC UTILITIES LIMITS ITS ECONOMIC POTENTIAL.
- \*DATE, 770204

## ABSTRACT 2132

- \*TITLE, PADRE SOL AND CHEMICAL FUEL PRODUCTION.
- \*AUTHOR, AXTMANN R C.
- \*SOURCE, SCIENCE AND PUBLIC AFFAIRS, OCT 1973, PP 42-44.
- \*KEYWORDS, SOLAR, CHEMICALS, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 731000

## ABSTRACT 2133

- \*TITLE, PUTTING THE SUN TO WORK.
- \*AUTHOR, BACHER K.
- \*SOURCE, CONSERVATION SECTION, ARIZONA FUEL AND ENERGY OFFICE, 1624 W ADAMS, PHOENIX, 1974, 27PP.
- \*KEYWORDS, SOLAR, HEAT, WIND, PHOTOVOLTAIC.
- \*NOTES, FILED.
- \*DATE, 740000



- TITLE. PRESERVATION AND COMMERCIALIZATION OF MILK BY MEANS OF ADAPTED TECHNIQUES AND USE OF SOLAR ENERGY.
- AUTHOR. BACHMANN M, LEUENBERGER K.
- SOURCE. PROC OF THE FIRST INTERNATIONAL CONGRESS ON ENERGY AND FOOD, BOSTON, 9-13 AUG 1976, P 133.
- KEYWORDS. SOLAR, DAIRY.
- NOTES. FILED.
- DATE. 760809

## ABSTRACT 2135

- TITLE. A FEASIBILITY STUDY OF SOLAR HEATING IN IRAN.
- AUTHOR. BAHADORI M N.
- SOURCE. SOLAR ENERGY, 15/2-26, PERGAMON PRESS, 1973.
- KEYWORDS. SOLAR, IRAN.
- NOTES. NAS.
- DATE. 730060

## ABSTRACT 2136

- TITLE. SOLAR DOMESTIC WATER HEATER.
- AUTHOR. BAIRD C D.
- SOURCE. EC-44, INST OF FOOD AND AGR SCI, UNIV OF FLORIDA, GAINESVILLE FL 32611, 1977.
- KEYWORDS. SOLAR, HEAT.
- NOTES. FILED.
- DATE. 770300

## ABSTRACT 2137

- TITLE. SOLAR DRYING OF COMMERCIALY PRODUCED LARGE ROUND HAY BALES.
- AUTHOR. BAKER J L, SHOYE G C.
- SOURCE. ASAE PAPER 78-3066, 1978, 14 PP.
- KEYWORDS. SOLAR, DRYING, DESIGN.
- NOTES. FILED. A SOLAR HAY DRYING FACILITY BEGAN OPERATION ON AN ILLINOIS FARM IN THE SUMMER OF 1977. THE SOLAR HAY DRYER WAS DESIGNED TO DRY 60 LARGE ROUND BALES IN TWO DAYS. CONSTRUCTION DETAILS OF THE HAY BUILDING ARE DISCUSSED AND TYPICAL RESULTS FOR DRYING HAY ARE PRESENTED. DRYING CRITERIA AND DESIGN PARAMETERS ARE PRESENTED.
- DATE. 780000

## ABSTRACT 2138

- TITLE. SOLAR ENERGY CONVERSION BY WATER PHOTODISSOCIATION.
- AUTHOR. BALZANI V, MOZZI L, MANFRIN M F, BOLLETTA F, GLERIA M.
- SOURCE. SCIENCE, 189/852-855, 12 SEPT 1975.
- KEYWORDS. SOLAR, CONVERSION, CHEMICALS, HEAT.
- NOTES. FILED.
- DATE. 750912

## ABSTRACT 2139

- TITLE. HOME MORTGAGE LENDING AND SOLAR ENERGY.
- AUTHOR. BARRETT D, EPSTEIN P, HAAR C M.
- SOURCE. HUD-PDR-218, HOUSING AND URBAN DEV, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1977, 31PP.
- KEYWORDS. SOLAR, ECONOMICS.
- NOTES. FILED. SUMMARY OF THE MAJOR FINDINGS OF THE REGIONAL AND URBAN PLANNING IMPLEMENTATION IS PRESENTED IN A STUDY TO ASSESS THE LIKELY RESPONSES OF FINANCIAL INSTITUTIONS TO REQUESTS FOR MORTGAGES ON SOLAR HEATED HOMES.
- DATE. 770200

## ABSTRACT 2140

- TITLE. INCREASING CROP PRODUCTION THROUGH MORE CONTROLLED PHOTOSYNTHESIS.
- AUTHOR. BASSHAM J A.
- SOURCE. SCIENCE, 197/630-638, 12 AUG 1977.
- KEYWORDS. SOLAR, PHOTOSYNTHESIS, DEVELOPING COUNTRIES, AGRICULTURE.
- NOTES. FILED.
- DATE. 770812

- \*TITLE, MANUAL ON SOLAR DISTILLATION OF SALINE WATER.
- \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.
- \*SOURCE, REPORT 546, BATTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS, OH, APRIL 1970, 263 PP.
- \*KEYWORDS, SOLAR, DISTILLATION.
- \*NOTES, NAS.
- \*DATE, 70040

## ABSTRACT 2142

- \*TITLE, DEVELOPMENT OF A SOLAR PUMP FOR LIFT IRRIGATION PURPOSES.
- \*AUTHOR, BAUM V A, BABAEV A G.
- \*SOURCE, ANNALS OF ARID ZONE, 15(3)/137-145, SEPT 1976.
- \*KEYWORDS, SOLAR, IRRIGATION, PUMPS, SOVIET UNION.
- \*NOTES, FILED.
- \*DATE, 760900.

## ABSTRACT 2143

- \*TITLE, LOW TEMPERATURE GRAIN DRYING WITH SUPPLEMENTAL SOLAR HEAT FROM AN ADJACENT METAL BUILDING.
- \*AUTHOR, BAUMAN B S, FINNER M F, STOVE G C.
- \*SOURCE, ASAE PAPER 75-3514, 12 PP.
- \*KEYWORDS, SOLAR, DRYING, HEAT.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 2144

- \*TITLE, SOLAR RADIATION AVAILABILITY ON SURFACES IN THE UNITED STATES AS AFFECTED BY SEASON, ORIENTATION, LATITUDE, ALTITUDE AND CLOUDINESS.
- \*AUTHOR, BECKER C F, BOYD J S.
- \*SOURCE, SOLAR ENERGY SCI AND ENGR, 1(1)/13-21.
- \*KEYWORDS, SOLAR, RADIATION.
- \*NOTES, FILED. PRESENTED IS A METHOD FOR ESTIMATING THE QUANTITY OF SOLAR RADIATION AVAILABLE ON SURFACES WITH VARIOUS ORIENTATIONS IN THE UNITED STATES.
- \*DATE,

## ABSTRACT 2145

- \*TITLE, SOLAR HEATING DESIGN - BY THE F-CHART METHOD.
- \*AUTHOR, BECKMAN W A, KLEIN S A, DUFFIE J A.
- \*SOURCE, NEW YORK, NY/JOHN WILEY AND SONS, INC, 1977, 200 PP.
- \*KEYWORDS, SOLAR, DESIGN, INSOLATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2146

- \*TITLE, SOLAR FOOD PROCESSING-1977.
- \*AUTHOR, BERRY R E, LUND D B, BUELOW F H.
- \*SOURCE, USDA, SCI AND EDUCATION ADMINISTRATION, 12 MAY 1978, 15 PP.
- \*KEYWORDS, SOLAR, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 780412

## ABSTRACT 2147

- \*TITLE, A SOLAR ASSISTED HEAT EXCHANGER FOR LIVESTOCK SHELTERS.
- \*AUTHOR, BESANT R W, SCHOENAV G J, DUMONT R S.
- \*SOURCE, PRESENTED AT THE 4TH ANNUAL MEETING OF THE SOLAR ENERGY SOC OF CANADA, UNIV OF WESTERN ONTARIO, LONDON, ONTARIO, CANADA, 20-24 AUG 1978, 5 PP.
- \*KEYWORDS, SOLAR, ANIMAL PRODUCTION, DESIGN.
- \*NOTES, FILED.
- \*DATE, 780820

\*TITLE, DIRECT SOLAR ENERGY CONVERSION FOR TERRESTRIAL USE.  
 \*AUTHOR, BOER K W.  
 \*SOURCE, J OF ENVIRONMENTAL SCI, JAN-FEB 1974, PP 8-14.  
 \*KEYWORDS, SOLAR.  
 \*NOTES, NAS.  
 \*DATE, 740100

## ABSTRACT 2149

\*TITLE, PROCEEDINGS OF THE 1978 ANNUAL MEETING OF THE AMERICAN SECTION OF THE INTERNATIONAL SOLAR ENERGY SOCIETY.  
 \*AUTHOR, BOER K W, FRANTA G E. ED.  
 \*SOURCE, AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, MCDOWELL MALL, UNIV OF DELAWARE, NEWARK, DE 19711, 28-31 AUG 1978, 760 PP.  
 \*KEYWORDS, SOLAR, WIND, ECONOMICS.  
 \*NOTES, FILED. PASSIVE SYSTEMS.  
 PHYSICS.  
 SGCIO-ECONOMICS.  
 SOLAR RADIATION.  
 WIND.  
 \*DATE, 780828

## ABSTRACT 2150

\*TITLE, RENEWABLE ALTERNATIVES - 1978 CONFERENCE PROCEEDINGS VOL 1.  
 \*AUTHOR, BOLTON J R.  
 \*SOURCE, PROC OF THE 4TH ANNUAL CONF OF THE SOLAR ENERGY SOC OF CANADA, UNIV OF WESTERN ONTARIO, LONDON, ONTARIO, CANADA, 20-24 AUG 1978.  
 \*KEYWORDS, SOLAR, TECHNOLOGY ASSESSMENT, ALTERNATIVES, AGRICULTURE, PHOTOVOLTAIC, WIND, ECONOMICS, POLICY.  
 \*NOTES, FILED. THIS VOLUME OF THE CONFERENCE PROCEEDINGS CONTAINS MOST OF THE PAPERS PRESENTED. PAPERS THAT ARE NOT CONTAINED IN THIS VOLUME, WILL BE PUBLISHED IN VOLUME 2 ALONG WITH CONFERENCE PANEL DISCUSSIONS. THE PAPERS IN THIS VOLUME DEAL WITH SOLAR ENERGY IN VARIOUS WAYS. MANY PAPERS GIVE ANALYSIS OF DIFFERENT COLLECTOR DESIGNS, CONCENTRATORS, STORAGE UNITS, AND OTHER UNITS. SOME PAPERS GIVE PERFORMANCE AND TEST REPORTS ALONG WITH ECONOMIC AND POLICY ISSUES. OTHERS SHOW HOW SOLAR ENERGY CAN BE USED IN AGRICULTURE AND HOMES.  
 \*DATE, 780826

## ABSTRACT 2151

\*TITLE, HOW TO BUILD A SOLAR WATER HEATER.  
 \*AUTHOR, BRACE RESEARCH INSTITUTE.  
 \*SOURCE, DO-IT-YOURSELF LEAFLET 4, BRACE RESEARCH INST, MACDONALD COLLEGE OF MCGILL UNIV, QUEBEC, CANADA, FEB 1973.  
 \*KEYWORDS, SOLAR.  
 \*NOTES,  
 \*DATE, 720500

## ABSTRACT 2152

\*TITLE, HOW TO MAKE A SOLAR STILL (PLASTIC COVERED).  
 \*AUTHOR, BRACE RESEARCH INSTITUTE.  
 \*SOURCE, DO-IT-YOURSELF LEAFLET 1, BRACE RESEARCH INST, MACDONALD COLLEGE OF MCGILL UNIV, QUEBEC, CANADA, JAN 1965.  
 \*KEYWORDS, SOLAR.  
 \*NOTES,  
 \*DATE, 650100

## ABSTRACT 2153

\*TITLE, A SURVEY OF SOLAR AGRICULTURAL DRYERS.  
 \*AUTHOR, BRACE RESEARCH INSTITUTE.  
 \*SOURCE, TECH REPORT T99, BRACE RESEARCH INST, MACDONALD COLLEGE OF MCGILL UNIV, QUEBEC, CANADA, DEC 1975, 200 PP.  
 \*KEYWORDS, SOLAR, AGRICULTURE, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 751200

## ABSTRACT 2154

\*TITLE, HOW TO HEAT YOUR SWIMMING POOL USING SOLAR ENERGY.  
 \*AUTHOR, BRACE RESEARCH INSTITUTE.  
 \*SOURCE, DO-IT-YOURSELF LEAFLET L-3, BRACE RESEARCH INST, MACDONALD COLLEGE OF MCGILL UNIV, QUEBEC, CANADA, FEB 1973, 4 PP.  
 \*KEYWORDS, SOLAR, HEAT.  
 \*NOTES, FILED.  
 \*DATE, 730200

\*TITLE, SOLAR ENERGY.  
\*AUTHOR, BRANLEY F M.  
\*SOURCE, NEW YORK/T Y CROWELL CO, 1975, 117 PP.  
\*KEYWORDS, SOLAR.  
\*NOTES, FILED.  
\*DATE, 750000

## ABSTRACT 2156

\*TITLE, SELLING SOLAR ENERGY AS A CASH CROP.  
\*AUTHOR, BRANTLEY L W.  
\*SOURCE, AGR ENGR, 59(3)/12-16, MARCH 1978.  
\*KEYWORDS, SOLAR, ECONOMICS, TECHNOLOGY ASSESSMENT, AGRICULTURE.  
\*NOTES, FILED.  
\*DATE, 780300

## ABSTRACT 2157

\*TITLE, SOLAR HEATING FOR HOMES.  
\*AUTHOR, BREVIK T J, BUELOW F H, DUFFIE J A.  
\*SOURCE, A2785, UNIV OF WISC, AGR BULLETIN BUILDING, 1535 OBSERVATORY DR,  
MADISON, WI 53706, JUNE 1976, 4PP.  
\*KEYWORDS, SOLAR, HOME, EFFICIENCY.  
\*NOTES, FILED.  
\*DATE, 760600

## ABSTRACT 2158

\*TITLE, SOLAR ENERGY.  
\*AUTHOR, BRINKWORTH B J.  
\*SOURCE, NATURE, 249/726-729, 21 JUNE 1974.  
\*KEYWORDS, SOLAR, INDUSTRY, CONVERSION, HEAT.  
\*NOTES, FILED.  
\*DATE, 748621

## ABSTRACT 2159

\*TITLE, UTILIZATION OF SOLAR ENERGY IN BROILER PRODUCTION.  
\*AUTHOR, BRINSFIELD R B, FELTON K E.  
\*SOURCE, ASAC PAPER 77-4535, 1977, 44 PP.  
\*KEYWORDS, SOLAR, POULTRY, ANIMAL PRODUCTION.  
\*NOTES, FILED.  
\*DATE, 770000

## ABSTRACT 2160

\*TITLE, SOLAR POWER - THE PHOTOCHEMICAL ALTERNATIVE.  
\*AUTHOR, BRODA E.  
\*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(3)/48-52, MARCH 1976.  
\*KEYWORDS, SOLAR, PHOTOCHEMICAL.  
\*NOTES, FILED.  
\*DATE, 760300

## ABSTRACT 2161

\*TITLE, INSTRUMENTS FOR MEASURING SOLAR RADIATION.  
\*AUTHOR, BRODIE H W.  
\*SOURCE, THE HAWAIIAN PLANTERS' RECORD, 57(2)/159-197.  
\*KEYWORDS, SOLAR, RADIATION.  
\*NOTES, PERIOD MENTIONED 1928-1962.  
\*DATE,

## ABSTRACT 2162

\*TITLE, THE OREGON SUNBOOK - A SOLAR PERSPECTIVE.  
\*AUTHOR, BROWN H.  
\*SOURCE, OREGON DEPT OF ENERGY, 528 COTTAGE ST NE, SALEM,  
OR 97310, 48 PP.  
\*KEYWORDS, SOLAR, HOME, OREGON.  
\*NOTES, FILED.  
\*DATE,



- \*TITLE, THE DESIGN AND UTILIZATION OF LOW COST SOLAR COLLECTORS FOR AGRICULTURE.
- \*AUTHOR, BROWN R H.
- \*SOURCE, ASAE PAPER 78-3045, 27-30 JUNE 1978, 15 PP.
- \*KEYWORDS, SOLAR, AGRICULTURE.
- \*NOTES, FILED. LOW-COST SOLAR COLLECTORS FOR HEATING OF AIR AND WATER HAVE BEEN USED SUCCESSFULLY IN AGR APPLICATIONS. DESIGN DATA AND SYSTEM CONCEPTS INCLUDING WIND ENERGY AND BIOMASS BURNING ARE PRESENTED.
- \*DATE, 780627

## ABSTRACT 2164

- \*TITLE, DIRECT SOLAR DRYING OF FRUITS AND VEGETABLES IN SOUTHEASTERN UNITED STATES.
- \*AUTHOR, BRYAN W L.
- \*SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT 3/4, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 521-525.
- \*KEYWORDS, SOLAR, FOOD PROCESSING, FRUITS AND VEGETABLES, DEHYDRATION, DESIGN.
- \*NOTES, FILED. THIS PAPER DESCRIBES A 24 HOUR BATCH SOLAR DRYING PROCESS FOR FRUITS AND VEGETABLES, USING AN ENCLOSED SOLAR COLLECTOR/HOT AIR DRYER WITH TRANSPARENT COVERS AND WITH FLAT REFLECTORS MOUNTED TO INCREASE SOLAR RADIATION TO THE FOOD TRAY.
- \*DATE, 771024

## ABSTRACT 2165

- \*TITLE, SOLAR ENERGY RECEIVED BY INCLINED SURFACES.
- \*AUTHOR, BUELOW F H.
- \*SOURCE, QUARTERLY BULLETIN, 49(3)/294-327, MICH AGR EXPT STA, EAST LANSING, FEB 1967.
- \*KEYWORDS, SOLAR, INSOLATION.
- \*NOTES, FILED.
- \*DATE, 670200

## ABSTRACT 2166

- \*TITLE, DRYING CROPS WITH SOLAR HEATED AIR.
- \*AUTHOR, BUELOW F H.
- \*SOURCE, PROC OF THE UNITED NATIONS CONF ON NEW SOURCES OF ENERGY, VOL 5, ROME, AUG 1961, PP 267-271.
- \*KEYWORDS, SOLAR, DRYING.
- \*DATE, 610800

## ABSTRACT 2167

- \*TITLE, DRYING CROPS WITH SOLAR ENERGY.
- \*AUTHOR, BUELOW F H.
- \*SOURCE, ANNALS OF ARID ZONE, 15(3)/172-176, SEPT 1976.
- \*KEYWORDS, SOLAR, DRYING.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 2168

- \*TITLE, HEATING AIR BY SOLAR ENERGY.
- \*AUTHOR, BUELOW F H, BOYD J S.
- \*SOURCE, AGR ENGR, JAN 1957, 3 PP.
- \*KEYWORDS, SOLAR.
- \*NOTES, FILED.
- \*DATE, 570100

## ABSTRACT 2169

- \*TITLE, APPLICATION OF SOLAR ENERGY FOR PEANUT DRYING AND CURING.
- \*AUTHOR, BUTLER J L, TRÖEGER J M.
- \*SOURCE, ASAE PAPER 75-3505, 1975, 13 PP.
- \*KEYWORDS, SOLAR, DRYING.
- \*NOTES, FILED.
- \*DATE, 751000

## ABSTRACT 2170

- \*TITLE, ECONOMIC FEASIBILITY OF HEATING MARYLAND BROILER HOUSES WITH SOLAR ENERGY.
- \*AUTHOR, CAIN J L, VAN DYNE D L.
- \*SOURCE, NO 5205, MARYLAND AGR EXPT STA, DEPT OF AGR AND RESOURCE ECON, UNIV OF MARYLAND, COLLEGE PARK, MD, FEB 1977, 50 PP.
- \*KEYWORDS, SOLAR, POULTRY, ECONOMICS, MARYLAND.
- \*NOTES, FILED.
- \*DATE, 770200

## ABSTRACT 2171

- \*TITLE, PHOTOVOLTAIC CONVERSION OF SOLAR ENERGY FOR TERRESTRIAL APPLICATIONS.
- \*AUTHOR, CALIFORNIA INSTITUTE OF TECHNOLOGY.
- \*SOURCE, NSF/RANN 74-073, JET PROPULSION LAB, CALIF INST TECH, 15 OCT 1974.
- \*KEYWORDS, SOLAR.
- \*NOTES,
- \*DATE, 741015

## ABSTRACT 2172

- \*TITLE, ASSESSMENT OF THE TECHNOLOGY REQUIRED TO DEVELOP PHOTOVOLTAIC POWER SYSTEMS FOR LARGE-SCALE NATIONAL ENERGY APPLICATIONS.
- \*AUTHOR, CALIFORNIA INSTITUTE OF TECHNOLOGY.
- \*SOURCE, NSF/RANN GRANT NO AG-485, JET PROPULSION LAB, CALIF INST TECH, 15 OCT 1974.
- \*KEYWORDS, SOLAR.
- \*NOTES,
- \*DATE, 741015

## ABSTRACT 2173

- \*TITLE, ENERGIES NOUVELLES - LENERGIE SOLAIRE.
- \*AUTHOR, CALLI J C.
- \*SOURCE, ACTUALITES - DOCUMENTS 110, PREMIER MINISTRE, SERVICE D'INFORMATION ET DE DIFFUSION, MARCH 1976, 59 PP.
- \*KEYWORDS, SOLAR, WIND.
- \*NOTES, FILED.
- \*DATE, 760300

## ABSTRACT 2174

- \*TITLE, PHOTOSYNTHESIS AS A RESOURCE FOR ENERGY AND MATERIALS.
- \*AUTHOR, CALVIN M.
- \*SOURCE, AMER SCIENTIST, 64/270-278, MAY-JUNE 1976.
- \*KEYWORDS, SOLAR, PHOTOSYNTHESIS, PHOTOCHEMICAL.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 2175

- \*TITLE, SOLAR ENERGY BY PHOTOSYNTHESIS.
- \*AUTHOR, CALVIN M.
- \*SOURCE, SCIENCE, 184/375-381, 19 APRIL 1974.
- \*KEYWORDS, SOLAR, PHOTOSYNTHESIS, ORGANIC.
- \*NOTES, NAS.
- \*DATE, 740419

## ABSTRACT 2176

- \*TITLE, TWO WAYS TO HEAT A HOME WITH SUNSHINE POWER.
- \*AUTHOR, CARLSON E.
- \*SOURCE, THE MOTHER EARTH NEWS HANDBOOK OF HOMEMADE POWER, 1974, 10 PP.
- \*KEYWORDS, SOLAR, AWARENESS, HOME.
- \*NOTES, FILED.
- \*DATE, 740000

- TITLE, CONSTRUCTION OF AN AGRICULTURAL INDUSTRIAL SOLAR DEHYDRATION SYSTEM.
- AUTHOR, CARNEGIE E J.
- SOURCE, ASAE PAPER 78-4530, 1978, 11 PP.
- KEYWORDS, SOLAR, AGRICULTURE, DRYING, INDUSTRY.
- NOTES, FILED. THE MOST CRUCIAL PROBLEMS FACING THE WIDESPREAD USE OF SOLAR ENERGY IN THE INDUSTRIAL SECTOR ARE HIGH SYSTEM COSTS AND VERY LONG PAYBACK PERIODS. THE PURPOSE OF THIS PAPER IS TO EXPLORE VARIOUS SYSTEM COMPONENT COSTS IN RELATIONSHIP TO ACTUAL MATERIAL AND LABOR RESOURCES FOR AN INDUSTRIAL DRYING FACILITY.
- DATE, 781218

ABSTRACT 2178

- TITLE, AGRICULTURAL APPLICATIONS OF SOLAR ENERGY.
- AUTHOR, CAWOOD W N.
- SOURCE, AGR ENGR IN SOUTH AFRICA, 10(1)/13-20, 1976.
- KEYWORDS, SOLAR, ECONOMICS, AGRICULTURE.
- NOTES, FILED.
- DATE, 760000

ABSTRACT 2179

- TITLE, PROCEEDINGS OF THE FOURTH MEETING OF ALL INDIA SOLAR ENERGY WORKING GROUP.
- AUTHOR, CENTRAL BUILDING RESEARCH INSTITUTE.
- SOURCE, CENTRAL BUILDING RESEARCH INST, ROORKEE, INDIA, 6-7 JULY 1972.
- KEYWORDS, SOLAR, INDIA.
- NOTES,
- DATE, 720706

ABSTRACT 2180

- TITLE, THE PHOTOVOLTAIC GENERATION OF ELECTRICITY.
- AUTHOR, CHALMERS B.
- SOURCE, SCI AMER, 235(4)/34-43, OCT 1976.
- KEYWORDS, SOLAR, PHOTOVOLTAIC.
- NOTES, FILED.
- DATE, 761000

ABSTRACT 2181

- TITLE, NEW POTENTIALITIES FOR INTERNATIONAL CO-OPERATION IN THE FIELD OF SOLAR ENERGY AND ITS APPLICATIONS.
- AUTHOR, CHATEL B H.
- SOURCE, OFFICE FOR SCI AND TECH, UNITED NATIONS, NEW YORK, JULY 1974, 8 PP.
- KEYWORDS, SOLAR, PHOTOVOLTAIC, CONVERSION, HEAT.
- NOTES, FILED.
- DATE, 740700

ABSTRACT 2182

- TITLE, SOLAR ENERGY APPLICATION FOR THE ARID AREAS.
- AUTHOR, CHATEL B H.
- SOURCE, OFFICE FOR SCI AND TECH, UNITED NATIONS, NEW YORK, OCT 1975, 3 PP.
- KEYWORDS, SOLAR, WATER POWER, ELECTRICAL.
- NOTES, FILED.
- DATE, 751000

ABSTRACT 2183

- TITLE, PERFORMANCE OF A PLASTIC SOLAR AIR HEATER.
- AUTHOR, CHAN K Y, BAIRD C D, BAGNALL L O.
- SOURCE, ASAE PAPER 77-4014, 1977, 13PP.
- KEYWORDS, SOLAR, HEAT, EFFICIENCY.
- NOTES, FILED. A 107 SQ M PLASTIC AIR HEATER WITH A SUSPENDED PLASTIC SCREEN AS AN EXTRA ABSORBING SURFACE WAS TESTED AND COMPARED AGAINST AN AIR HEATER WITHOUT THE SCREEN.
- DATE, 770000

## ABSTRACT 2184

- \*TITLE, SOLAR WATER HEATING IN SOUTH AFRICA.
- \*AUTHOR, CHINNERY D N W.
- \*SOURCE, CSIR RESEARCH REPORT 248, PRETORIA, S AFRICA, 1971, 79 PP.
- \*KEYWORDS, SOLAR, HEAT, SOUTH AFRICA, BIBLIOGRAPHY.
- \*NOTES, FILED. GOOD GENERAL PRINCIPLES DISCUSSION, RESULTS OF 3-WEEK TEST WITH DIFFERENT ABSORBERS, MATHEMATICAL ANALYSIS, CONSTRUCTION DETAILS, GOOD BIBLIOGRAPHY.
- \*DATE, 710003

## ABSTRACT 2185

- \*TITLE, SOLAR ENERGY APPLICATIONS LABORATORY AT COLORADO STATE UNIVERSITY.
- \*AUTHOR, COLORADO STATE UNIVERSITY.
- \*SOURCE, SOLAR ENERGY APPLICATIONS LAB, COLORADO STATE UNIV, DENVER, CO, 12 PP.
- \*KEYWORDS, SOLAR, HOME, COOLING, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 2186

- \*TITLE, SOLAR ENERGY - PROGRESS AND PROMISE.
- \*AUTHOR, COUNCIL ON ENVIRONMENTAL QUALITY.
- \*SOURCE, COUNCIL ON ENVIR QUALITY, 722 JACKSON PLACE NW, WASHINGTON DC 20006, APRIL 1978, 52 PP.
- \*KEYWORDS, SOLAR, POLICY.
- \*NOTES, FILED.
- \*DATE, 780400

## ABSTRACT 2187

- \*TITLE, ELECTRIC ENERGY SUBSTITUTION - SOLAR ENERGY FOR FARMS AND IMPACT ON ELECTRIC ENERGY USE.
- \*AUTHOR, COWAN A.
- \*SOURCE, FARM ELECTRIFICATION COUNCIL, FOOD AND ENERGY SYMPOSIUM, 21 AUG 1975, WASHINGTON D C, 4 PP.
- \*KEYWORDS, SOLAR, ELECTRICAL, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 750821

## ABSTRACT 2188

- \*TITLE, THE DESIGN AND DEVELOPMENT OF A SOLAR POWERED WATER PUMP.
- \*AUTHOR, COWELL F A.
- \*SOURCE, INTERIM PROGRESS REPORT, ASIAN INST OF TECH, 3 JULY 1975, 6 PP.
- \*KEYWORDS, SOLAR.
- \*NOTES, FILED.
- \*DATE, 750703

## ABSTRACT 2189

- \*TITLE, HERE COMES THE SUN.
- \*AUTHOR, COXON D A, DEBOER P P.
- \*SOURCE, JORDAN COLLEGE, 360 PINE ST, CEDAR SPRINGS, MI 49319, 1977, 151 PP.
- \*KEYWORDS, SOLAR, HOME, DESIGN.
- \*NOTES, FILED.
- \*DATE, 770300

## ABSTRACT 2190

- \*TITLE, DIRECT USE OF THE SUN'S ENERGY.
- \*AUTHOR, DANIELS F.
- \*SOURCE, NEW YORK/BALLANTINE BOOKS, SEPT 1975, 271 PP.
- \*KEYWORDS, SOLAR, HISTORICAL, RADIATION, COOKING, DRYING, DISTILLATION, COOLING, REFRIGERATION, THERMOELECTRIC, PHOTOVOLTAIC, STORAGE, TRANSPORTATION.
- \*NOTES, FILED.
- \*DATE, 750500



\*TITLE, DIRECT USE OF THE SUN S ENERGY.  
 \*AUTHOR, DANIELS F.  
 \*SOURCE, NEW HAVEN, CONN/YALE UNIV PRESS, 1964, 374 PP.  
 \*KEYWORDS, SOLAR.  
 \*NOTES,  
 \*DATE, 640000

## ABSTRACT 2192

\*TITLE, SOLAR ENERGY RESEARCH.  
 \*AUTHOR, DANIELS F, DUFFIE J A.  
 \*SOURCE, MADISON, WISC/UNIV OF WISC PRESS, 1955, 290 PP.  
 \*KEYWORDS, SOLAR.  
 \*NOTES,  
 \*DATE, 550000

## ABSTRACT 2193

\*TITLE, SOLAR ENERGY - ITS RELEVANCE TO DEVELOPING COUNTRIES.  
 \*AUTHOR, DATTA R L.  
 \*SOURCE, ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC EXPERT WORKING GROUP ON THE USE OF SOLAR AND WIND ENERGY, BANGKOK, 2-9 MARCH 1976, 44 PP.  
 \*KEYWORDS, SOLAR, DEVELOPING COUNTRIES, HEAT, DISTILLATION, PUMPS, REFRIGERATION, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 760309

## ABSTRACT 2194

\*TITLE, AN INTRODUCTION TO INTEGRATED SOLAR-WIND SYSTEMS.  
 \*AUTHOR, DATTA R L, SHERMAN M M.  
 \*SOURCE, ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC EXPERT WORKING GROUP ON THE USE OF SOLAR AND WIND ENERGY, BANGKOK, 2-9 MARCH 1976, 11 PP.  
 \*KEYWORDS, SOLAR, WIND, DESIGN, ASIA.  
 \*NOTES, FILED.  
 \*DATE, 760309

## ABSTRACT 2195

\*TITLE, DIRECT CONVERSION OF SOLAR ENERGY TO ELECTRICITY.  
 \*AUTHOR, DAVIES L W.  
 \*SOURCE, PROC OF SYMPOSIUM ON REALISTIC PROSPECTS FOR SOLAR POWER IN AUSTRALIA, INTERNATIONAL SOLAR ENERGY SOC, 22 NOV 1973.  
 \*KEYWORDS, SOLAR, PHOTOVOLTAIC, THERMOELECTRIC, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 731122

## ABSTRACT 2196

\*TITLE, SOLAR ENERGY FOR PUBLIC BUILDINGS.  
 \*AUTHOR, DEAN T S.  
 \*SOURCE, D-1012, OSU EXTENSION FACTS, COLLEGE OF ENGR, OKLAHOMA STATE UNIV, STILLWATER, OK, 1976, 3 PP.  
 \*KEYWORDS, SOLAR, BUILDINGS.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 2197

\*TITLE, SOLAR COOLING FOR BUILDINGS - WORKSHOP PROCEEDINGS.  
 \*AUTHOR, DEWINTER F, ET AL.  
 \*SOURCE, PREPARED FOR THE NATIONAL SCIENCE FOUNDATION, RESEARCH APPLIED TO NATIONAL NEEDS BY THE JET PROPULSION LABORATORY, CALIF INST OF TECH, LOS ANGELOS, CALIF, 6-8 FEB 1974, 231 PP.  
 \*KEYWORDS, SOLAR, COOLING, HEAT, PUMPS, TECHNOLOGY ASSESSMENT.  
 \*NOTES, FILED.  
 \*DATE, 740208

## ABSTRACT 2198

- \*TITLE, SOLAR ENERGY AS A NATIONAL ENERGY RESOURCE.
- \*AUTHOR, DONOVAN P. ET AL.
- \*SOURCE, NSF/RA/N-73-001, DEC 1972, 85 PP.
- \*KEYWORDS, SOLAR, ENERGY SOURCES, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 721200

## ABSTRACT 2199

- \*TITLE, SOLAR ASSISTED HEAT PUMP INSTALLATIONS IN COLD CLIMATIC ZONES.
- \*AUTHOR, DUBIN F S.
- \*SOURCE, PRESENTED AT THE WORKSHOP SOLAR ENERGY HEAT PUMP SYSTEMS FOR THE HEATING AND COOLING OF BUILDINGS, 12-14 JUNE 1975, PENN STATE UNIV, UNIVERSITY PARK, 11 PP.
- \*KEYWORDS, SOLAR, HEAT.
- \*NOTES, FILED.
- \*DATE, 750612

## ABSTRACT 2200

- \*TITLE, AGRICULTURAL EQUIPMENT DEVELOPMENT RESEARCH FOR TROPICAL RICE CULTIVATION.
- \*AUTHOR, DUFF B, NICHOLS F E, CAMPBELL J, LEE C C.
- \*SOURCE, SEMIANNUAL PROGRESS REPORT NO 18, AGR ENGR DEPT, INTERNATIONAL RICE RESEARCH INST, LOS BANOS, LAGUNA, PHILIPPINES, JAN-JUNE 1974, PP 17-18.
- \*KEYWORDS, SOLAR, DRYING, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 740100

## ABSTRACT 2201

- \*TITLE, SOLAR HEATING AND COOLING.
- \*AUTHOR, DUFFIE J A, BECKMAN W A.
- \*SOURCE, SCIENCE, 191(4223)/143-149, 16 JAN 1976.
- \*KEYWORDS, SOLAR, HEAT, COOLING.
- \*NOTES, FILED.
- \*DATE, 760116

## ABSTRACT 2202

- \*TITLE, SOLAR ELECTRICITY--THE HYBRID SYSTEM APPROACH.
- \*AUTHOR, DUGUAY M A.
- \*SOURCE, AMER SCIENTIST, 65/422-427, JULY-AUG 1977.
- \*KEYWORDS, SOLAR, ELECTRICAL, HEAT, PHOTOVOLTAIC, ECONOMICS.
- \*NOTES, FILED. GENERATION OF SOLAR ELECTRICITY MAY FIRST BE ACHIEVED MOST ECONOMICALLY IN SYSTEMS THAT COMBINE IT WITH OTHER FUNCTIONS, SUCH AS HEATING AND LIGHTING.
- \*DATE, 770700

## ABSTRACT 2203

- \*TITLE, NEW WAYS TO MAKE SOLAR CELLS TRIM COSTS OF FUTURE SUN POWER FOR YOUR HOME.
- \*AUTHOR, EDELSON E.
- \*SOURCE, POPULAR SCIENCE, 208(5)/74-77, 152, 156, MAY 1976.
- \*KEYWORDS, SOLAR, HOME.
- \*NOTES, FILED.
- \*DATE, 750500

## ABSTRACT 2204

- \*TITLE, SOLAR COLLECTOR DESIGN.
- \*AUTHOR, EDGAR S D K.
- \*SOURCE, PHILADELPHIA, PA/FRANKLIN INST PRESS, 1977, 64 PP.
- \*KEYWORDS, SOLAR, DESIGN.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2205

- TITLE, DETERMINING THE AVAILABILITY OF SOLAR ENERGY WITHIN THE CONTIGUOUS UNITED STATES.
- AUTHOR, EI-I ASSOCIATES.
- SOURCE, E I AND I ASSOCIATES, PO BOX 37, NEWBURY PARK, CA 91320, 1975, 27 PP.
- KEYWORDS, SOLAR, USA, RADIATION.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 2206

- TITLE, ILLUSTRATED SOLAR ENERGY GUIDE OF FLAT-PLATE COLLECTORS FOR PRACTICAL HOME APPLICATION.
- AUTHOR, EI-I ASSOCIATES.
- SOURCE, E I AND I ASSOCIATES, PO BOX 37, NEWBURY PARK, CA 91320, 1975, 23 PP.
- KEYWORDS, SOLAR, DESIGN, HOME.
- NOTES, FILED.
- DATE, 740000

## ABSTRACT 2207

- TITLE, SOLAR ENERGY SYSTEMS.
- AUTHOR, ELDRIDGE F R.
- SOURCE, REPORT M73-26, THE MITRE CORP.
- KEYWORDS, SOLAR, WIND.
- NOTES, NAS.
- DATE,

## ABSTRACT 2208

- TITLE, JAPANESE/UNITED STATES SYMPOSIUM ON SOLAR ENERGY SYSTEMS, TECHNICAL PRESENTATIONS.
- AUTHOR, ELDRIDGE F R. ET AL.
- SOURCE, SYMPOSIUM SPONSORED BY NSF/RANN, 3-5 JUNE 1974, WASHINGTON D C, THE MITRE CORP, MTR-6739 VOL 2, 132 PP.
- KEYWORDS, SOLAR, HEAT, COOLING, ELECTRICAL.
- NOTES, FILED.
- DATE, 740603

## ABSTRACT 2209

- TITLE, THE AVAILABILITY OF SOLAR ENERGY IN THAILAND.
- AUTHOR, EXELL R H B, SARICALI K.
- SOURCE, ASIAN INST OF TECH, BANGKOK, THAILAND, FEB 1976, 85 PP.
- KEYWORDS, SOLAR, THAILAND, RADIATION.
- NOTES, FILED.
- DATE, 760200

## ABSTRACT 2210

- TITLE, SOLAR ENERGY IN SOUTH-EAST ASIA.
- AUTHOR, EXELL R H B.
- SOURCE, SUBMITTED TO THE EXPERT WORKING GROUP ON THE USE OF WIND AND SOLAR ENERGY, NAT RESOURCES DIV, ESCAP, 2 MARCH 1976, 17 PP.
- KEYWORDS, SOLAR, THAILAND, PUMPS, DRYING, REFRIGERATION, ASIA.
- NOTES, FILED.
- DATE, 760302

## ABSTRACT 2211

- TITLE, THE DESIGN AND DEVELOPMENT OF A SOLAR POWERED REFRIGERATOR.
- AUTHOR, EXELL R H B, KORNSAKOO S, WIJERATNA D G D C.
- SOURCE, RESEARCH REPORT 62, ASIAN INST OF TECH, BANGKOK, THAILAND, FEB 1976, 74 PP.
- KEYWORDS, SOLAR, REFRIGERATION, OPERATING PROCEDURE, DEVELOPING COUNTRIES.
- NOTES, FILED.
- DATE, 760200

## ABSTRACT 2212

- TITLE, SOLAR RADIATION TABLES FOR THAILAND.
- AUTHOR, EXELL R H B, SARICALI K.
- SOURCE, J SCI SOC THAILAND, 1/178-187, 1975.
- KEYWORDS, SOLAR, THAILAND, RADIATION.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 2213

\*TITLE, TECHNOLOGY UTILIZATION - INCENTIVES AND SOLAR ENERGY.  
 \*AUTHOR, EZRA A A.  
 \*SOURCE, SCIENCE, 187(4178)/707-713, 28 FEB 1975.  
 \*KEYWORDS, SOLAR, TECHNOLOGY ASSESSMENT.  
 \*NOTES, FILED.  
 \*DATE, 750228

## ABSTRACT 2214

\*TITLE, A SUMMARY OF THE PERSPECTIVE USES OF SOLAR ENERGY FOR AGRICULTURE IN DEVELOPING COUNTRIES.  
 \*AUTHOR, FAIDLEY L W.  
 \*SOURCE, BASED UPON SOLAR ENERGY IN DEVELOPING COUNTRIES - PERSPECTIVES AND PROSPECTS, NAS, WASHINGTON D C, 1972, 5 PP.  
 \*KEYWORDS, SOLAR, DISTILLATION, DRYING, CONVERSION, ELECTRICAL, PHOTOSYNTHESIS.  
 \*NOTES, FILED.  
 \*DATE, 720000

## ABSTRACT 2215

\*TITLE, SOLAR ENERGY CONVERSION RESEARCH AND DEVELOPMENT AT THE UNIVERSITY OF FLORIDA.  
 \*AUTHOR, FARBER E A.  
 \*SOURCE, BUILDING SYSTEMS DESIGN, FEB-MARCH 1974, PP 195-206.  
 \*KEYWORDS, SOLAR, DISTILLATION, REFRIGERATION, COOKING, CONVERSION, ELECTRICAL, TRANSPORTATION.  
 \*NOTES, FILED.  
 \*DATE, 740200

## ABSTRACT 2216

\*TITLE, SOLAR POWER TOWER.  
 \*AUTHOR, FISHER A.  
 \*SOURCE, POPULAR SCIENCE, OCT 1975, PP 88-90.  
 \*KEYWORDS, SOLAR, THERMOELECTRIC.  
 \*NOTES, FILED.  
 \*DATE, 751000

## ABSTRACT 2217

\*TITLE, STEADY-STATE SIMULATION OF SUSPENDED PLATE SOLAR COLLECTORS.  
 \*AUTHOR, FITZGIBBONS O A, KLINE G L.  
 \*SOURCE, ASAE PAPER 78-3501, 1978, 40 PP.  
 \*KEYWORDS, SOLAR, MODELS.  
 \*NOTES, FILED. THE PURPOSE OF THIS STUDY WAS TO PRESCRIBE THE THEORETICAL EQUATIONS NECESSARY TO DEFINE THE BEHAVIOR OF CERTAIN FORCE-TO-AIR SOLAR ENERGY COLLECTORS, AND TO ASSEMBLE THEM INTO A MODEL SUITABLE FOR SIMULATION OF A DIGITAL COMPUTER.  
 \*DATE, 780000

## ABSTRACT 2218

\*TITLE, ECONOMIC FEASIBILITY AND MARKET READINESS OF SOLAR TECHNOLOGIES -- DRAFT FINAL REPORT VOL 1.  
 \*AUTHOR, FLAUM S J, ET AL.  
 \*SOURCE, SOLAR ENERGY RESEARCH INST, A DIV OF MIDWEST RESEARCH INST, 1526 COLE BLVD, GOLDEN, CO 80401, SEPT 1978, 328 PP.  
 \*KEYWORDS, SOLAR, ECONOMICS, WIND, BIOMASS, HEAT, COOLING, THERMOELECTRIC, PHOTOVOLTAIC.  
 \*NOTES, FILED. SYSTEMS DESCRIPTIONS, COSTS, TECHNICAL AND MARKET READINESS ASSESSMENTS ARE REPORTED FOR TEN SOLAR TECHNOLOGIES - SOLAR HEATING AND COOLING OF BUILDINGS, PASSIVE, AGRICULTURAL AND INDUSTRIAL PROCESS HEAT, BIOMASS, OCEAN THERMAL, WIND, SOLAR THERMAL ELECTRIC, PHOTOVOLTAICS, SATELLITE POWER STATION AND SOLAR TATAL ENERGY SYSTEMS. STUDY OBJECTIVES, SCOPE, AND METHODS ARE PRESENTED.  
 \*DATE, 780900



\*TITLE, THE HEATING OF A POULTRY BROILER HOUSE USING SOLAR ENERGY.  
 \*AUTHOR, FORBES R E, MCCLENDON R W.  
 \*SOURCE, ASAE PAPER 77-3005, 1977, 15 PP.  
 \*KEYWORDS, SOLAR, POULTRY.  
 \*NOTES, FILED. A PRE-ENGINEERED METAL BUILDING HAS BEEN MODIFIED TO INCLUDE AN AIR HEATER SOLAR COLLECTOR AS AN INTEGRAL PART OF THE SOUTH WALL. TESTS WERE MADE ON THE PERFORMANCE OF THE SOLAR COLLECTOR AND THE ROCK BED HEAT STORAGE CHAMBER.  
 \*DATE, 770000

## ABSTRACT 2220

\*TITLE, HOMEOWNERS GUIDE TO SOLAR HEATING AND COOLING.  
 \*AUTHOR, FOSTER W M.  
 \*SOURCE, BLUE RIDGE SUMMIT, PA 17214/TAB BOOKS, THIRD PRINTING, 1977, 196PP.  
 \*KEYWORDS, SOLAR, HEAT, COOLING, HOME, DESIGN, MAINTENANCE.  
 \*NOTES, FILED. HOW TO PURCHASE, INSTALL, AND MAINTAIN SOLAR HEATING AND COOLING AND HOTWATER SYSTEMS.  
 \*DATE, 770000

## ABSTRACT 2221

\*TITLE, SOLAR CELLS.  
 \*AUTHOR, FREE J.  
 \*SOURCE, POPULAR SCIENCE, DEC 1974, PP 52-55, 120, 121.  
 \*KEYWORDS, SOLAR, PHOTOVOLTAIC.  
 \*NOTES, FILED.  
 \*DATE, 741200

## ABSTRACT 2222

\*TITLE, SOLAR ENERGY - GETTING WARMER.  
 \*AUTHOR, FRITH B.  
 \*SOURCE, FAR EASTERN ECONOMIC REVIEW, 83(12)/56, 25 MARCH 1974.  
 \*KEYWORDS, SOLAR.  
 \*NOTES, FILED.  
 \*DATE, 740325

## ABSTRACT 2223

\*TITLE, SOLAR ENERGY RESEARCH AT CAZRI, JODHPUR - ACHIEVEMENTS AND FUTURE PLANS.  
 \*AUTHOR, GARG H P.  
 \*SOURCE, ANNALS OF ARID ZONES, 15(3)/228-246, SEPT 1976, CENTRAL ARID ZONE RESEARCH INST, JODHPUR, INDIA.  
 \*KEYWORDS, SOLAR, INDIA, HEAT, DESIGN, COOKING, DISTILLATION.  
 \*NOTES, FILED.  
 \*DATE, 760900

## ABSTRACT 2224

\*TITLE, SOLAR ENERGY UTILIZATION RESEARCH.  
 \*AUTHOR, GARG H P.  
 \*SOURCE, CENTRAL ARID ZONE RESEARCH INSTITUTE, JODHPUR, INDIA, JUNE 1975, 48 PP.  
 \*KEYWORDS, SOLAR, INDIA, RADIATION, DISTILLATION, DRYING, COOKING.  
 \*NOTES, FILED.  
 \*DATE, 750600

## ABSTRACT 2225

\*TITLE, BIBLIOGRAPHY OF INDIAN APPLIED SOLAR ENERGY RESEARCH 1950-1975.  
 \*AUTHOR, GARG H P, AMINULLAH.  
 \*SOURCE, CAZRI LIBRARY PUBLICATION SERIES 2, CENTRAL ARID ZONE RESEARCH INST, JODHPUR, APRIL 1976, 38 PP.  
 \*KEYWORDS, SOLAR, BIBLIOGRAPHY, INDIA.  
 \*NOTES, FILED.  
 \*DATE, 760400

- \*TITLE, SOLAR ENERGY RESEARCH AT THE CENTRAL ARID ZONE RESEARCH INSTITUTE, JODHPUR - ACHIEVEMENTS AND FUTURE PLANS.
- \*AUTHOR, GARG H P.
- \*SOURCE, CENTRAL ARID ZONE RESEARCH INST, JODHPUR, INDIA, OCT 1976, FOR SPECIAL ISSUE OF ANNALS OF ARID ZONE, QUARTERLY J, 13 PP. ( IN PRESS ).
- \*KEYWORDS, SOLAR, INDIA, HEAT, DRYING, COOKING, DISTILLATION, PUMPS.
- \*NOTES, FILED. RESEARCH WORK ON SOME OF THE IMPORTANT APPLICATIONS OF SOLAR ENERGY FOR DOMESTIC, AGRICULTURAL AND INDUSTRIAL PURPOSES SUCH AS FOR HEATING OF WATER, DRYING AND DEHYDRATION OF FRUITS AND VEGETABLES, COOKING AND BOILING OF FOOD, DISTILLATION OF SALINE WATER AND SOLAR PUMPING OF WATER FOR LIFT IRRIGATION PURPOSES CARRIED OUT AT CAZRI IS REVIEWED IN THIS PAPER.
- \*DATE, 761000

## ABSTRACT 2227

- \*TITLE, EFFECT OF DIRT ON TRANSPARENT COVERS IN FLAT-PLATE SOLAR ENERGY COLLECTORS.
- \*AUTHOR, GARG H P.
- \*SOURCE, SOLAR ENERGY, 15/299-302, PERGAMON PRESS, GREAT BRITAIN, 1974.
- \*KEYWORDS, SOLAR, RADIATION, INDIA, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. THE EFFECT OF DIRT ON THE TRANSMITTANCE OF SOLAR RADIATION THROUGH VARIOUS INCLINED GLASS PLATES AND PLASTIC FILMS, WHICH ARE USED AS A TRANSPARENT COVER FOR FLAT-PLATE COLLECTORS, HAS BEEN STUDIED.
- \*DATE, 740000

## ABSTRACT 2228

- \*TITLE, A SOLAR OVEN FOR COOKING.
- \*AUTHOR, GARG H P.
- \*SOURCE, INDIAN FARMING, AUG 1976, 3 PP.
- \*KEYWORDS, SOLAR, COOKING.
- \*NOTES, FILED.
- \*DATE, 760800

## ABSTRACT 2229

- \*TITLE, YEAR ROUND PERFORMANCE STUDIES ON A BUILT-IN STORAGE TYPE WATER HEATER AT JODHPUR, INDIA.
- \*AUTHOR, GARG H P.
- \*SOURCE, SOLAR ENERGY, 17/167-172, PERGAMON PRESS, GREAT BRITAIN, 1975.
- \*KEYWORDS, SOLAR, INDIA, HEAT, DESIGN.
- \*NOTES, FILED. AN IMPROVED SOLAR WATER HEATER WHICH PERFORMS THE DUAL FUNCTION OF ABSORBING HEAT AND STORING THE HEATED WATER HAS BEEN DESIGNED AND A PROTOTYPE TESTED IN JODHPUR. A PERFORMANCE EQUATION FOR THIS TYPE OF HEATER IS ALSO DEVELOPED.
- \*DATE, 750000

## ABSTRACT 2230

- \*TITLE, SOLAR ENERGY UTILIZATION POTENTIAL IN JODHPUR AND NEW DELHI.
- \*AUTHOR, GARG H P, KRISHNAN A.
- \*SOURCE, INDIAN J MET GEOPHYS, 25(3 AND 4)/473-478, 1974.
- \*KEYWORDS, SOLAR, RADIATION, INDIA.
- \*NOTES, FILED. AVERAGE USEFUL SOLAR ENERGYS AVAILABLE FOR UTILIZATION BY FLAT-PLATE COLLECTORS KEPT AT OPTIMUM TILTS IN JODHPUR AND DELHI WERE WORKED OUT FOR TYPICAL WINTER AND SUMMER MONTHS. BASED ON THESE AVERAGE ENERGIES, GENERALIZED DESIGN CURVES FOR WATER HEATING BY FLAT-PLATE COLLECTORS GIVING THE RATIO OF USEFUL ENERGY COLLECTED BY THE FLAT-PLATE COLLECTOR TO THE HEAT REMOVAL EFFICIENCY FACTOR IN TERMS OF INLET TEMPERATURE RISE OVER AMBIENT TEMPERATURE HAVE BEEN PREPARED.
- \*DATE, 740000

## ABSTRACT 2231

- \*TITLE, EFFECT OF CLIMATE, OPERATIONAL AND DESIGN PARAMETERS ON THE YEAR ROUND PERFORMANCE OF SINGLE-SLOPED AND DOUBLE-SLOPED SOLAR STILL UNDER INDIAN ARID ZONE CONDITIONS.
- \*AUTHOR, GARG H P, MANN H S.
- \*SOURCE, SOLAR ENERGY, 18/150-164, PERGAMON PRESS, GREAT BRITAIN, 1976.
- \*KEYWORDS, SOLAR, INDIA, TECHNOLOGY ASSESSMENT, DESIGN.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 2232

- \*TITLE, CAN SUNSHINE HEAT (AND COOL) YOUR HOUSE.
- \*AUTHOR, GILMORE C P.
- \*SOURCE, POPULAR SCIENCE, MARCH 1974, PP 78-81.
- \*KEYWORDS, SOLAR, HOME, HEAT.
- \*NOTES, FILED.
- \*DATE, 740000

- TITLE, DESIGN AND PERFORMANCE OF A SIMPLE SOLAR PUMP FOR LIFT IRRIGATION PURPOSES.
- AUTHOR, GIRARDIER J P, CLEMGT M G.
- SOURCE, ANNALS OF ARID ZONES, CENTRAL ARID ZONE RESEARCH INST, JCDHPUR, INDIA, 1976, 14 PP.
- KEYWORDS, SOLAR, IRRIGATION, PUMPS, INDIA.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 2234

- TITLE, UTILIZATION OF SOLAR ENERGY FOR LIFTING WATER.
- AUTHOR, GIRARDIER J P, MASSON M.
- SOURCE, INTERNATIONAL SOLAR ENERGY CONF, MELBOURNE, AUSTRALIA, 1970.
- KEYWORDS, SOLAR.
- NOTES,
- DATE, 700000

## ABSTRACT 2235

- TITLE, PERFORMANCE OF CRUSHED ROCK SOLAR HEAT STORAGE.
- AUTHOR, GODBEY L C, NEWMAN J O, ZORNIG M F.
- SOURCE, ASAE PAPER 76-4557, 1976, 15PP.
- KEYWORDS, SOLAR, HEAT, STORAGE.
- NOTES, FILED. PRESENTED IS AN EQUATION FOR COMPUTING THE PRESSURE DROP THROUGH A GRADATED CRUSHED ROCK BED, WITH TEMPERATURE HISTORY CURVES FOR STORING SOLAR HEAT IN A CRUSHED ROCK BED. CURVES REPRESENTING NOCTURNAL COOLING WHERE HEAT BUILDUP WITHIN A HOUSE IS STORED IN THE ROCK FOR REMOVAL WITH COOL NIGHT AIR.
- DATE, 760000

## ABSTRACT 2236

- TITLE, SOLAR AND LONG WAVELENGTH ENERGY TRANSMISSION OF MATERIALS.
- AUTHOR, GODBEY L C, BOND T E, ZORNIG M F.
- SOURCE, ASAE PAPER 77-4013, 1977, 16PP.
- KEYWORDS, SOLAR, TRANSMISSION, TECHNOLOGY ASSESSMENT.
- NOTES, FILED. METHODS OF MEASUREMENT AND RESULTS ARE PRESENTED FOR LONG WAVELENGTH AND THE SOLAR SHORT WAVELENGTH RADIANT ENERGY TRANSMISSION CHARACTERISTICS OF NINE COMMON MATERIALS THAT MIGHT BE CONSIDERED FOR COVERING GREENHOUSES OR SOLAR COLLECTORS, AND FOR EIGHTY-ONE TWO-LAYER COMBINATIONS OF THE MATERIALS.
- DATE, 770000

## ABSTRACT 2246

- TITLE, PHOTOVOLTAICS - THE SEMICONDUCTOR REVOLUTION COMES TO SOLAR.
- AUTHOR, HAMMOND A L.
- SOURCE, SCIENCE, 197/445-447, 29 JULY 1977.
- KEYWORDS, SOLAR, PHOTOVOLTAIC.
- NOTES, FILED. THIRD ARTICLE IN A SERIES OF SEVEN.
- DATE, 770725

## ABSTRACT 2247

- TITLE, SOLAR HOUSE DESIGN.
- AUTHOR, HANSEN M J.
- SOURCE, WAES - OREGON STATE UNIV, CORVALLIS, OR 97331- 72/9-12, NOV 1977.
- KEYWORDS, SOLAR, HOME, DESIGN, COOLING.
- NOTES, FILED.
- DATE, 771100

## ABSTRACT 2248

- TITLE, ESTIMATION OF SOLAR RADIATION.
- AUTHOR, HARGREAVES G H.
- SOURCE, ASAE PAPER 77-3544, 1977, 11 PP.
- KEYWORDS, SOLAR, RADIATION, AGRICULTURE.
- NOTES, FILED.
- DATE- 770000

- \*TITLE, SOLAR ENERGY APPLICATIONS IN AGRICULTURE POTENTIAL, RESEARCH NEEDS AND ADOPTION STRATEGIES.
- \*AUTHOR, HARRIS W L.
- \*SOURCE, PREPARED FOR AGR RESEARCH SERVICE, USDA, JAN 1976, 305 PP.
- \*KEYWORDS, SOLAR, DRYING, ANIMAL, GREENHOUSE, IRRIGATION, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 760103

## ABSTRACT 2237

- \*TITLE, COMBINATION DOMESTIC HOT WATER AND SOLAR HOT AIR HEAT EXCHANGER.
- \*AUTHOR, GODDEY L C, NEWMAN J O.
- \*SOURCE, ASAE PAPER 78-4547, 1978, 9 PP.
- \*KEYWORDS, SOLAR, HOME, EFFICIENCY, ECONOMICS.
- \*NOTES, FILED. A HEAT EXCHANGER/STORAGE DOMESTIC WATER HEATING SYSTEM MADE OF RELATIVELY LOW-COST MATERIALS HAS BEEN DEVELOPED THAT CAN BE SITE BUILT WITH LOCALLY AVAILABLE MATERIALS AND CONSTRUCTION TRADE PERSONNEL. THIS PAPER DESCRIBES THE DESIGN FEATURES AND PARAMETERS, ALONG WITH COSTS AND TEST RESULTS.
- \*DATE, 780000

## ABSTRACT 2238

- \*TITLE, SOLAR DISTILLATION IN INDIA.
- \*AUTHOR, GOMKALE S D, DATTA R L.
- \*SOURCE, ANNALS OF ARID ZONE, 15(3)/206-218, SEPT 1976.
- \*KEYWORDS, SOLAR, INDIA, DISTILLATION.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 2239

- \*TITLE, A CITIZEN S HANDBOOK ON SOLAR ENERGY.
- \*AUTHOR, GUNN A.
- \*SOURCE, PUBLIC INTEREST RESEARCH GROUP, 2000 P STREET N W, ROOM 711, WASHINGTON D C, 1975, 37 PP.
- \*KEYWORDS, SOLAR, HEAT, COOLING, WIND, PHOTOVOLTAIC.
- \*NOTES, FILED.
- \*DATE, 750003

## ABSTRACT 2240

- \*TITLE, EFFECT OF FAMILY WATER USE SCHEDULING ON SOLAR WATER HEATER PERFORMANCE.
- \*AUTHOR, GUPTA D K, ALLEN W H, NEWMAN J C.
- \*SOURCE, ASAE PAPER 78-4549, 1978, 18 PP.
- \*KEYWORDS, SOLAR, MODELS, EFFICIENCY.
- \*NOTES, FILED. THIS PAPER DESCRIBES THE PERFORMANCE OF A PROTOTYPE SOLAR WATER HEATER WITH AN ELECTRICALLY HEATED AUXILIARY TANK IN RELATION TO WATER CONSUMPTION RATES, CONSUMPTION PATTERN AND DESIRED WATER TEMPERATURE VIA COMPUTER SIMULATION. THE PERFORMANCE OF THE SYSTEM WAS INFLUENCED BY ALL THE VARIABLES.
- \*DATE, 780000

## ABSTRACT 2241

- \*TITLE, A REFLECTOR COOKER.
- \*AUTHOR, HALACY D S.
- \*SOURCE, SOLAR SCIENCE PROJECTS FOR A CLEANER ENVIRONMENT, SCHOLASTIC BOOK SERVICES, 14 PP, UNDATED.
- \*KEYWORDS, SOLAR, COOKING.
- \*NOTES, FILED.
- \*DATE,



- \*TITLE, SUMMER UTILIZATION OF SOLAR ENERGY FOR DRYING POULTRY EXCRETA.
- \*AUTHOR, HALL F W, ESMAY M, SHEPPARD C, FLEGAL C.
- \*SOURCE, ASAE PAPER 77-4536, 1977, 6 PP.
- \*KEYWORDS, SOLAR, DRYING, WASTES, POULTRY.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2243

- \*TITLE, MACHINE STORAGE BUILDING WITH SOLAR ROOF FOR GRAIN DRYING.
- \*AUTHOR, HALL M D.
- \*SOURCE, ASAE PAPER 78-3068, 1978, 22 PP.
- \*KEYWORDS, SOLAR, BUILDINGS, DRYING, DESIGN, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. THE DESIGN AND TEST OF A 50 BY 96 FT MACHINE STORAGE BUILDING WITH A CLEAR FIBERGLASS ROOF FOR SOLAR HEATING. THE HEAT COLLECTED WAS USED IN DRYING SHELLED CORN AND HEATING AN INSULATED WORKSHOP.
- \*DATE, 780000

## ABSTRACT 2244

- \*TITLE, SOLAR ENERGY RECONSIDERED - ERDA SEES BRIGHT FUTURE.
- \*AUTHOR, HAMMOND A L.
- \*SOURCE, SCIENCE, 189/538-539, 15 AUG 1975.
- \*KEYWORDS, SOLAR, HEAT, ELECTRICAL, WIND, PHOTOVOLTAIC, ORGANIC.
- \*NOTES, FILED.
- \*DATE, 750815

## ABSTRACT 2245

- \*TITLE, PHOTOVOLTAIC CELLS - DIRECT CONVERSION OF SOLAR ENERGY.
- \*AUTHOR, HAMMOND A L.
- \*SOURCE, SCIENCE, 178/732-733, 17 NOV 1972.
- \*KEYWORDS, SOLAR, PHOTOVOLTAIC.
- \*NOTES, NAS.
- \*DATE, 721117

## ABSTRACT 2250

- \*TITLE, FIBERGLASS REINFORCED PANELS FOR SOLAR COLLECTOR GLAZINGS.
- \*AUTHOR, HARTMAN H, WHITRIDGE J E.
- \*SOURCE, ASAE PAPER 78-4527, 1978, 12 PP.
- \*KEYWORDS, SOLAR, EFFICIENCY.
- \*NOTES, FILED. PROPERTIES AND ADVANTAGES OF FIBERGLASS REINFORCED PANELS (FRP) ARE REVIEWED AND COMPARED WITH GLASS AND THERMOPLASTICS. ALSO DESCRIBED ARE THE AGING CHARACTERISTICS OF FRP AND MECHANISMS THAT ELIMINATE OR DELAY WEATHER DEGRADATION.
- \*DATE, 780000

## ABSTRACT 2251

- \*TITLE, SOLAR THERMAL SYSTEMS IN THE MILKING PARLOR.
- \*AUTHOR, HAYDEN M B, THOMPSON P D.
- \*SOURCE, ASAE PAPER 77-3539, 1977, 7 PP.
- \*KEYWORDS, SOLAR, DAIRY, BUILDINGS, DESIGN.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2252

- \*TITLE, SOLAR POWER IN THE MIDDLE EAST.
- \*AUTHOR, HAYES D.
- \*SOURCE, SCIENCE, 188(4195)/1, 27 JUNE 1975.
- \*KEYWORDS, SOLAR, MIDDLE EAST.
- \*NOTES, FILED.
- \*DATE, 750627

## ABSTRACT 2253

- \*TITLE, SOLAR ENERGY - THE THIRD WORLD FIRST.
- \*AUTHOR, HAYES D.
- \*SOURCE, AGENDA, 1(1)/1-8, 1978.
- \*KEYWORDS, SOLAR, AGRICULTURE, WIND, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 780000

- \*TITLE, STABLE SEMICONDUCTOR LIQUID JUNCTION CELL WITH 9 PERCENT SOLAR TO ELECTRICAL CONVERSION EFFICIENCY.
- \*AUTHOR, HELLER A, SCHWARTZ B, MENEZES S, MILLER B, CHANG-K-C.
- \*SOURCE, SCIENCE, 196(4294)/1097-1099, 3JUNE 1977.
- \*KEYWORDS, SOLAR, CONVERSION, ELECTRICAL, EFFICIENCY.
- \*NOTES, FILED.
- \*DATE, 770603

## ABSTRACT 2255

- \*TITLE, PERFORMANCE OF A SOLAR ENERGY-INTENSIFIER WITH THERMAL ENERGY STORAGE.
- \*AUTHOR, HELLICKSON M A, PETERSON W H, SAIENGA S E, JULSON J L.
- \*SOURCE, ASAE PAPER 77-4533, 1977, 7 PP.
- \*KEYWORDS, SOLAR, STORAGE, DRYING, DESIGN.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2256

- \*TITLE, RETROFITTING A RESIDENCE FOR SOLAR HEATING AND COOLING - THE DESIGN AND CONSTRUCTION OF THE SYSTEM.
- \*AUTHOR, HILL J E, RICHTMYER T E.
- \*SOURCE, CATALOG NO C13 46 892, US DEPT OF COMMERCE, NATIONAL BUREAU OF STANDARDS, US GOVT PRINTING OFFICE, WASHINGTON DC 20435, NOV 1975, 99 PP.
- \*KEYWORDS, SOLAR, HOME, DESIGN, STATISTICS.
- \*NOTES, FILED. A FACTORY BUILT HOUSE WAS CONVERTED TO A SOLAR HEATING AND COOLING SYSTEM AND WAS MONITORED. DESIGN AND CONSTRUCTION OF THE SYSTEM IS GIVEN.
- \*DATE, 751100

## ABSTRACT 2257

- \*TITLE, STATUS REPORT ON SOLAR ENERGY DOMESTIC POLICY REVIEW.
- \*AUTHOR, HOFFMAN A R.
- \*SOURCE, DOMESTIC POLICY REVIEW INTEGRATION GROUP, ROOM 6B-145, FORRESTAL BLDG, WASHINGTON DC, 25 AUG 1978, 60 PP.
- \*KEYWORDS, SOLAR, POLICY.
- \*NOTES, FILED.
- \*DATE, 780825

## ABSTRACT 2258

- \*TITLE, SEMICONDUCTORS AND SEMIMETALS, VOLUME II SOLAR CELLS.
- \*AUTHOR, HOVEL M J.
- \*SOURCE, NEW YORK/ACADEMIC PRESS, 1975, 254 PP.
- \*KEYWORDS, SOLAR, PHOTOVOLTAIC.
- \*NOTES, FILED.
- \*DATE, 750300

## ABSTRACT 2259

- \*TITLE, SOME APPLICATIONS OF SOLAR ENERGY IN THAILAND.
- \*AUTHOR, HTUN M N, AFTAB M P, RAMACHANDRAN P H.
- \*SOURCE, REPORT 61, ASIAN INST OF TECH, BANGKOK, THAILAND, JUNE 1976, 76 PP.
- \*KEYWORDS, SOLAR, THAILAND, DRYING, COOKING.
- \*NOTES, FILED.
- \*DATE, 760600

## ABSTRACT 2260

- \*TITLE, OPTIMIZATION OF A SOLAR ASSISTED FLOOR HEATING SYSTEM FOR SWINE.
- \*AUTHOR, HUGHES H A, HILL C L, VAUGHAN D H.
- \*SOURCE, ASAE PAPER PRESENTED AT THE SOUTHEAST REGION ASAE MEETING, MOBILE, AL, 1-4 FEB 1976, 16PP.
- \*KEYWORDS, SOLAR, MODELS, SWINE, AGRICULTURE.
- \*NOTES, FILED. A MODEL WAS DEVELOPED TO ANALYZE SOLAR SYSTEMS. THE COMPUTER PROGRAM OF THE MODEL IS INCLUDED. FROM THIS, VARIOUS SOLAR SYSTEMS WERE ANALYZED AND THE RESULTS REPORTED.
- \*DATE, 760204

## ABSTRACT 2261

- \*TITLE, WILL SUNSHINE HEAT YOUR BROILER HOUSE.
- \*AUTHOR, HUGHES H A, VAUGHAN D M.
- \*SOURCE, THE VIRGINIA POULTRYMAN, P 34.
- \*KEYWORDS, SOLAR, POULTRY, ECONOMICS, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 2262

- \*TITLE, LOW COST SOLAR CELL ARRAYS.
- \*AUTHOR, ILES P A, ET AL.
- \*SOURCE, NATIONAL TECH INFO SERVICE, US DEPT OF COMMERCE, 5285 PORT ROYAL ROAD, SPRINGFIELD, VA, MAY 1975, 94 PP.
- \*KEYWORDS, SOLAR, PHOTOVOLTAIC.
- \*NOTES, FILED.
- \*DATE, 7505JG

## ABSTRACT 2263

- \*TITLE, INDO-US WORKSHOP ON SOLAR AND WIND ENERGY.
- \*AUTHOR, INDIA DEPARTMENT OF SCIENCE AND TECHNOLOGY.
- \*SOURCE, GOVERNMENT OF INDIA, DEPT OF SCI AND TECH, TECHNOLOGY BHAVAN, NEW MEMRAULI ROAD, NEW DELI 110029, 2-4 AUG 1976, 50 PP.
- \*KEYWORDS, SOLAR, INDIA, WIND, USA, REFRIGERATION, PUMPS, DRYING, ENGINE.
- \*NOTES, FILED.
- \*DATE, 760804

## ABSTRACT 2264

- \*TITLE, SOLAR ENERGY RESOURCES, APPLICATIONS AND TECHNIQUES.
- \*AUTHOR, INTERNATIONAL SOLAR ENERGY SOCIETY.
- \*SOURCE, SYMPOSIUM ON SOLAR ENERGY RESOURCES, APPLICATION AND TECHNIQUES, AUSTRALIAN AND NEW ZEALAND SECTION OF THE INTERNATIONAL SOLAR ENERGY SOCIETY, AUSTRALIAN NATIONAL UNIV, 11 NOV 1975, 72 PP.
- \*KEYWORDS, SOLAR, AUSTRALIA, CONVERSION, THERMOCHEMICAL, STORAGE.
- \*NOTES, FILED.
- \*DATE, 751111

## ABSTRACT 2265

- \*TITLE, SOLAR ENERGY, OTHER SOURCES OF ENERGY.
- \*AUTHOR, INTERNATIONAL SOLAR ENERGY SOCIETY.
- \*SOURCE, INTERNATIONAL SOLAR ENERGY SOC, AMER SECTION, 12441 PARKLAWN DR, ROCKVILLE, MD 20850, 4 PP.
- \*KEYWORDS, SOLAR, BIBLIOGRAPHY.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 2266

- \*TITLE, SOLAR HEATING SYSTEMS DESIGN MANUAL.
- \*AUTHOR, INTERNATIONAL TELEPHONE AND TELEGRAPH CORP.
- \*SOURCE, BULLETIN TESE-576, TRAINING AND EDUCATION DEPT, FLUID HANDLING DIV, INTERNATIONAL TELEPHONE AND TELEGRAPH CORP, 8200 N AUSTIN, MCRTON GROVE, IL 60053, 1977, 130PP.
- \*KEYWORDS, SOLAR, HEAT, DESIGN, COOLING.
- \*NOTES, FILED. THIS DEALS WITH AVERAGES, HISTORICAL DATA AND ASSUMPTIONS WHICH SERVE AS EXAMPLES IN HIGHLIGHTING DESIGN PROCEDURES.
- \*DATE, 7706G0

## ABSTRACT 2267

- \*TITLE, JAPANS SUNSHINE PROJECT.
- \*AUTHOR, JAPAN AGENCY OF INDUSTRIAL SCIENCE AND TECHNOLOGY.
- \*SOURCE, SUNSHINE PROJECT PROMOTION HEADQUARTERS, AGENCY OF INDUSTRIAL SCI AND TECH, MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY, TOKYO, JAPAN, APRIL 1975, 46 PP.
- \*KEYWORDS, SOLAR, JAPAN, GEOTHERMAL, COAL GASIFICATION, HYDROGEN.
- \*NOTES, FILED.
- \*DATE, 750400

ABSTRACT 2268

- 320 \*TITLE, SOLAR ENERGY R AND D PROGRAM - SUNSHINE PROJECT IN JAPAN.  
 \*AUTHOR, JAPAN AGENCY OF INDUSTRIAL SCIENCE AND TECHNOLOGY.  
 \*SOURCE, AGENCY OF INDUSTRIAL SCI AND TECH, MINISTRY OF INTERNATIONAL  
 TRADE AND INDUSTRY, TOKYO, JAPAN, NOV 1975, 74 PP.  
 \*KEYWORDS, SOLAR, HEAT, COOLING, PHOTOVOLTAIC, THERMOELECTRIC, JAPAN,  
 SEATHERMAL.  
 \*NOTES, FILED.  
 \*DATE, 751100

ABSTRACT 2269

- \*TITLE, PROCEEDINGS OF SOLAR ENERGY - FUEL AND FOOD WORKSHOP, THE  
 UTILIZATION OF SOLAR ENERGY IN GREENHOUSES AND INTEGRATED  
 GREENHOUSE - RESIDENTIAL SYSTEMS.  
 \*AUTHOR, JENSEN M H. ED.  
 \*SOURCE, ENVIRONMENTAL RESEARCH LAB, UNIV OF ARIZONA IN COOPERATION WITH  
 ERDA AND USDA AGR RESEARCH SERVICE, 6 APRIL 1976, 262 PP.  
 \*KEYWORDS, SOLAR, GREENHOUSE.  
 \*NOTES, FILED.  
 \*DATE, 760406

ABSTRACT 2270

- \*TITLE, EVALUATION OF FLAT-PLATE COLLECTOR EFFICIENCY UNDER CONTROLLED  
 CONDITIONS IN A SOLAR SIMULATOR  
 \*AUTHOR, JOHNSON S M, SIMON F F.  
 \*SOURCE, NASA TM X-73520, LEWIS RESEARCH CENTER, CLEVELAND, OH 44135, AUG  
 1976.  
 \*KEYWORDS, SOLAR, EFFICIENCY, MODELS.  
 \*NOTES, FILED. PRESENTED IN THIS REPORT ARE THE MEASURED THERMAL  
 EFFICIENCIES OF 35 COLLECTORS TESTED WITH A SOLAR SIMULATOR, ALONG  
 WITH THE CORRELATION EQUATIONS USED TO GENERALIZE THE DATA.  
 \*DATE, 760800

ABSTRACT 2271

- \*TITLE, THE PROSPECTS FOR PHOTOVOLTAIC CONVERSION.  
 \*AUTHOR, JOHNSTON W D.  
 \*SOURCE, AMER SCIENTIST, 65/729-736, NOV-DEC 1977.  
 \*KEYWORDS, SOLAR, PHOTOVOLTAIC, ELECTRICAL, RADIATION.  
 \*NOTES, FILED.  
 \*DATE, 771100

ABSTRACT 2272

- \*TITLE, SOCIO-ECONOMIC CONSIDERATIONS IN THE UTILIZATIONS OF SOLAR ENERGY IN  
 UNDERDEVELOPED AREAS.  
 \*AUTHOR, KAPUR J C.  
 \*SOURCE, PROC OF THE UNITED NATIONS CONF ON NEW SOURCES OF ENERGY, VOL 1, ROME,  
 AUG 1961, PP 58-66.  
 \*KEYWORDS, SOLAR, DEVELOPING COUNTRIES, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 610800

ABSTRACT 2273

- \*TITLE, PHOTOVOLTAIC POWER SYSTEMS - A TOUR THROUGH THE ALTERNATIVES.  
 \*AUTHOR, KELLY H.  
 \*SOURCE, SCIENCE, 199(4325)/634-643, 10 FEB 1978.  
 \*KEYWORDS, SOLAR, PHOTOVOLTAIC.  
 \*NOTES, FILED.  
 \*DATE, 780210

ABSTRACT 2274

- \*TITLE, THERMAL PERFORMANCE OF A PLASTIC FILM SOLAR WATER HEATER.  
 \*AUTHOR, KENCALL P W, HEARS D R, ROBERTS W J, SIMPKINS J C.  
 \*SOURCE, ASAE PAPER 78-3507, 1978, 10 PP.  
 \*KEYWORDS, SOLAR, EFFICIENCY.  
 \*NOTES, FILED. THIS PAPER DESCRIBES AND EVALUATES A PLASTIC FILM SOLAR  
 WATER HEATER THAT PERFORMS WELL AT OPERATING TEMPERATURES OF ABOUT 25  
 DEGREES C IN NEW JERSEY WINTERS. CONSTRUCTION TECHNIQUES ARE SIMILAR  
 TO THOSE USED IN PLASTIC FILM GREENHOUSES WITH LARGE SHEETS OF AIR  
 INFLATED FILM FASTENED TO A RIGID FRAME.  
 \*DATE, 780000



\*TITLE, HARNESSING THE SUN.  
 \*AUTHOR, KEYES J.  
 \*SOURCE, DOBBS FERRY, NEW YORK/MORGAN AND MORGAN, AUG 1975.  
 \*KEYWORDS, SOLAR.  
 \*NOTES, FILED.  
 \*DATE, 750800

## ABSTRACT 2276

\*TITLE, PRESENT TECHNOLOGIES OF SOLAR HEATING, COOLING, AND HOT WATER SUPPLY IN JAPAN.  
 \*AUTHOR, KIMURA K.  
 \*SOURCE, ARCHITECTURAL SCI REVIEW, 19(2)/3 PP, JUNE 1976.  
 \*KEYWORDS, SOLAR, JAPAN, HEAT, COOLING, ENERGY CONSUMPTION.  
 \*NOTES, FILED.  
 \*DATE, 760600

## ABSTRACT 2277

\*TITLE, SOLAR COLLECTORS FOR LOW TEMPERATURE GRAIN DRYING  
 \*AUTHOR, KLINE G L.  
 \*SOURCE, ASAE PAPER 77-3007, 1977, 11PP.  
 \*KEYWORDS, SOLAR, DRYING, EFFICIENCY.  
 \*NOTES, FILED. PILOT SCALE SOLAR COLLECTORS SUITABLE FOR LOW-TEMPERATURE GRAIN DRYING WERE DESIGNED AND CONSTRUCTED. TWELVE DIFFERENT COLLECTORS WERE TESTED.  
 \*DATE, 770000

## ABSTRACT 2278

\*TITLE, SILICA GEL REGENERATION BY SOLAR ENERGY.  
 \*AUTHOR, KOH H K, CHUNG D S, CONVERSE H H, FOSTER G H, AZER N Z.  
 \*SOURCE, ASAE PAPER 78-3510, 1978, 15 PP.  
 \*KEYWORDS, SOLAR, SILICA GEL, DRYING, TECHNOLOGY ASSESSMENT.  
 \*NOTES, FILED. FLAT-PLATE SOLAR COLLECTORS WERE DESIGNED AND CONSTRUCTED FOR INVESTIGATING THEIR POTENTIAL OF SILICA GEL REGENERATION. THE RESULTS SHOWED THAT SILICA GEL CAN BE SUCCESSFULLY REGENERATED BY THEM, AND THE COLLECTOR AND THERMAL EFFICIENCIES WERE ABOUT 50 PERCENT.  
 \*DATE, 780000

## ABSTRACT 2279

\*TITLE, PROSPECTS OF PHOTOSYNTHETIC ENERGY PRODUCTION.  
 \*AUTHOR, KOK B.  
 \*SOURCE, PRESENTED AT AAAS SYMPOSIUM, SAN FRANCISCO, 24 FEB-1 MARCH 1974, 9 PP.  
 \*KEYWORDS, SOLAR, PHOTOSYNTHESIS.  
 \*NOTES, FILED.  
 \*DATE, 740224

## ABSTRACT 2280

\*TITLE, SOLAR HEATING AND COOLING - ENGINEERING, PRACTICAL DESIGN, ECONOMICS.  
 \*AUTHOR, KREIDER J F, KREITH F.  
 \*SOURCE, WASHINGTON D C/HEMISPHERE PUB CORP, 1975, 336 PP.  
 \*KEYWORDS, SOLAR, DESIGN, ECONOMICS, HEAT, COOLING, BUILDINGS, STORAGE, RADIATION.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 2281

\*TITLE, A SIMULATION OF SOLAR HEATING OF A DAIRY.  
 \*AUTHOR, LARSON D L, ARMSTRONG D.  
 \*SOURCE, ASAE PAPER 77-3540, 1977, 15 PP.  
 \*KEYWORDS, SOLAR, DAIRY, AGRICULTURE.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 2282

\*TITLE, ON-FARM SOLAR POWER PLANT LOAD MANAGEMENT.  
 \*AUTHOR, LARSON D L, ET AL.  
 \*SOURCE, COLLEGE OF AGR, UNIV OF ARIZONA, TUCSON, AZ, 11 PP.  
 \*KEYWORDS, SOLAR, IRRIGATION.  
 \*NOTES, FILED.  
 \*DATE,

\*TITLE, PLANS FOR A GLASS AND CONCRETE SOLAR STILL.  
\*AUTHOR, LAWAND T A, ALWARD R.  
\*SOURCE, TECH REPORT T58, BRACE RESEARCH INST, OCT 1972, 8 PP.  
\*KEYWORDS, SOLAR.  
\*NOTES.  
\*DATE, 721000

## ABSTRACT 2284

\*TITLE, SIMPLE SOLAR STILL FOR THE PRODUCTION OF DISTILLED WATER.  
\*AUTHOR, LAWAND T A.  
\*SOURCE, TECH REPORT T17, BRACE EXPT STA, BARBADOS, WEST INDIES, SEPT 1967.  
\*KEYWORDS, SOLAR, DISTILLATION.  
\*NOTES.  
\*DATE, 670900

## ABSTRACT 2285

\*TITLE, ENGINEERING AND ECONOMIC EVALUATION OF SOLAR DISTILLATION FOR SMALL COMMUNITIES.  
\*AUTHOR, LAWAND T A.  
\*SOURCE, PUBLICATION NO MT-6, BRACE RESEARCH INST, AUG 1968, 11 PP.  
\*KEYWORDS, SOLAR, DISTILLATION.  
\*NOTES, NAS.  
\*DATE, 680800

## ABSTRACT 2286

\*TITLE, SYSTEMS FOR SOLAR DISTILLATION.  
\*AUTHOR, LAWAND T A.  
\*SOURCE, ANNALS OF ARID ZONE, 15(3)/177-205, SEPT 1976.  
\*KEYWORDS, SOLAR, DISTILLATION.  
\*NOTES, FILED.  
\*DATE, 760930

## ABSTRACT 2267

\*TITLE, NEW APPROACHES FOR THE APPROPRIATE USE OF SOLAR ENERGY IN NORTHERN CLIMATES.  
\*AUTHOR, LAWAND T A, BUDGEN H P, IVES C, LE NORMAND J, SKELTON A, SHANIME L.  
\*SOURCE, PRESENTED AT THE 4TH ANNUAL MEETING OF THE SOLAR ENERGY SOC OF CANADA, UNIV OF WESTERN ONTARIO, LONDON, ONTARIO, CANADA, 20-24 AUG 1978, 18 PP.  
\*KEYWORDS, SOLAR, GREENHOUSE, BUILDINGS.  
\*NOTES, FILED.  
\*DATE, 780820

## ABSTRACT 2288

\*TITLE, BIOENERGETICS.  
\*AUTHOR, LEHNINGER.  
\*SOURCE, NEW YORK/W A BENJAMIN INC, 1965, 258 PP.  
\*KEYWORDS, SOLAR, ENERGY FLOW, PHOTOSYNTHESIS.  
\*NOTES.  
\*DATE, 650000

## ABSTRACT 2289

\*TITLE, INTEGRATING PHOTOVOLTAIC THRESHOLD PYRANOMETER.  
\*AUTHOR, LESEA A, MERRIAM M F.  
\*SOURCE, PRESENTED AT ISES CONF, LOS ANGELES, 1975, 6 PP.  
\*KEYWORDS, SOLAR, PHOTOVOLTAIC.  
\*NOTES, FILED.  
\*DATE, 750000

## ABSTRACT 2290

\*TITLE, THE CURRENT STATE OF KNOWLEDGE OF PHOTOCHEMICAL FORMATION OF FUEL.  
\*AUTHOR, LICHTIN N N.  
\*SOURCE, NSF-RA-N-75-094, RANN DOCUMENT CENTER, NATIONAL SCIENCE FOUNDATION, WASHINGTON D C, SEPT 1974, 176 PP.  
\*KEYWORDS, SOLAR, PHOTOCHEMICAL, HYDROGEN, ELECTRICAL, ORGANIC.  
\*NOTES, FILED.  
\*DATE, 740900

\*TITLE, FIRST REPORT ON SHOKEY YUNICK S TOTAL ENERGY SYSTEM.  
 \*AUTHOR, LINDSLEY E F.  
 \*SOURCE, POPULAR SCIENCE, AUG 1975, PP 56-60.  
 \*KEYWORDS, SOLAR, WIND, HEAT, COOLING, ELECTRICAL, FERTILIZER.  
 \*NOTES, FILED.  
 \*DATE, 750803

## ABSTRACT 2292

\*TITLE, FIRST PLUG-IN SOLAR FURNACE FOR YOUR HOME.  
 \*AUTHOR, LISTON J M.  
 \*SOURCE, POPULAR MECHANICS, FEB 1975, PP 102-105, 147.  
 \*KEYWORDS, SOLAR, HEAT, HOME.  
 \*NOTES, FILED.  
 \*DATE, 750200

## ABSTRACT 2293

\*TITLE, SOLAR ENERGY UTILIZATION - A BIBLIOGRAPHIC GUIDE.  
 \*AUTHOR, LIU R C.  
 \*SOURCE, ARC-NE-74, USOA, AGR RESEARCH SERVICE, BELTSVILLE, MARYLAND, JUNE 1976,  
 33 PP.  
 \*KEYWORDS, SOLAR, BIBLIOGRAPHY, HEAT, COOLING, DRYING, GREENHOUSE, ELECTRICAL,  
 IRRIGATION.  
 \*NOTES, FILED.  
 \*DATE, 760600

## ABSTRACT 2294

\*TITLE, WORLD DISTRIBUTION OF SOLAR RADIATION.  
 \*AUTHOR, LOF G O G, DUFFIE J A, SMITH C O.  
 \*SOURCE, ENGR EXPT STA REPORT 21, SOLAR ENERGY LAB, UNIV OF WISC, MADISON, WI,  
 JULY 1966, 59 PP.  
 \*KEYWORDS, SOLAR, RADIATION, WORLD WIDE.  
 \*NOTES, FILED.  
 \*DATE, 660700

## ABSTRACT 2295

\*TITLE, USE OF SOLAR ENERGY FOR HEATING PURPOSES - SOLAR COOKING.  
 \*AUTHOR, LOF G O G.  
 \*SOURCE, PROC OF THE UN CONF ON NEW SOURCES OF ENERGY, VOL 5, ROME,  
 ITALY, AUG 1961, PP 304-315.  
 \*KEYWORDS, SOLAR, COOKING, DEVELOPING COUNTRIES.  
 \*NOTES, FILED, NAS.  
 \*DATE, 610800

## ABSTRACT 2296

\*TITLE, DESIGN AND PERFORMANCE OF FOLDING UMBRELLA-TYPE SOLAR COOKER.  
 \*AUTHOR, LOF G O G, FESTER D A.  
 \*SOURCE, PROC OF THE UN CONF ON NEW SOURCES OF ENERGY, VOL 5, ROME,  
 ITALY, AUG 1961, PP 347-352.  
 \*KEYWORDS, SOLAR, COOKING, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 610800

## ABSTRACT 2297

\*TITLE, HOW TO BUILD A SOLAR HEATER.  
 \*AUTHOR, LUCAS T.  
 \*SOURCE, WARD RITCHIE PRESS, PASADENA, CALIF, 1975.  
 \*KEYWORDS, SOLAR, HEAT, COOLING, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 750000

- \*TITLE, RESEARCH ON THE APPLICATION OF SOLAR ENERGY TO THE FOOD DRYING INDUSTRY.
- \*AUTHOR, LUKES T.
- \*SOURCE, CALIF POLYTECHNIC STATE UNIV, SAN LUIS OBISPO, CA, 31 DEC 1975, 48PP.
- \*KEYWORDS, SOLAR, DRYING, FOOD PROCESSING.
- \*NOTES, FILED.
- \*DATE, 751231

## ABSTRACT 2299

- \*TITLE, SOLAR ENERGY - THE STATE OF THE ART AND THE ART OF THE STATES.
- \*AUTHOR, LUSTIG H.
- \*SOURCE, PREPARED FOR UNESCO, TECH DIV OF HIGHER ED AND RESEARCH, 15 FEB 1974, 78 PP.
- \*KEYWORDS, SOLAR, BIBLIOGRAPHY.
- \*NOTES, FILED.
- \*DATE, 740215

## ABSTRACT 2300

- \*TITLE, SOLAR ENERGY AND RURAL DEVELOPMENT FOR THE THIRD WORLD.
- \*AUTHOR, MAKHIJANI A.
- \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(6)/14-24, JUNE 1976.
- \*KEYWORDS, SOLAR, COOKING, POLICY, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 760600

## ABSTRACT 2301

- \*TITLE, SOLAR ENERGY UTILIZATION FOR ARID ZONE DEVELOPEMENT.
- \*AUTHOR, MANN H S.
- \*SOURCE, ANNALS OF ARID ZONE, 15(3)/129-136, SEPT 1976.
- \*KEYWORDS, SOLAR, INDIA, DRYING, DISTILLATION.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 2302

- \*TITLE, SOLAR ENERGY UTILIZATION.
- \*AUTHOR, MANN H S. ED.
- \*SOURCE, ANNALS OF ARID ZONE 15(3), SEPT 1976, THE ARID ZONE RESEARCH ASSOCIATION OF INDIA.
- \*KEYWORDS, SOLAR, PUMPS, DESIGN, DISTILLATION, DRYING.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 2303

- \*TITLE, PROCEEDINGS OF THE SEVENTH MEETING OF ALL INDIA SOLAR ENERGY WORKING GROUP AND CONFERENCE ON THE UTILIZATION OF SOLAR ENERGY.
- \*AUTHOR, MANNAN K D. ED.
- \*SOURCE, DEPT OF MECH ENGR, COLLEGE OF AGR ENGR, PUNJAB AGR UNIV, LUDHIANA, INDIA, 13 NOV 1975, 182 PP.
- \*KEYWORDS, SOLAR, INDIA.
- \*NOTES, FILED.
- \*DATE, 751113

## ABSTRACT 2304

- \*TITLE, AUTONOMOUS LIVING IN THE OUROBOROS HOUSE.
- \*AUTHOR, MARCOVICH S J.
- \*SOURCE, POPULAR SCIENCE, DEC 1975, PP 80-82, 111.
- \*KEYWORDS, SOLAR, HOME.
- \*NOTES, FILED.
- \*DATE, 751200



\*TITLE, ARIZONA AND TOMORROWS SOLAR POWER PLANTS.  
 \*AUTHOR, MARTIN J, HALACY D S.  
 \*SOURCE, ARIZONA STATE FUEL AND ENERGY OFFICE, 29 PP, UNDATED.  
 \*KEYWORDS, SOLAR, ARIZONA.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 2306

\*TITLE, L ENERGIE SOLAIRE.  
 \*AUTHOR, MASSON.  
 \*SOURCE, REPORT ON UTILIZATION OF SOLAR ENERGY, UNIV OF DAKAR.  
 \*KEYWORDS, SOLAR.  
 \*NOTES, NAS.  
 \*DATE,

## ABSTRACT 2307

\*TITLE, ECONOMICS OF ADOPTING SOLAR PHOTOVOLTAIC ENERGY SYSTEMS  
 IN IRRIGATION.  
 \*AUTHOR, MATLIN R W, KATZMAN M T.  
 \*SOURCE, LINCOLN LAB, MASS INST OF TECH, LEXINGTON, MA, 11 JULY 1977, 53 PP.  
 \*KEYWORDS, SOLAR, PHOTOVOLTAIC, IRRIGATION, ECONOMICS.  
 \*NOTES, NTIS, COO/4094-2.  
 \*DATE, 770711

## ABSTRACT 2308

\*TITLE, SOLAR HEATING AND COOLING - AN ECONOMIC ASSESSMENT.  
 \*AUTHOR, MCGARITY A E.  
 \*SOURCE, STOCK NO 038-000-00300-3, NATIONAL SCI FOUNDATION,  
 DIRECTORATE FOR SCIENTIFIC, TECHNOLOGICAL AND INTERNATIONAL AFFAIRS,  
 DIV OF POLICY RESEARCH AND ANALYSIS, US GOVT PRINTING OFFICE,  
 WASHINGTON DC 20405, 1975, 53 PP.  
 \*KEYWORDS, SOLAR, ECONOMICS, HOME.  
 \*NOTES, FILED. AN INTRODUCTION TO THE IMPORTANT ECONOMIC CONSIDERATIONS  
 THAT ARE NECESSARY FOR AN ASSESSMENT OF THE POTENTIAL FOR SOLAR  
 HEATING AND COOLING IN THE US. A COST COMPARISON OF SOLAR SPACE AND  
 HOT WATER HEATING WITH CONVENTIONAL SPACE AND HOT WATER HEATING IN  
 DETACHED RESIDENCES IS GIVEN FOR 20 US CITIES.  
 \*DATE, 750000

## ABSTRACT 2309

\*TITLE, APPLIED SOLAR ENERGY - AN INTRODUCTION.  
 \*AUTHOR, MEINEL A B, MEINEL M P.  
 \*SOURCE, READING, MA/ADDISON-WESLEY PUBL CO INC, 1976, 651 PP.  
 \*KEYWORDS, SOLAR, STORAGE, HEAT, CONVERSION.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 2310

\*TITLE, GAS PRODUCTION BY DESTRUCTIVE DISTILLATION USING SOLAR HEAT IN  
 COMBINATION WITH A SELF-SUFFICIENT GAS GENERATOR AND GAS STORAGE TANK FOR  
 CONTINUOUS GAS AND POWER SUPPLY.  
 \*AUTHOR, MELZER H.  
 \*SOURCE, PROC OF THE UNITED NATIONS CONF ON NEW SOURCES OF ENERGY, VOL 1, ROME,  
 AUG 1961, PP 203-211.  
 \*KEYWORDS, SOLAR, BRAZIL, DISTILLATION.  
 \*NOTES, FILED.  
 \*DATE, 610800

## ABSTRACT 2311

\*TITLE, SOLAR ENERGY CLASS NOTES.  
 \*AUTHOR, HERRIAM M F.  
 \*SOURCE, CLASS NOTES DISTRIBUTION FACILITY, DEPT OF ELECTRICAL ENGR, UNIV OF  
 CALIF, BERKELEY, OCT 1975, 100 PP.  
 \*KEYWORDS, SOLAR, PHOTOVOLTAIC, INSOLATION, HEAT, ENGINE.  
 \*NOTES, FILED.  
 \*DATE, 751000

- \*TITLE, COLLECTOR WINDOWS FROM FLUORESCENT LIGHT TUBES.
- \*AUTHOR, MERRIAM M F, HISSMAN R A, ONG K S, SESHAN K.
- \*SOURCE, DEPT OF MATERIALS SCI AND ENGR, COLLEGE OF ENGR, UNIV OF CALIF, BERKELEY, JULY 1975, 10 PP.
- \*KEYWORDS, SOLAR.
- \*NOTES, FILED.
- \*DATE, 750700

## ABSTRACT 2313

- \*TITLE, OCEAN THERMAL ENERGY - THE BIGGEST GAMBLE IN SOLAR POWER.
- \*AUTHOR, METZ W D.
- \*SOURCE, SCIENCE, 198/178-180, 14 OCT 1977.
- \*KEYWORDS, SOLAR, SEATERMAL.
- \*NOTES, FILED. LAST ARTICLE IN A SERIES OF SEVEN.
- \*DATE, 771014

## ABSTRACT 2314

- \*TITLE, SOLAR THERMAL ELECTRICITY - POWER TOWER DOMINATES RESEARCH.
- \*AUTHOR, METZ W D.
- \*SOURCE, SCIENCE, 197/353-356, 22 JULY 1977.
- \*KEYWORDS, SOLAR, ELECTRICAL.
- \*NOTES, FILED. SECOND ARTICLE IN A SERIES OF SEVEN.
- \*DATE, 770722

## ABSTRACT 2315

- \*TITLE, SOLAR THERMAL ENERGY - BRINGING THE PIECES TOGETHER.
- \*AUTHOR, METZ W D.
- \*SOURCE, SCIENCE, 197/650-651, 12 AUG 1977.
- \*KEYWORDS, SOLAR.
- \*NOTES, FILED. FOURTH ARTICLE IN A SERIES OF SEVEN.
- \*DATE, 770812

## ABSTRACT 2316

- \*TITLE, SOLAR HEATED AIR DRYING OF SOYBEAN SEED AND SHELLED CORN.
- \*AUTHOR, MEYER G E, KEENER H M, ROLLER W L.
- \*SOURCE, ASAE PAPER 75-3002, 1975, 21 PP.
- \*KEYWORDS, SOLAR, DRYING, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 2317

- \*TITLE, SOYBEAN DRYING WITH SOLAR HEAT.
- \*AUTHOR, MEYER G E, KEENER H M.
- \*SOURCE, PRESENTED AT THE SOLAR GRAIN DRYING SYMPOSIUM, MANHATTAN, KS, 1 MAY 1975, 7 PP.
- \*KEYWORDS, SOLAR, DRYING.
- \*NOTES, FILED.
- \*DATE, 750501

## ABSTRACT 2318

- \*TITLE, SOLAR ENERGY HOME DESIGN IN FOUR CLIMATES.
- \*AUTHOR, MICHAL C J.
- \*SOURCE, TOTAL ENVIRONMENT ACTION, HARRISVILLE, NH, AUG 1976, 198 PP.
- \*KEYWORDS, SOLAR, DESIGN, HOME, HEAT, STORAGE, COOLING.
- \*NOTES, FILED.
- \*DATE, 760800

## ABSTRACT 2319

- \*TITLE, OLD SOURCE FOR NEW ENERGY.
- \*AUTHOR, MOCKOVCIK J.
- \*SOURCE, HORIZONS, 10(1)/2-7, 1974.
- \*KEYWORDS, SOLAR, FOSSIL FUELS, PETROLEUM, COAL.
- \*NOTES, FILED.
- \*DATE, 740000

\*TITLE, FIVE SOLAR WATER HEATERS YOU CAN BUILD.  
 \*AUTHOR, MORAN E.  
 \*SOURCE, POPULAR SCIENCE, 208(5)/99-103, MAY 1976.  
 \*KEYWORDS, SOLAR, HEAT.  
 \*NOTES, FILED.  
 \*DATE, 760500

## ABSTRACT 2321

\*TITLE, FIELD EVALUATION OF A SOLAR ENERGY GRAIN DRYING SYSTEM.  
 \*AUTHOR, MOREY R V, CLOUD H A, NELSON W W.  
 \*SOURCE, ASAE PAPER 75-3515, 17 PP.  
 \*KEYWORDS, SOLAR, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 2322

\*TITLE, SOLAR CELLS FIND THEIR NICHE IN EVERYDAY LIFE ON EARTH.  
 \*AUTHOR, MORRIS D.  
 \*SOURCE, SMITHSONIAN, 8(7)/37-45, OCT 1977.  
 \*KEYWORDS, SOLAR, PHOTOVOLTAIC.  
 \*NOTES, FILED. PRESENT AND FUTURE COSTS, PERFORMANCE, AND POTENTIAL OF SOLAR CELLS.  
 \*DATE, 771000

## ABSTRACT 2323

\*TITLE, BARE PLATE SOLAR COLLECTOR GRAIN DRYING BIN.  
 \*AUTHOR, MORRISON D W, SHOVE G C.  
 \*SOURCE, ASAE PAPER 75-3513, 6 PP.  
 \*KEYWORDS, SOLAR, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 750000

## ABSTRACT 2324

\*TITLE, SOLAR ENERGY - HEAT PUMP LOW TEMPERATURE GRAIN DRYING.  
 \*AUTHOR, MORRISON D W, SHOVE G C.  
 \*SOURCE, ASAE PAPER 77-3546, 1977, 8 PP.  
 \*KEYWORDS, SOLAR, DRYING, HEAT PUMPS.  
 \*NOTES, FILED.  
 \*DATE- 770000

## ABSTRACT 2325

\*TITLE, SOLAR ENERGY - ITS TIME IS NEAR.  
 \*AUTHOR, MORROW W E.  
 \*SOURCE, TECHNOLOGY REVIEW, DEC 1973, PP 30-43.  
 \*KEYWORDS, SOLAR, ECONOMICS.  
 \*NOTES, FILED. FACTS ABOUT SOLAR ENERGY AND ITS POSSIBLE IMPLEMENTATION AS A MAJOR ENERGY SOURCE. POSSIBLE DESIGNS FOR SOLAR ENERGY POWER PLANTS ARE VIEWED.  
 \*DATE, 731200

## ABSTRACT 2326

\*TITLE, SOLAR ENERGY AS A MAJOR PRIMARY ENERGY SOURCE.  
 \*AUTHOR, MORSE R N, ET AL.  
 \*SOURCE, PROC SYMPOSIUM ON REALISTIC PROSPECTS FOR SOLAR POWER IN AUSTRALIA, INTERNATIONAL SOLAR ENERGY SOC, 22 NOV 1973.  
 \*KEYWORDS, SOLAR, AUSTRALIA, ORGANIC, PHOTOSYNTHESIS.  
 \*NOTES, FILED.  
 \*DATE, 731122

## ABSTRACT 2327

\*TITLE, THE STATUS OF SOLAR ENERGY UTILIZATION IN AUSTRALIA FOR INDUSTRIAL COMMERCIAL AND DOMESTIC PURPOSES.  
 \*AUTHOR, MORSE R N, COOPER P I, PROCTOR D.  
 \*SOURCE, REPORT NO 74/1, CSIRO SOLAR ENERGY STUDIES, JULY 1974, 45 PP.  
 \*KEYWORDS, SOLAR, HEAT, BUILDINGS, COOLING, DRYING, AUSTRALIA, STORAGE.  
 \*NOTES, FILED.  
 \*DATE, 740700

- \*TITLE, SOLAR POWER FROM SATELLITES.
- \*AUTHOR, MOSS F E. ET AL.
- \*SOURCE, HEARINGS BEFORE THE SUBCOMMITTEE ON AEROSPACE TECH AND NATIONAL NEEDS OF THE COMMITTEE ON AERONAUTICAL AND SPACE SCIENCES, UNITED STATES SENATE, NINETY-FOURTH CONGRESS, SECOND SESSION, 19-21 JAN 1976, 230 PP.
- \*KEYWORDS, SOLAR, SOCIAL IMPLICATIONS, ECONOMICS, TECHNOLOGY ASSESSMENT, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 760119

## ABSTRACT 2329

- \*TITLE, SMALL AND MEDIUM SCALE APPLICATIONS OF SOLAR ENERGY AND THEIR POTENTIAL FOR THE DEVELOPING COUNTRIES.
- \*AUTHOR, MOUMOUNI A.
- \*SOURCE, WORKING PARTY ON SOLAR ENERGY, UNESCO, PARIS, FRANCE, 10 JUNE 1973, 19 PP.
- \*KEYWORDS, SOLAR, DEVELOPING COUNTRIES, COOKING, HEAT, DISTILLATION, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 730610

## ABSTRACT 2330

- \*TITLE, DIRECT USE OF SOLAR ENERGY FOR WATER DESALINATION.
- \*AUTHOR, MOUSTAFA S M A, BRUSEWITZ G H, FARNER D M.
- \*SOURCE, PAPER 416, OKLAHOMA AGR EXPT STA, OKLAHOMA STATE UNIV STILLWATER, OK, 1977, 26 PP.
- \*KEYWORDS, SOLAR, DISTILLATION.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2331

- \*TITLE, APPLICATIONS OF SOLAR ENERGY FOR PREHEATING VENTILATING AIR.
- \*AUTHOR, MURPHY J P, SPILLMAN C K, ROBBINS F V.
- \*SOURCE, ASAE PAPER 77-3545, 1977, 10 PP.
- \*KEYWORDS, SOLAR, VENTILATION, BUILDINGS.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2332

- \*TITLE, SOLAR ENERGY USE IN AGRICULTURE.
- \*AUTHOR, MYERS C A, STOUT B A.
- \*SOURCE, AEIS 355, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, 30 AUG 1976, 12 PP.
- \*KEYWORDS, SOLAR, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 760830

## ABSTRACT 2333

- \*TITLE, SOLAR ENERGY USE IN AGRICULTURE.
- \*AUTHOR, MYERS C A, STOUT B A.
- \*SOURCE, AGR MECHANIZATION IN ASIA, WINTER 1977, PP 21-27.
- \*KEYWORDS, SOLAR, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2334

- \*TITLE, PHOTOVOLTAIC CONVERSION OF SOLAR ENERGY FOR TERRESTRIAL APPLICATIONS, VOL II, INVITED PAPERS.
- \*AUTHOR, NATIONAL SCIENCE FOUNDATION.
- \*SOURCE, NSF-RA-N-74-/UO, NSF, WASHINGTON DC, 23-25 OCT 1973.
- \*KEYWORDS, SOLAR, PHOTOVOLTAIC, CONVERSION.
- \*NOTES, FILED.
- \*DATE, 731023



- TITLE, SOLAR TECHNOLOGY APPLICATIONS - A LITERATURE REVIEW OF SOLAR THERMAL POWERED IRRIGATION SYSTEMS.
- AUTHOR, NEWKIRK H W.
- SOURCE, LAWRENCE LIVERMORE LAB, CALIF UNIV, LIVERMORE, CA, 30 JUNE 1977, 20 PP.
- KEYWORDS, SOLAR, IRRIGATION.
- NOTES, NTIS, UCID-17510.
- DATE, 770630

## ABSTRACT 2336

- TITLE, RECENT RESEARCH AND DEVELOPMENT ON SOLAR ENERGY APPLICATION IN JAPAN.
- AUTHOR, NOGUCHI T.
- SOURCE, ANNALS OF ARID ZONE, 15(3)/219-227, SEPT 1976.
- KEYWORDS, SOLAR, JAPAN, COOLING, HEAT.
- NOTES, FILED.
- DATE, 760900

## ABSTRACT 2337

- TITLE, SOLAR ENERGY--THE REVOLUTION IS UNDER WAY.
- AUTHOR, ODELL R.
- SOURCE, CONSERVATION FOUNDATION LETTER, 1717 MASS AVE NW, WASHINGTON DC 20036, JUNE 1977, 8PP.
- KEYWORDS, SOLAR, HEAT, BUILDINGS, ELECTRICAL, ENVIRONMENT.
- NOTES, FILED. WITH THE RAPID SOLUTION OF TECHNOLOGICAL PROBLEMS, SOLAR ENERGY DEVELOPMENT IS GUIDED BY COMPLEX CALCULATIONS OF ECONOMIC FEASIBILITY. THE FUTURE CONTRIBUTION OF SOLAR ENERGY TO THE NATIONS TOTAL ENERGY REQUIREMENTS DEPENDS ON MANY FACTORS.
- DATE, 770600

## ABSTRACT 2338

- TITLE, SOLAR HEATING AND COOLING DEMONSTRATION PROGRAM--A DESCRIPTIVE SUMMARY OF HUD SOLAR RESIDENTIAL DEMONSTRATION.
- AUTHOR, ORLEBEKE C J.
- SOURCE, STOCK NO 023-000-00338-4, US DEPT OF HUD, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1976, 54PP.
- KEYWORDS, SOLAR, HOME, DESIGN.
- NOTES, FILED. SUMMARY OF PROPOSALS SELECTED BY HUD FOR SOLAR RESIDENTIAL DEMONSTRATION PROJECTS. PUBLICATION DESIGNED TO PROVIDE PUBLIC AWARENESS OF SOLAR ENERGY. 53 DIFFERENT HOUSING DESIGNS ARE GIVEN.
- DATE, 760006

## ABSTRACT 2339

- TITLE, SOLAR ENERGY FIXATION WITH ALGAL-BACTERIAL SYSTEMS.
- AUTHOR, CSWALD W J.
- SOURCE, COMPOST SCIENCE, 15(1)/20-21 JAN-FEB 1974.
- KEYWORDS, SOLAR, ORGANIC.
- NOTES, FILED.
- DATE, 740120

## ABSTRACT 2340

- TITLE, THE SOLAR STILL.
- AUTHOR, PARKER R, HUMENIK F J, HOLMES R G, OVERCASH M.
- SOURCE, AGR ENGR, SEPT 1974, PP 25-26.
- KEYWORDS, SOLAR, HEAT, METHANE, MANURE.
- NOTES, FILED.
- DATE, 740906

## ABSTRACT 2341

- TITLE, MULTIPLE FIN SOLAR ENERGY RECEIVER FOR LINE FOCUSING COLLECTORS.
- AUTHOR, PARKER B F.
- SOURCE, ASAE PAPER 77-4534, 1977, 12 PP.
- KEYWORDS, SOLAR.
- NOTES, FILED.
- DATE, 770000

\*TITLE, SOLAR WATER HEATER FOR YOUR VACATION HOME.  
\*AUTHOR, PAYNE J, MCCONAGHIE T.  
\*SOURCE, POPULAR SCIENCE, SEPT 1974, 3 PP.  
\*KEYWORDS, SOLAR, HOME.  
\*NOTES, FILED.  
\*DATE, 740900

## ABSTRACT 2343

\*TITLE, SOLAR-ELECTRIC CROP DRYER PROGRESS REPORT.  
\*AUTHOR, PETERSON W M.  
\*SOURCE, AGR ENGR DEPT, SOUTH DAKOTA STATE UNIV, 1 DEC 1973, 10 PP.  
\*KEYWORDS, SOLAR, ELECTRICAL, DRYING.  
\*NOTES, FILED.  
\*DATE, 731201

## ABSTRACT 2344

\*TITLE, SOLAR HEAT FOR DRYING SHELLED CORN.  
\*AUTHOR, PETERSON W M.  
\*SOURCE, ASAE PAPER NC73-302, 14 PP.  
\*KEYWORDS, SOLAR, DRYING.  
\*NOTES, FILED.  
\*DATE, 730000

## ABSTRACT 2345

\*TITLE, THE LONG-RANGE PROSPECTS FOR SOLAR ENERGY.  
\*AUTHOR, POLLARD W G.  
\*SOURCE, AMER SCIENTIST, 64/424-429, JULY 1976.  
\*KEYWORDS, SOLAR, ELECTRICAL, TECHNOLOGY ASSESSMENT.  
\*NOTES, FILED.  
\*DATE, 760700

## ABSTRACT 2346

\*TITLE, SOLAR ENERGY HANDBOOK - 1978.  
\*AUTHOR, POPULAR SCIENCE.  
\*SOURCE, PUBLISHED BY POPULAR SCIENCE, 1978, 112 PP.  
\*KEYWORDS, SOLAR, HOME, COOLING, LEGISLATION, ADVERTISEMENT.  
\*NOTES, FILED.  
\*DATE, 780000

## ABSTRACT 2347

\*TITLE, THE USE OF WASTE HEAT IN A SOLAR STILL.  
\*AUTHOR, PROCTOR D.  
\*SOURCE, SOLAR ENERGY, 14/433-449.  
\*KEYWORDS, SOLAR.  
\*NOTES, NAS.  
\*DATE,

## ABSTRACT 2348

\*TITLE, SOLAR CELLS - OUTLOOK FOR IMPROVED EFFICIENCY.  
\*AUTHOR, RAPPAPORT P. ET AL.  
\*SOURCE, AD HOC PANEL ON SOLAR CELL EFFICIENCY, NAS, SPACE SCIENCE BOARD,  
2101 CONSTITUTION AVE, WASHINGTON D C, 1972, 73 PP.  
\*KEYWORDS, SOLAR, PHOTOSYNTHESIS, PHOTOVOLTAIC.  
\*NOTES, FILED, NAS.  
\*DATE, 720000

## ABSTRACT 2349

\*TITLE, SOLAR ENERGY FOR PROCESS HEATING, INDUSTRIAL HOT WATER AND STEAM.  
\*AUTHOR, REAO W R, DAVEY E T.  
\*SOURCE, PROC SYMPOSIUM ON REALISTIC PROSPECTS FOR SOLAR POWER IN AUSTRALIA,  
INTERNATIONAL SOLAR ENERGY SOC, 22 NOV 1973.  
\*KEYWORDS, SOLAR, HEAT, ECONOMICS, DRYING, AUSTRALIA.  
\*NOTES, FILED.  
\*DATE, 731122

- TITLE, ENERGY CONSERVATION AND SOLAR HEATING IN POULTRY PRODUCTION.
- AUTHOR, REECE F N.
- SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT VOL 1, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 815-822.
- KEYWORDS, SOLAR, POULTRY, BUILDINGS.
- NOTES, FILED.
- DATE, 771024

## ABSTRACT 2351

- TITLE, DESIGNING A RESIDENTIAL SOLAR HEATING SYSTEM.
- AUTHOR, REMMERS H E.
- SOURCE, COLORADO ENGINEER, JAN 1975, PP 24-28.
- KEYWORDS, SOLAR, HEAT.
- NOTES, FILED.
- DATE, 750100

## ABSTRACT 2352

- TITLE, FIELD TEST PROCEDURE FOR RATING RESIDENTIAL SOLAR HEATING SYSTEMS BASED ON USEFUL HEAT DELIVERY.
- AUTHOR, REMMERS H E, KIER H W.
- SOURCE, ISC-01-23, ENGR DIV, INTERNATIONAL SOLORTHERMICS CORP, BOX 397, NEDERLAND, COLORADO, MAY 1975, 22 PP.
- KEYWORDS, SOLAR, HEAT, HOME.
- NOTES, FILED.
- DATE, 750500

## ABSTRACT 2353

- TITLE, SOLAR ENERGY TRANSMISSION THROUGH TWO TRANSPARENT COVERS.
- AUTHOR, ROBBINS F V, SPILLMAN C K.
- SOURCE, ASAE PAPER 77-3006, 1977, 15PP.
- KEYWORDS, SOLAR, TRANSMISSION, INSOLATION.
- NOTES, FILED. CALCULATION OF THE TRANSMITTANCE OF SOLAR COLLECTOR COVER SYSTEMS WHICH EMPLOY ONE OR TWO COVERS. A PROCEDURE TO CALCULATE THE DIRECT AND DIFFUSE RADIATION ON A SURFACE OF ANY ORIENTATION, GIVEN THE HOURLY INSOLATION, IS ALSO PROVIDED.
- DATE, 77C000

## ABSTRACT 2354

- TITLE, HEATING PLASTIC GREENHOUSES WITH SOLAR ENERGY.
- AUTHOR, ROBERTS W J, ET AL.
- SOURCE, ASAE PAPER 76-102, 15 AUG 1976, 10 PP.
- KEYWORDS, SOLAR, GREENHOUSE, STORAGE.
- NOTES, FILED.
- DATE, 760815

## ABSTRACT 2355

- TITLE, IRAN-- THE USE OF SECONDARY TREATED WASTE WATER EFFLUENT FOR ENERGY EFFICIENT CROP PRODUCTION.
- AUTHOR, SANAI M, SHAYEGAN J.
- SOURCE, IN THE BOOK PROCEEDINGS OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT 3/4, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 481-485.
- KEYWORDS, SOLAR, PHOTOSYNTHESIS, IRRIGATION, WASTES, FERTILIZER, IRAN.
- NOTES, FILED. EXPERIMENTS RELATED TO HARVEST OF SOLAR ENERGY THROUGH CROP PRODUCTION ARE REPORTED WHERE SECONDARY TREATED WASTE-WATER IS USED IN PLACE OF ORDINARY IRRIGATING WATER AND CHEMICAL FERTILIZERS.
- DATE, 771024

## ABSTRACT 2356

- TITLE, HEATING WITH SOLAR ENERGY.
- AUTHOR, SCHINDLER D E.
- SOURCE, FS-10, KANSAS STATE UNIV, MANHATTAN, KS, MAY 1977, 4PP.
- KEYWORDS, SOLAR, HEAT, STORAGE.
- NOTES, FILED.
- DATE, 770500

- \*TITLE, THE ECONOMICS OF SOLAR HOME HEATING.
- \*AUTHOR, SCHULZE W D. ET AL.
- \*SOURCE, JOINT ECONOMIC COMMITTEE, US CONGRESS, 95TH CONGRESS, 1ST SESSION, US GOVT PRINTING OFFICE, WASHINGTON DC 20405, 13 MARCH 1977, 86 PP.
- \*KEYWORDS, SOLAR, ECONOMICS, HOME.
- \*NOTES, FILED. STUDY REVIEWS THE ECONOMICS OF SOLAR ENERGY USED TO HEAT RESIDENTIAL STRUCTURES AND TO HEAT WATER. IT ANALYZES THE EXTENT TO WHICH SUCH SOLAR APPLICATIONS CAN ECONOMICALLY SUBSTITUTE FOR MORE CONVENTIONAL RESIDENTIAL HEATING AND HOT WATER SYSTEMS. THE ANALYSIS IS DONE ON A STATE-BY-STATE BASIS, AND COVERS THE PERIOD, 1976-1990.
- \*DATE, 770313

## ABSTRACT 2358

- \*TITLE, SOLAR HEATING AND COOLING OF BUILDINGS.
- \*AUTHOR, SHERIDAN N R.
- \*SOURCE, PROC SYMPOSIUM ON REALISTIC PROSPECTS FOR SOLAR POWER IN AUSTRALIA, INTERNATIONAL SOLAR ENERGY SOC, 22 NOV 1973.
- \*KEYWORDS, SOLAR, HEAT, COOLING, AUSTRALIA, STORAGE.
- \*NOTES, FILED.
- \*DATE, 731122

## ABSTRACT 2359

- \*TITLE, A SOLAR POND FOR HEATING AND COOLING GREENHOUSES AND RURAL RESIDENCES.
- \*AUTHOR, SHORT T H, BADGER P C.
- \*SOURCE, AGR ENGR DEPT, OHIO AGR RESEARCH AND DEV CENTER, WOOSTER, 3 PP, UNDATED.
- \*KEYWORDS, SOLAR, HEAT, COOLING, GREENHOUSE, HOME.
- \*NOTES, FILED.
- \*DATE,

## ABSTRACT 2360

- \*TITLE, A SOLAR POND FOR HEATING GREENHOUSES AND RURAL RESIDENCES - A PRELIMINARY REPORT.
- \*AUTHOR, SHORT T H, ROLLER W L, BADGER P C.
- \*SOURCE, ASAE PAPER 76-4012, 6 PP.
- \*KEYWORDS, SOLAR, GREENHOUSE, HOME, HEAT.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 2361

- \*TITLE, GARDEN SOLAR-HEATED GREENHOUSE.
- \*AUTHOR, SHORT T H, BADGER P C, ROLLER W L.
- \*SOURCE, AGR ENGR, JULY 1976, PP 30-32.
- \*KEYWORDS, SOLAR, GREENHOUSE, HEAT.
- \*NOTES, FILED.
- \*DATE, 760700

## ABSTRACT 2362

- \*TITLE, ACTIVE-TYPE SOLAR HEATING SYSTEMS FOR HOUSES - A TECHNOLOGY IN FERMENT.
- \*AUTHOR, SHUKCLIFF W A.
- \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(2)/30-40, FEB 1976.
- \*KEYWORDS, SOLAR, HOME, HEAT.
- \*NOTES, FILED.
- \*DATE, 760200

## ABSTRACT 2363

- \*TITLE, PERFORMANCE OF A DIURNALLY TRACKING SOLAR ENERGY - INTENSIFIER.
- \*AUTHOR, SIEGEL C, HELLICKSON M A, VERMA L R, PETERSON W H.
- \*SOURCE, ASAE PAPER 79-4531, 1978, 29 PP.
- \*KEYWORDS, SOLAR, EFFICIENCY, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 780000



## ABSTRACT 2364

- TITLE, COVERED PLATE SOLAR COLLECTOR INCORPORATED INTO WALL AND ROOF OF A FARM BUILDING.
- AUTHOR, SMIT C D, SHOVE G C.
- SOURCE, ASAE PAPER 76-3515, 1976, 8 PP.
- KEYWORDS, SOLAR, DRYING, DESIGN.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 2365

- TITLE, A SOLAR POWERED DOMESTIC HOT WATER HEATER.
- AUTHOR, SMITH N, ANDERSON W.
- SOURCE, ASAE PAPER 76-105, 15 AUG 1976, 9 PP.
- KEYWORDS, SOLAR, HOME.
- NOTES, FILED.
- DATE, 760815

## ABSTRACT 2366

- TITLE, SOLAR PROCESS DRYING OF POTATO PRODUCTS.
- AUTHOR, SMITH C C, MAGA J A, CHAPMAN J C.
- SOURCE, ASAE PAPER 77-6521, 1977, 19 PP.
- KEYWORDS, SOLAR, FOOD PROCESSING, DEHYDRATION.
- NOTES, FILED. THE PRINCIPLE OBJECTIVE OF THIS WORK IS TO ESTABLISH THE METHODS AND CONDITIONS UNDER WHICH SOLAR ENERGY CAN BE USED MOST PROFITABLY IN THE FOOD PROCESS DEHYDRATION PLANT.
- DATE, 770000

## ABSTRACT 2367

- TITLE, COMPANY LITERATURE.
- AUTHOR, SOLAR ENERGY PRODUCTS CO.
- SOURCE, SOLRON, SOLAR ENERGY PRODUCTS CO, 121 MILLER RD, AVON LAKE, OH.
- KEYWORDS, SOLAR, DRYING, ADVERTISEMENT.
- NOTES, FILED.
- DATE,

## ABSTRACT 2368

- TITLE, SOLAR AGE.
- AUTHOR, SOLAR AGE.
- SOURCE, SOLAR AGE, PO BOX 4934, MANCHESTER, NH 03108.
- KEYWORDS, SOLAR, JOURNAL.
- NOTES, FILED. MONTHLY JOURNAL.
- DATE,

## ABSTRACT 2369

- TITLE, HOW TO BUY SOLAR-WITHOUT GETTING BURNT.
- AUTHOR, WELLS M, SPETGANG I.
- SOURCE, EMAS, PA/RODALE PRESS, 1978, 262 PP.
- KEYWORDS, SOLAR, HOME.
- NOTES, J. POSSELIUS. A CONSUMERS GUIDE TO CHOOSING, FINANCING, AND INSTALLING SOLAR HOUSE HEATING EQUIPMENT.
- DATE, 780000

## ABSTRACT 2370

- TITLE, INDUSTRIAL APPLICATIONS OF SOLAR ENERGY.
- AUTHOR, SRINIVASAN S P R, ET AL.
- SOURCE, SEMINAR PROCEEDINGS, NATIONAL PRODUCTIVITY COUNCIL, PRODUCTIVITY HOUSE, LODI ROAD, NEW DELHI 110003, 4 JUNE 1975, 336 PP.
- KEYWORDS, SOLAR, INDUSTRY, INDIA.
- NOTES, FILED.
- DATE, 750604

## ABSTRACT 2371

- TITLE, PROCEEDINGS OF WORLD SYMPOSIUM ON APPLIED SOLAR ENERGY.
- AUTHOR, STANFORD RESEARCH INSTITUTE.
- SOURCE, SRI, MENLO PARK, CA 94025, 1956.
- KEYWORDS, SOLAR.
- NOTES,
- DATE, 560000

## ABSTRACT 2372

\*TITLE, NOW YOU CAN BUY SOLAR HEATING EQUIPMENT FOR YOUR HOME.  
\*AUTHOR, STEPLER R.  
\*SOURCE, POPULAR SCIENCE, MARCH 1975, PP 74-77, 136-142.  
\*KEYWORDS, SOLAR, HOME.  
\*NOTES, FILED.  
\*DATE, 750390

## ABSTRACT 2373

\*TITLE, SOLAR WATER HEATERS YOU CAN BUY NOW.  
\*AUTHOR, STEPLER R.  
\*SOURCE, POPULAR SCIENCE, 208(5)/104-105, 137-138, 142, MAY 1976.  
\*KEYWORDS, SOLAR, HEAT.  
\*NOTES, FILED.  
\*DATE, 760500

## ABSTRACT 2374

\*TITLE, USING THE SUN TO DRY GRAIN.  
\*AUTHOR, STEVENS A L.  
\*SOURCE, OHIO REPORT, 59(6)/73, NOV-DEC 1974.  
\*KEYWORDS, SOLAR, DRYING.  
\*NOTES, FILED.  
\*DATE, 741100

## ABSTRACT 2375

\*TITLE, AGRICULTURAL APPLICATIONS OF SOLAR ENERGY.  
\*AUTHOR, STOUT B A, MYERS C A.  
\*SOURCE, PRESENTED AT THE ANNUAL MEETING OF THE AMER SECTION OF THE INTERNATIONAL SOLAR ENERGY SOC, DENVER, CO, 31 AUG 1978, 11 PP.  
\*KEYWORDS, SOLAR, AGRICULTURE, TECHNOLOGY ASSESSMENT.  
\*NOTES, FILED. SUMMARIES OF EXAMPLE PROJECTS FOR EIGHT CATEGORIES OF ON AND OFF FARM APPLICATIONS OF SOLAR ENERGY ARE INCLUDED.  
\*DATE, 780831

## ABSTRACT 2376

\*TITLE, A UNIVERSAL SOLAR KITCHEN.  
\*AUTHOR, SWET C J.  
\*SOURCE, REPORT APL/JHU, JOHNS HOPKINS UNIV, JULY 1972, 23 PP.  
\*KEYWORDS, SOLAR, COOKING, DEVELOPING COUNTRIES.  
\*NOTES, N.A.S.  
\*DATE, 720700

## ABSTRACT 2377

\*TITLE, LOW HEAD SOLAR WATER PUMPING.  
\*AUTHOR, SWET C J, FOX H G.  
\*SOURCE, IECEC PAPER 739127, 1973, PP 341-347.  
\*KEYWORDS, SOLAR, WATER POWER.  
\*NOTES, FILED.  
\*DATE, 730000

## ABSTRACT 2378

\*TITLE, SOLAR ENERGY FOR DEVELOPING REGIONS.  
\*AUTHOR, TABOR H Z.  
\*SOURCE, WORKING PARTY ON SOLAR ENERGY, UNESCO, PARIS, 27-29 JUNE 1973, 29 PP.  
\*KEYWORDS, SOLAR, DEVELOPING COUNTRIES, DISTILLATION, DRYING, REFRIGERATION.  
\*NOTES, FILED.  
\*DATE, 730627

## ABSTRACT 2379

\*TITLE, SOLAR PONDS.  
\*AUTHOR, TABOR H Z.  
\*SOURCE, SCIENCE J, JUNE 1966, PP 66-71.  
\*KEYWORDS, SOLAR, HEAT.  
\*NOTES, FILED.  
\*DATE, 660600

- \*TITLE, CRITERIA FOR THE APPLICATION OF SOLAR ENERGY TO DEVELOPING COUNTRIES.
- \*AUTHOR, TABOR H Z.
- \*SOURCE, PRESENTED AT THE SPECIAL SESSION ON SOLAR ENERGY FOR DEVELOPING REGIONS OF THE SOLAR ENERGY SOC, BOSTON, MARCH 1966, 11 PP.
- \*KEYWORDS, SOLAR, DEVELOPING COUNTRIES, POLICY.
- \*NOTES, FILED.
- \*DATE, 660300

## ABSTRACT 2381

- \*TITLE, A SOLAR COOKER FOR DEVELOPING COUNTRIES.
- \*AUTHOR, TABOR H Z.
- \*SOURCE, SOLAR ENERGY, 10(4)/153-157, OCT-DEC 1966.
- \*KEYWORDS, SOLAR, DESIGN, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 661000

## ABSTRACT 2382

- \*TITLE, SOLAR PONDS AS HEAT SOURCE FOR LOW-TEMPERATURE MULTI-EFFECT DISTILLATION PLANTS.
- \*AUTHOR, TABOR H Z.
- \*SOURCE, ANNALS OF ARID ZONE, 15(3)/155-171, SEPT 1976.
- \*KEYWORDS, SOLAR, DISTILLATION, ISRAEL.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 2383

- \*TITLE, SOLAR ENERGY - HOW SHALL WE USE THE SUNLIGHT.
- \*AUTHOR, TAMPLIN A R.
- \*SOURCE, ENVIRONMENT, 15(5)/16-34, JUNE 1973.
- \*KEYWORDS, SOLAR.
- \*NOTES, HAS.
- \*DATE, 730600

## ABSTRACT 2384

- \*TITLE, SOLAR PHOTOVOLTAIC ENERGY.
- \*AUTHOR, TEAGUE O E. ET AL.
- \*SOURCE, HEARINGS BEFORE THE SUBCOMMITTEE ON ENERGY OF THE COMMITTEE ON SCI AND ASTRONAUTICS, US HOUSE OF REPRESENTATIVES, NINETY-THIRD CONGRESS, SECOND SESSION, 6, 11 JUNE 1974, 175 PP.
- \*KEYWORDS, SOLAR, PHOTOVOLTAIC, STORAGE.
- \*NOTES, FILED.
- \*DATE, 740606

## ABSTRACT 2385

- \*TITLE, SOLAR SEA THERMAL ENERGY.
- \*AUTHOR, TEAGUE O E. ET AL.
- \*SOURCE, HEARINGS BEFORE THE SUBCOMMITTEE ON ENERGY OF THE COMMITTEE ON SCI AND ASTRONAUTICS, US HOUSE OF REPRESENTATIVES, NINETY-THIRD CONGRESS, SECOND SESSION, 23 MAY 1974, 134 PP.
- \*KEYWORDS, SOLAR, SEATHERMAL.
- \*NOTES, FILED.
- \*DATE, 740523

## ABSTRACT 2386

- \*TITLE, SURVEY OF SOLAR ENERGY PRODUCTS AND SERVICES.
- \*AUTHOR, TEAGUE O E. ET AL.
- \*SOURCE, PREPARED FOR SUBCOMMITTEE ON ENERGY RESEARCH, DEV, AND DEMONSTRATION OF THE COMMITTEE ON SCI AND TECH, US HOUSE OF REP, NINETY-FOURTH CONGRESS, WASHINGTON D C/US GOVERNMENT PRINTING OFFICE, JUNE 1975, 545 PP.
- \*KEYWORDS, SOLAR, GENERAL.
- \*NOTES, FILED.
- \*DATE, 750600

- TITLE, SOLAR DISTILLATION.
- AUTHOR, THOMAS R G.
- SOURCE, WATER RESOURCES, DEV AND MANAGEMENT SERVICE, LAND AND WATER DEV DIV, FAO, ROME, 1 JAN 1975, 2 PP.
- KEYWORDS, SOLAR, DISTILLATION, ECONOMICS.
- NOTES, FILED.
- DATE, 75U101

## ABSTRACT 2388

- TITLE, FEASIBILITY OF SOLAR WATER HEATING IN MILK PROCESSING PLANTS IN THE MIDWESTERN UNITED STATES.
- AUTHOR, THOMAS S M, BAKKER-ARKEMA F W, RIPPEN A L.
- SOURCE, ASAE PAPER 77-6319, 1977, 16 PP.
- KEYWORDS, SOLAR, MODELS, FOOD PROCESSING, MILK.
- NOTES, FILED.
- DATE, 770000

## ABSTRACT 2389

- TITLE, THE EFFECT OF ENVIRONMENTAL AND OPERATING CONDITIONS ON THE THERMAL PERFORMANCE OF FLAT-PLATE SOLAR COLLECTORS.
- AUTHOR, THOMAS W C, VAUGHAN D H.
- SOURCE, ASAE PAPER 78-4528, 1978, 19 PP.
- KEYWORDS, SOLAR, MODELS, EFFICIENCY, TECHNOLOGY ASSESSMENT.
- NOTES, FILED. RESULTS ARE PRESENTED TO SHOW THE DIFFERENCE BETWEEN COLLECTOR PERFORMANCE WHEN USING STANDARD TEST PROCEDURES AND WHEN USING TYPICAL AVERAGE MONTHLY WEATHER CONDITIONS.
- DATE, 780000

## ABSTRACT 2390

- TITLE, SOLAR HEATING FOR THE HANDYMAN.
- AUTHOR, THOMASON M E, HAND J, BEASON R G.
- SOURCE, MECHANIX ILLUSTRATED, SEPT 1974, 4 PP.
- KEYWORDS, SOLAR, HEAT, HOME.
- NOTES, FILED.
- DATE, 740900

## ABSTRACT 2391

- TITLE, SOLAR ENERGY FOR MILKING PARLOR HEATING AND COOLING.
- AUTHOR, THOMPSON P D.
- SOURCE, ASAE PAPER 75-3521, 8 PP.
- KEYWORDS, SOLAR, HEAT, COOLING, DAIRY.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 2392

- TITLE, MILKING PARLOR SOLAR HEATING SYSTEM PERFORMANCE.
- AUTHOR, THOMPSON P D, HAYDEN H B.
- SOURCE, ASAE PAPER 76-3571, 1976, 10 PP.
- KEYWORDS, SOLAR, DAIRY, HEAT.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 2393

- TITLE, SOLAR HEATING FOR MILKING PARLORS.
- AUTHOR, THOMPSON P, CLARY M G.
- SOURCE, FARMERS BULLETIN NC 2266, AGR RESEARCH SERVICE, USDA, HYATTSVILLE, MD 20782, SEPT 1977, 15 PP.
- KEYWORDS, SOLAR, DAIRY.
- NOTES, FILED.
- DATE, 770900



\*TITLE, UNESCO FEATURES.  
 \*AUTHOR, TROMBE F, FULLERTON A G, BEHRMAN D.  
 \*SOURCE, UNESCO FEATURES 656, PARIS, FRANCE, 1973, 27 PP.  
 \*KEYWORDS, SOLAR, HEAT, SOVIET UNION, COOKING, IRRIGATION,  
 DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE, 730300

## ABSTRACT 2395

\*TITLE, SOLAR ENERGY DATA WORKSHOP.  
 \*AUTHOR, TURNER C.  
 \*SOURCE, NSF-RA-N-74-062, US GOVERNMENT PRINTING OFFICE, WASHINGTON D C,  
 29-30 NOV 1973, 218 PP.  
 \*KEYWORDS, SOLAR, DESIGN, PHOTOVOLTAIC, BIBLIOGRAPHY.  
 \*NOTES, FILED.  
 \*DATE, 731125

## ABSTRACT 2396

\*TITLE, SOLAR HEATING FOR HOME, FARM AND SMALL BUSINESS - BASIC FACTS  
 ABOUT COLLECTION, STORAGE AND UTILIZATION.  
 \*AUTHOR, TURNER L W, DALE A C, MCKENZIE B A.  
 \*SOURCE, AE 88, COOPERATIVE EXTENSION SERVICE, PURDUE UNIV,  
 WEST LAFAYETTE, IN 47907, 1977, 18 PP.  
 \*KEYWORDS, SOLAR, HOME, GENERAL.  
 \*NOTES, FILED.  
 \*DATE, 770000

## ABSTRACT 2397

\*TITLE, REPORT OF THE EXPERT WORKING GROUP ON THE USE OF SOLAR AND  
 WIND ENERGY.  
 \*AUTHOR, UN-ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC.  
 \*SOURCE, COMMITTEE ON NATURAL RESOURCES, ESCAP, BANGKOK, THAILAND,  
 21-27 SEPT 1976, 37 PP.  
 \*KEYWORDS, SOLAR, WIND, ASIA.  
 \*NOTES, FILED.  
 \*DATE, 760927

## ABSTRACT 2398

\*TITLE, SYMPOSIUM ON WIND AND SOLAR ENERGY.  
 \*AUTHOR, UN-EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION.  
 \*SOURCE, UNESCO SYMPOSIUM, 22-25 OCT 1954, NEW DELHI, INDIA, 238 PP.  
 \*KEYWORDS, SOLAR.  
 \*NOTES,  
 \*DATE, 541022

## ABSTRACT 2399

\*TITLE, THE SUN IN THE SERVICE OF MANKIND.  
 \*AUTHOR, UN-EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION.  
 \*SOURCE, PRCC OF THE INTERNATIONAL CONGRESS, UNESCO, PARIS, 2-6 JULY 1973.  
 \*KEYWORDS, SOLAR.  
 \*NOTES,  
 \*DATE, 730702

## ABSTRACT 2400

\*TITLE, SOME NEW SOLAR ENERGY ACTIVITIES IN AFRICA.  
 \*AUTHOR, UN-EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION.  
 \*SOURCE, BULLETIN OF THE REGIONAL OFFICE OF SCI AND TECH FOR AFRICA, UNESCO,  
 NAIROBI, KENYA, 29-30 OCT-DEC 1974.  
 \*KEYWORDS, SOLAR, AFRICA.  
 \*NOTES, FILED.  
 \*DATE, 741300

## ABSTRACT 2401

\*TITLE, UNESCO COURIER.  
 \*AUTHOR, UN-EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION.  
 \*SOURCE, UNESCO COURIER, PLACE DE FONTENAY, 75700 PARIS, JAN 1974, 40 PP.  
 \*KEYWORDS, SOLAR, DEVELOPING COUNTRIES, JOURNAL.  
 \*NOTES, NAS. SERIES OF ARTICLES ON SOLAR ENERGY UTILIZATION AND IMPLICATIONS  
 FOR DEVELOPING COUNTRIES.  
 \*DATE, 740100

- \*TITLE, SOLAR DWELLING DESIGN CONCEPTS.
- \*AUTHOR, US-DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
- \*SOURCE, STOCK 023-000-00334-1, US DEPT OF HUD, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, MAY 1976, 146PP.
- \*KEYWORDS, SOLAR, HOME, DESIGN.
- \*NOTES, FILED. PUBLICATION IS ABOUT SOLAR ENERGY AND HOW ITS USE FOR HEATING AND COOLING WILL EFFECT DWELLING DESIGN AND SITE PLANNING. A BRIEF INTRODUCTION FOR CONSUMERS, DESIGNERS AND BUILDERS INTERESTED IN SOLAR HEATING AND COOLING.
- \*DATE, 770500

## ABSTRACT 2403

- \*TITLE, SOLAR ENERGY FOR AGRICULTURE AND INDUSTRIAL PROCESS HEAT.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, ERDA 77-72, PROGRAM SUMMARY, ERDA, DIV OF SOLAR ENERGY, WASHINGTON DC 20545, JUNE 1977, 91 PP.
- \*KEYWORDS, SOLAR, AGRICULTURE, INDUSTRY, DRYING, DEHYDRATION, GREENHOUSE, HEAT, USA.
- \*NOTES, FILED.
- \*DATE, 770600

## ABSTRACT 2404

- \*TITLE, SOLAR ENERGY.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, ERDA, EDM-527(2-75), 1975, 11 PP.
- \*KEYWORDS, SOLAR, HEAT, PHOTOVOLTAIC, STORAGE.
- \*NOTES, FILED. EXCELLENT ELEMENTARY EXPLANATION OF SOLAR.
- \*DATE, 750000

## ABSTRACT 2405

- \*TITLE, SOLAR ENERGY PROGRAM.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, DIVISION OF SOLAR ENERGY, RUID BRANCH, ERDA, WASHINGTON D C, MARCH 1975, 14 PP.
- \*KEYWORDS, SOLAR, HEAT, COOLING, PHOTOVOLTAIC, WIND.
- \*NOTES, FILED.
- \*DATE, 750300

## ABSTRACT 2406

- \*TITLE, SOLAR ENERGY FOR SPACE HEATING AND HOT WATER.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, SE101, ERDA, DIV OF SOLAR ENERGY, US GOVT PRINTING OFFICE, WASHINGTON DC 20405, MAY 1976, 14 PP.
- \*KEYWORDS, SOLAR, HOME, ECONOMICS.
- \*NOTES, FILED. PAMPHLET PROVIDES A BASIC UNDERSTANDING OF SOLAR HEATING AND HOT WATER SYSTEMS. WHAT THEY ARE, HOW THEY PERFORM, THE ENERGY SAVINGS POSSIBLE AND THE COST FACTORS INVOLVED.
- \*DATE, 760500

## ABSTRACT 2407

- \*TITLE, SOLAR ENERGY IN AMERICAS FUTURE.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, DSE-115/1, ERDA, DIV OF SOLAR ENERGY, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, MARCH 1977, 104 PP.
- \*KEYWORDS, SOLAR, GENERAL, ECONOMICS.
- \*NOTES, FILED. THE REPORT DOCUMENTS A SRI STUDY OF THE POTENTIAL ROLES THAT SOLAR ENERGY TECH COULD HAVE FOR MEETING US ENERGY NEEDS OVER THE NEXT 45 YEARS. THREE COMPUTER SIMULATIONS OF DIFFERENT ENERGY SUPPLY PROJECTIONS WERE SELECTED TO BE DEVELOPED INTO BROADER SCENARIOS.
- \*DATE, 770300

## ABSTRACT 2408

- \*TITLE, SOLAR AGRICULTURAL AND INDUSTRIAL PROCESS HEAT.
- \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- \*SOURCE, ERDA 77-47/2, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, 1977, 53 PP.
- \*KEYWORDS, SOLAR, ENVIRONMENT, SAFETY.
- \*NOTES, FILED. REPORT PRESENTS THE MAJOR ENVIR ISSUES ASSOCIATED WITH THE FURTHER DEV OF SOLAR ENERGY AS A SOURCE OF PROCESS HEAT IN THE INDUSTRIAL AND AGR SECTORS. AN ENVIR WORK PLAN IS PRESENTED.
- \*DATE, 770300

- TITLE, SOLCOST - SOLAR HOT WATER HANDBOOK.
- AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.
- SOURCE, DSE-2531/2, ERDA, DIV OF SOLAR ENERGY TECH TRANSFER, WASHINGTON DC 20545, JUNE 1977, 15 PP.
- KEYWORDS, SOLAR, HOME.
- NOTES, FILED.
- DATF- 77C600

## ABSTRACT 2410

- TITLE, SOLAR HEATING OF A PIG NURSERY.
- AUTHOR, VAUGHAN D M, HOLMES B J, BELL E S.
- SOURCE, ASAE PAPER 78-3065, 1978, 21 PP.
- KEYWORDS, SOLAR, HEAT PUMPS, ANIMAL, BUILDINGS, SWINE.
- NOTES, FILED. A SOLAR ASSISTED HEAT PUMP SYSTEM USING A THERMAL STORAGE POND WAS USED TO HEAT A PIG NURSERY FOR RAISING THREE GROUPS OF PIGS DURING THE WINTER 77-78. SYSTEM OPERATING TEMPERATURES, ELECTRIC POWER USAGE, AND SOLAR RADIATION WERE RECORDED.
- DATE, 780000

## ABSTRACT 2411

- TITLE, SOLAR TECHNOLOGIES.
- AUTHOR, VON HIPPEL F, WILLIAMS R M.
- SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, NOV 1975, PP 25-31.
- KEYWORDS, SOLAR, HEAT, HOME, ECONOMICS, WIND, STORAGE, PHOTOSYNTHESIS, ORGANIC.
- NOTES, FILED.
- DATE, 751100

## ABSTRACT 2412

- TITLE, POSSIBILITIES FOR THE UTILIZATION OF SOLAR ENERGY IN UNDERDEVELOPED RURAL AREAS.
- AUTHOR, WARD G T.
- SOURCE, FAO INFORMAL WORKING BULLETIN NO 16, 1961, 60 PP.
- KEYWORDS, SOLAR.
- NOTES.
- DATF, 610000

## ABSTRACT 2413

- TITLE, SOLAR HEATING AND COOLING OF RESIDENTIAL BUILDINGS-DESIGN OF SYSTEMS.
- AUTHOR, WARD D S, LOF G O G, KARAKI S, WINN C B, LARSON M, VALENTINE I, JOHNSON G R, DUFF W, THAGER S.
- SOURCE, STOCK NO 003-011-00084-4, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, OCT 1977, 660 PP.
- KEYWORDS, SOLAR, HOME, DESIGN.
- NOTES, FILED. A MANUAL OF TRAINING COURSES DESIGNED TO DEVELOPE THE CAPABILITY OF PRACTITIONERS IN THE HOME BUILDING INDUSTRY TO DESIGN SOLAR HEATING AND COOLING SYSTEMS FOR RESIDENTIAL BUILDINGS.
- DATE, 771000

## ABSTRACT 2414

- TITLE, SOLAR HEATING AND COOLING OF RESIDENTIAL BUILDINGS-SIZING, INSTALLATION AND OPERATION OF SYSTEMS.
- AUTHOR, WARD D S, LOF G O G, KARAKI S, SMITH C C, LOWENSTEIN M, WINN C B, LARSON M, VALENTINE I.
- SOURCE, STOCK NO 003-011-00085-2, US GOVT PRINTING OFFICE, WASHINGTON DC 20402, OCT 1977, 500 PP.
- KEYWORDS, SOLAR, HOME, DESIGN.
- NOTES, FILED. A MANUAL OF COURSES TO TRAIN HOME DESIGNERS AND BUILDERS IN THE FUNDAMENTALS OF SOLAR HYDRONIC AND AIR SYSTEMS FOR SPACE HEATING AND COOLING AND DOMESTIC HOT WATER HEATING FOR RESIDENTIAL BUILDINGS.
- DATE, 771060

## ABSTRACT 2415

- \*TITLE, SOLAR AGE CATALOG.
- \*AUTHOR, WASSERMAN K J. ET AL.
- \*SOURCE, CHURCH HILL, HARRISVILLE, NH 03450/SOLAR VISION, INC, 1977, 232 PP.
- \*KEYWORDS, SOLAR, BUILDINGS, CONSERVATION, GREENHOUSE, INSULATION, EFFICIENCY, ECONOMICS, HEAT PUMPS.
- \*NOTES, FILED. A GUIDE TO SOLAR ENERGY KNOWLEDGE AND MATERIALS.
- \*DATE, 770000

## ABSTRACT 2416

- \*TITLE, SOLAR ENERGY SYSTEMS.
- \*AUTHOR, WEEKS S A, WILSON G E.
- \*SOURCE, 33RD ANNUAL PROGRESS REPORT TO THE NEW YORK FARM ELECTRIFICATION COUNCIL, MAY 1976, PP 10-23.
- \*KEYWORDS, SOLAR, HEAT, STORAGE, DRYING.
- \*NOTES, FILED.
- \*DATE, 760500

## ABSTRACT 2417

- \*TITLE, PHOTOVOLTAIC CONVERSION OF SUNLIGHT TO ELECTRICITY - CONSIDERATIONS FOR DEVELOPING COUNTRIES.
- \*AUTHOR, WEINGART J M.
- \*SOURCE, RESEARCH SCHOLAR, PROJECT ON ENERGY SYSTEMS, INTERNATIONAL INST FOR APPLIED SYSTEMS ANALYSIS, A-2361, LAXENBURG, AUSTRIA, NOV 1975, 116 PP.
- \*KEYWORDS, SOLAR, PHOTOVOLTAIC, ELECTRICAL, DEVELOPING COUNTRIES.
- \*NOTES, FILED.
- \*DATE, 751100

## ABSTRACT 2418

- \*TITLE, DEVELOPING COUNTRY APPLICATIONS OF PHOTOVOLTAIC CELLS.
- \*AUTHOR, WEISS C, PAK S.
- \*SOURCE, PRESENTED AT NATIONAL SOLAR PHOTOVOLTAIC PROGRAM REVIEW MEETING, ERDA, 20 JAN 1976, 21 PP.
- \*KEYWORDS, SOLAR, DEVELOPING COUNTRIES, PHOTOVOLTAIC.
- \*NOTES, FILED.
- \*DATE, 760120

## ABSTRACT 2419

- \*TITLE, RESIDENTIAL SOLAR HEATING.
- \*AUTHOR, WIEBELT J A.
- \*SOURCE, D-1013, OSU EXTENSION FACTS, COLLEGE OF ENGR, OKLAHOMA STATE UNIV, STILLWATER, OK, 1976, 2 PP.
- \*KEYWORDS, SOLAR, HOME.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 2420

- \*TITLE, RESEARCH IN SOLAR HEATING FOR MILKING PARLORS.
- \*AUTHOR, WIERSMA F, THOMPSON P.
- \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT VOL 1, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/PERGAMON PRESS INC, 24-28 OCT 1977, PP 829-835.
- \*KEYWORDS, SOLAR, DAIRY, BUILDINGS.
- \*NOTES, FILED.
- \*DATE, 771024

## ABSTRACT 2421

- \*TITLE, SOLAR COOLING.
- \*AUTHOR, WILBUR P J, KARAKI S.
- \*SOURCE, PHILADELPHIA, PA/FRANKLIN INST PRESS, 1977, 48 PP.
- \*KEYWORDS, SOLAR, COOLING.
- \*NOTES, FILED.
- \*DATE, 770000



\*TITLE, SOLAR ENERGY THE ULTIMATE POWERHOUSE.  
 \*AUTHOR, WILHELM J L.  
 \*SOURCE, NATIONAL GEOGRAPHIC, 149(3)/381-397, MARCH 1976.  
 \*KEYWORDS, SOLAR, HEAT, COOLING.  
 \*NOTES, FILED.  
 \*DATE, 766300

## ABSTRACT 2423

\*TITLE, SOLAR GRAIN DRYING.  
 \*AUTHOR, WILLIAMS E E, PEART R M, BARRETT J R.  
 \*SOURCE, AED-128, AGR ENGR DEPT, AGR EXPT STA, PRUDUE UNIV, W LAFAYETTE,  
 FEB 1977, 4 PP.  
 \*KEYWORDS, SOLAR, DRYING.  
 \*NOTES, FILED.  
 \*DATE, 770200

## ABSTRACT 2424

\*TITLE, SOLAR HEATING COMMERCIAL GREENHOUSES.  
 \*AUTHOR, WILSON G E, PRICE D R, FROELICH D P.  
 \*SOURCE, DEPT OF AGR ENGR, CORNELL UNIV, ITHACA, NY 14853, 15 AUG 1976,  
 22 PP.  
 \*KEYWORDS, SOLAR, GREENHOUSE.  
 \*NOTES, FILED.  
 \*DATE, 760815

## ABSTRACT 2425

\*TITLE, SOLAR WATER HEATING - A MOBILE TEACHING DEMONSTRATION.  
 \*AUTHOR, WINDHAM J R.  
 \*SOURCE, COOPERATIVE EXTENSION SERVICE, DEPT OF AGR ENGR, UNIV OF  
 FLORIDA, GAINESVILLE, 1976, 9 PP.  
 \*KEYWORDS, SOLAR, DESIGN.  
 \*NOTES, FILED.  
 \*DATE, 760000

## ABSTRACT 2426

\*TITLE, SOLAR ENERGY UTILIZATION BY PHYSICAL METHODS.  
 \*AUTHOR, WOLF M.  
 \*SOURCE, SCIENCE, 184/382-386, 19 APRIL 1974.  
 \*KEYWORDS, SOLAR.  
 \*NOTES, NAS.  
 \*DATE, 740419

## ABSTRACT 2427

\*TITLE, PHOTOVOLTAIC SOLAR ENERGY CONVERSION.  
 \*AUTHOR, WOLF M.  
 \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(4)/26-33, APRIL 1976.  
 \*KEYWORDS, SOLAR, PHOTOVOLTAIC, CONVERSION.  
 \*NOTES, FILED.  
 \*DATE, 760400

## ABSTRACT 2428

\*TITLE, HOW SOLAR ENERGY CAN BENEFIT AGRICULTURE.  
 \*AUTHOR, WOODS C.  
 \*SOURCE, CITRUS AND VEGETABLE MAGAZINE, OCT 1975, PP 9, 35.  
 \*KEYWORDS, SOLAR, DRYING, ELECTRICAL, COOLING, HEAT, GREENHOUSE.  
 \*NOTES, FILED.  
 \*DATE, 751000

## ABSTRACT 2429

\*TITLE, SOLAR ENERGY UTILIZATION FOR HEATING AND COOLING.  
 \*AUTHOR, YELLOTT J I, MACPHEE C W.  
 \*SOURCE, CHAPTER 59, APPLICATIONS HANDBOOK VOLUME, ASHRAE GUIDE AND DATA BOOK  
 SERIES, 1974, 20 PP.  
 \*KEYWORDS, SOLAR, HEAT, STORAGE, HISTORICAL, REFRIGERATION, BIBLIOGRAPHY, HOME.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 2430

- TITLE, SOLAR ENERGY FOR SUPPLEMENTAL HEATING OF LIVESTOCK BUILDINGS.
- AUTHOR, YEXLEY D P, HELICKSON M A, WITHER U B.
- SOURCE, ASAE PAPER 77-3004, 1977, 31PP.
- KEYWORDS, SOLAR, VENTILATION, HEAT, ECONOMICS.
- NOTES, FILED. THREE TYPES OF LOW-COST, LOW-TEMPERATURE RISE SOLAR COLLECTORS WERE USED TO HEAT VENTILATION AIR FOR A BEEF CONFINEMENT BUILDING. THE PERFORMANCE OF ALL THREE ARE NOTED.
- DATE, 770000

## ABSTRACT 2431

- TITLE, IMPROVING THE EFFICIENCY OF PHOTOSYNTHESIS.
- AUTHOR, ZELITCH I.
- SOURCE, SCIENCE, 188/626-633, 9 MAY 1975.
- KEYWORDS, SOLAR, PHOTOSYNTHESIS.
- NOTES, FILED.
- DATE, 750509

## ABSTRACT 2432

- TITLE, SOLAR SEA POWER.
- AUTHOR, ZENER C.
- SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, 32(1)/17-25, JAN 1976.
- KEYWORDS, SOLAR, ELECTRICAL, WATER POWER.
- NOTES, FILED.
- DATE, 760100

## STIRLING 2433 -- 2437

## ABSTRACT 2433

- TITLE, THE HARWELL THERMO-MECHANICAL GENERATOR.
- AUTHOR, COOKE-YARBOROUGH E H, FRANKLIN E, GEISOW J, HOWLETT R, WEST C D.
- SOURCE, ELECTRONICS AND APPLIED PHYSICS DIV, UKAEA RESEARCH GROUP, ATOMIC ENERGY RESEARCH ESTABLISHMENT, HARWELL, UNITED KINGDOM, MARCH 1974, 5 PP.
- KEYWORDS, STIRLING, MACHINERY.
- NOTES, FILED.
- DATE, 740300

## ABSTRACT 2434

- TITLE, NEW STIRLING POWERED ZERO-POLLUTION CAR RUNS ON STORED HEAT.
- AUTHOR, SCOTT D.
- SOURCE, POPULAR SCIENCE, JUNE 1974, PP 66-68, 148.
- KEYWORDS, STIRLING, HEAT, AUTOMOBILE.
- NOTES, FILED.
- DATE, 740600

## ABSTRACT 2435

- TITLE, THE STIRLING ENGINE.
- AUTHOR, WALKER G.
- SOURCE, SCIENTIFIC AMER, AUG 1973, PP 80-87.
- KEYWORDS, STIRLING.
- NOTES, NAS.
- DATE, 730800

- TITLE, AND YET IT MOVES.
- AUTHOR, WEST C D.
- SOURCE, NEW SCIENTIST, 29/530-531, AUG 1974.
- KEYWORDS, STIRLING, ENGINE.
- NOTES, FILED.
- DATE, 740800

## ABSTRACT 2437

- TITLE, THE STIRLING ENGINE.
- AUTHOR, ZARINCHANG J.
- SOURCE, INTERMEDIATE TECH DEV GROUP, 9 KING ST, LONDON WC2E 8HN, ENGLAND, APRIL 1972, 32 PP.
- KEYWORDS, STIRLING.
- NOTES, FILED.
- DATE, 720000

## STORAGE 2438 -- 2461

## ABSTRACT 2438

- TITLE, CHARGE/DISCHARGE CHARACTERISTICS OF ROCK STORAGE FOR SOLAR ENERGY.
- AUTHOR, BUTLER J L, TROGER J M.
- SOURCE, ASAE PAPER 78-4055, 1978, 9 PP.
- KEYWORDS, STORAGE, SOLAR.
- NOTES, FILED. AN ADEQUATELY INSULATED HORIZONTAL CRUSHED ROCK STORAGE, SUPPORT BY A CONCRETE BLOCK PLENUM CHAMBER AND USED IN CONNECTION WITH A SINGLE-GLAZED SOLAR ENERGY COLLECTOR PERFORMED SATISFACTORILY. IN THESE TESTS, OVERALL COLLECTOR-STORAGE EFFICIENCIES (BASED ON HORIZONTAL RADIATION) IN EXCESS OF 40 PERCENT WERE OBTAINED.
- DATE, 780000

## ABSTRACT 2439

- TITLE, ENERGY STORAGE.
- AUTHOR, EATON W W.
- SOURCE, ERDA, OFFICE OF PUBLIC AFFAIRS, WASHINGTON D C, 1975, 35 PP.
- KEYWORDS, STORAGE, ELECTRICAL.
- NOTES, FILED.
- DATE, 750000

## ABSTRACT 2440

- TITLE, ENERGY (HOT WATER) STORAGE IN GROUNDWATER AQUIFERS.
- AUTHOR, EBELING L L, REDDELL D L.
- SOURCE, ASAE PAPER 76-2540, 1976, 26 PP.
- KEYWORDS, STORAGE, SOLAR, DESIGN, TEXAS.
- NOTES, FILED.
- DATE, 760000

## ABSTRACT 2441

- TITLE, THERMAL STORAGE COMPARISON.
- AUTHOR, ECKHOFF S R, OKOS M R.
- SOURCE, ASAE PAPER 78-4051, 1978, 33 PP.
- KEYWORDS, STORAGE, DRYING.
- NOTES, FILED. THREE DIFFERENT THERMAL STORAGE MEDIA (WATER SATURATED SOIL, ROCK, AND PCM) WERE TESTED TO DETERMINE THEIR FEASIBILITY AS STORAGE MEDIA FOR A LONG TERM STORAGE DEVICE TO BE USED FOR GRAIN DRYING.
- DATE, 780000

## ABSTRACT 2442

- TITLE, EVALUATION OF LOW-COST THERMAL STORAGE PONDS FOR SOLAR ENERGY.
- AUTHOR, HOLMES B J, VAUGHAN D H, BELL E S.
- SOURCE, ASAE PAPER 78-3503, 1978, 13 PP.
- KEYWORDS, STORAGE, SOLAR, TECHNOLOGY ASSESSMENT.
- NOTES, FILED. THERMAL STORAGE IN THE FORM OF INSULATED WATER TANKS IS OFTEN A MAJOR COST FOR SOLAR HEATING SYSTEMS. AS AN ALTERNATIVE A POND BUILT USING AVAILABLE FARM EQUIPMENT AND MATERIALS MAY BE USED. FOUR SUCH PONDS WERE CONSTRUCTED AND EVALUATED FOR HEAT RETENTION CHARACTERISTICS. HEAT LOSS DATA AND METHODS OF REDUCING LOSSES ARE PRESENTED.
- DATE, 780090

## ABSTRACT 2443

- TITLE, ANNUAL STORAGE.
- AUTHOR, HOOPER F C.
- SOURCE, SOLAR AGE, 3(4)/16-17, APRIL 1978.
- KEYWORDS, STORAGE, SOLAR.
- NOTES, FILED.
- DATE, 760400

## ABSTRACT 2444

- TITLE, EUTECTIC SALTS.
- AUTHOR, KANDO P F.
- SOURCE, SOLAR AGE, 3(4)/15-16, APRIL 1978.
- KEYWORDS, STORAGE, SOLAR.
- NOTES, FILED.
- DATE, 780400

## ABSTRACT 2445

- TITLE, REPORT ON ENERGY STORAGE.
- AUTHOR, KELLY B P.
- SOURCE, CONTRACT SSA NO 75-187, OFFICE OF PROJECTS EXECUTION OF THE UNITED NATIONS DEVELOPMENT PROGRAMME, JULY 1975, 38 PP.
- KEYWORDS, STORAGE, TECHNOLOGY ASSESSMENT, ECONOMICS.
- NOTES, FILED.
- DATE, 750700

## ABSTRACT 2446

- TITLE, RULES OF THUMB FOR SIZING STORAGE.
- AUTHOR, KOHLER J.
- SOURCE, SOLAR AGE, 3(4)/23-23, APRIL 1978.
- KEYWORDS, STORAGE, SOLAR.
- NOTES, FILED.
- DATE, 760460

## ABSTRACT 2447

- TITLE, OFF-PEAK COOLNESS STORAGE.
- AUTHOR, MACCRACKEN C M.
- SOURCE, SOLAR AGE, 3(4)/18-20, APRIL 1978.
- KEYWORDS, STORAGE, SOLAR.
- NOTES, FILED.
- DATE, 740400

## ABSTRACT 2448

- TITLE, ENERGY STORAGE AND SOLAR POWER - AN EXAGGERATED PROBLEM.
- AUTHOR, METZ W D.
- SOURCE, SCIENCE, 200/1471-1473, 30 JUNE 1978.
- KEYWORDS, STORAGE, SOLAR.
- NOTES, FILED.
- DATE, 780630

## ABSTRACT 2449

- TITLE, PRESSURE DROP AND HEAT TRANSFER IN CRUSHED LIMESTONE.
- AUTHOR, PARKER B F, WHITE G M, LOEWER O J, ARNOLD C D.
- SOURCE, ASAE PAPER 78-4053, 1978, 20 PP.
- KEYWORDS, STORAGE, TECHNOLOGY ASSESSMENT.
- NOTES, FILED. ANALYTICAL AND EXPERIMENTAL STUDIES OF HEAT STORAGE IN CRUSHED LIMESTONE SHOW THAT HEAT RECOVERY FROM A ROCK BED INCREASES AS THE SIZE OF STONE DECREASES. THUS, THE DESIGNER OF ROCK BED HEAT STORAGES SHOULD SELECT THE SMALLEST STONE WHICH IS CONSISTANT WITH A REASONABLE PRESSURE HEAD.
- DATE, 780000



\*TITLE, STORAGE - A BASIC GUIDE TO KEEPING SOLAR HEAT IN.  
 \*AUTHOR, RIORDAN M.  
 \*SOURCE, SOLAR AGE, 3(4)/12-14, APRIL 1978.  
 \*KEYWORDS, STORAGE, SOLAR.  
 \*NOTES, FILED.  
 \*DATE, 780400

## ABSTRACT 2451

\*TITLE, ADVANCED STORAGE BATTERIES - PROGRESS, BUT NOT ELECTRIFYING.  
 \*AUTHOR, ROBINSON A L.  
 \*SOURCE, SCIENCE, 192/541-543, 7 MAY 1976.  
 \*KEYWORDS, STORAGE.  
 \*NOTES, FILED.  
 \*DATE, 760507

## ABSTRACT 2452

\*TITLE, FUEL STORAGE.  
 \*AUTHOR, SHELTON D P, BASHFORD L L.  
 \*SOURCE, FARM ENERGY TIPS CC270, INST OF AGR AND NAT RESOURCES, UNIV OF NEBR, LINCOLN, NE, 2 PP.  
 \*KEYWORDS, STORAGE, FOSSIL FUELS.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 2453

\*TITLE, SOLAR ENERGY STORAGE FOR THE NORTHEAST.  
 \*AUTHOR, SMITH N, RILEY J G, HILL R C.  
 \*SOURCE, ASAE PAPER 78-4052, 1978, 19 PP.  
 \*KEYWORDS, STORAGE, SOLAR, BUILDINGS, MAINE.  
 \*NOTES, FILED. STORAGE OF SOLAR ENERGY IN HEATED WATER, IN BUILDING MASS AND IN WOOD IS COMPARED AND CONTRASTED. THREE UNITS OPERATING IN MAINE USING THESE FORMS OF SOLAR ENERGY STORAGE ARE DESCRIBED.  
 \*DATE, 780000

## ABSTRACT 2454

\*TITLE, CONSTRUCTION MANUAL - ROCK BINS.  
 \*AUTHOR, SOLARON CORP.  
 \*SOURCE, SOLAR AGE, 3(4)/24-25, APRIL 1978.  
 \*KEYWORDS, STORAGE, SOLAR.  
 \*NOTES, FILED. THE WHOLE MANUAL IS AVAILABLE FROM SOLARON CORP, 300 GALLERIA TOWER, 720 S COLORADO BLVD, DENVER, CO 80222.  
 \*DATE, 780400

## ABSTRACT 2455

\*TITLE, BATTERIES FOR OFF-PEAK ELECTRICAL STORAGE.  
 \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.  
 \*SOURCE, ERDA, WASHINGTON D C, JAN 1975, 4 PP.  
 \*KEYWORDS, STORAGE, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 750100

## ABSTRACT 2456

\*TITLE, HIGH PERFORMANCE BATTERY FOR ELECTRIC CARS.  
 \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.  
 \*SOURCE, ERDA, WASHINGTON D C, JAN 1975, 4 PP.  
 \*KEYWORDS, STORAGE, ELECTRICAL, AUTOMOBILE.  
 \*NOTES, FILED.  
 \*DATE, 750100

## ABSTRACT 2457

\*TITLE, ENERGY CONVERSION, STORAGE, AND TRANSMISSION.  
 \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.  
 \*SOURCE, TECH INFO CENTER, ERDA, OAK RIDGE, TN, MARCH 1976.  
 \*KEYWORDS, STORAGE, CONVERSION, STORAGE, TRANSMISSION.  
 \*NOTES, FILED.  
 \*DATE, 760300

- \*TITLE, THERMAL ENERGY AVAILABILITY IN A WASTE LAGOON.
- \*AUTHOR, VAUGHAN D H, HILL C L, BELL E S.
- \*SOURCE, ASAE PAPER 78-4050, 1978, 35 PP.
- \*KEYWORDS, STORAGE, SOLAR, ANIMAL, MODELS, HEAT PUMPS, BUILDINGS.
- \*NOTES, FILED. THE FEASIBILITY OF USING A WASTE LAGOON AS A HEAT SOURCE AND STORAGE FOR A SOLAR ASSISTED HEAT PUMP FOR LIVESTOCK HOUSING WAS EVALUATED. DATA WAS COLLECTED ON THE EXPERIMENTAL SOLAR HEATING SYSTEM. A COMPUTER SIMULATION MODEL WAS DEVELOPED FOR THE ENERGY BALANCE OF THE LAGOON.
- \*DATE, 780000

## ABSTRACT 2459

- \*TITLE, ENERGY STORAGE USING HEAT TRANSFER OIL.
- \*AUTHOR, WALLY K, ABERNATHY G H.
- \*SOURCE, ASAE PAPER 78-4049, 1978, 11 PP.
- \*KEYWORDS, STORAGE, SOLAR, IRRIGATION.
- \*NOTES, FILED. SOLAR THERMAL POWER SYSTEMS REQUIRE HEAT STORAGE TO AVOID INTERMITTENT OPERATION DURING PARTIALLY CLOUDY WEATHER AND TO PROVIDE NIGHTTIME OPERATION. MEDIUM TEMPERATURE SYSTEMS APPEAR TO BE THE MOST FOR FARM APPLICATION. HEAT STORAGE USING OIL AND A STRATIFIED TANK IS PROVING TO BE A HIGHLY SATISFACTORY SYSTEM.
- \*DATE, 780000

## ABSTRACT 2460

- \*TITLE, STORING SOLAR ENERGY IN AN UNDERGROUND ROCK BED.
- \*AUTHOR, WALTON L R, HENSON W H, MCNEILL S G, BUNN J H.
- \*SOURCE, ASAE PAPER 78-4054, 1978, 21 PP.
- \*KEYWORDS, STORAGE, SOLAR, TECHNOLOGY ASSESSMENT.
- \*NOTES, FILED. THE OPERATION OF AN INSULATED AND AN UNINSULATED ROCK BED ARE DESCRIBED. THE MAXIMUM TEMPERATURES REACHED BY THE INSULATED AND UNINSULATED ROCK BED WERE 50 AND 30 DEGREES, RESPECTIVELY. EQUATIONS ARE DEVELOPED TO PROVIDE ESTIMATES OF THE AVERAGE MEAN DAILY ROCK BED TEMPERATURE AT STEADY STATE AND THE THERMAL DECAY OF THE ROCK BED.
- \*DATE, 780000

## ABSTRACT 2461

- \*TITLE, SOLAR PONDS.
- \*AUTHOR, ZANGRANDO F, BRYANT H C.
- \*SOURCE, SOLAR AGE, 3(4)/32-36, APRIL 1978.
- \*KEYWORDS, STORAGE, SOLAR.
- \*NOTES, FILED.
- \*DATE, 780400

## TILLAGE 2462 -- 2484

## ABSTRACT 2462

- \*TITLE, LIMITED TILLAGE OF FURROW IRRIGATED WINTER WHEAT.
- \*AUTHOR, ALLEN R R, MUSICK J T, WIESE A F.
- \*SOURCE, USDA SOUTHWESTERN GREAT PLAINS RESEARCH CENTER, AGR RESEARCH SERVICE, US DEPT OF AGR, BUSHLAND, TEXAS, 17 PP, UNDATED.
- \*KEYWORDS, TILLAGE, IRRIGATION.
- \*NOTES, FILED.
- \*DATE.

•TITLE, MINIMUM TILLAGE - A PRELIMINARY TECHNOLOGY ASSESSMENT.  
 •AUTHOR, BOCK W B.  
 •SOURCE, OFFICE OF PLANNING AND EVALUATION, USDA, MAY 1975, 34 PP.  
 •KEYWORDS, TILLAGE, MINIMUM TILLAGE, ECONOMICS.  
 •NOTES, FILED.  
 •DATE, 750500

## ABSTRACT 2464

•TITLE, COMPANY LITERATURE.  
 •AUTHOR, CHEVRON CHEMICAL CO.  
 •SOURCE, ORTHO CHEVRON CHEM CO, 200 BUSH ST, SAN FRANCISCO, CA.  
 •KEYWORDS, TILLAGE, ADVERTISEMENT.  
 •NOTES, FILED.  
 •DATE,

## ABSTRACT 2465

•TITLE, GETTING STARTED WITH NO-TILL.  
 •AUTHOR, CHEVRON CHEMICAL CO.  
 •SOURCE, CHEVRON CHEM CO, 200 BUSH ST, SAN FRANCISCO, CA 94120,  
 SEPT 1975, 12 PP.  
 •KEYWORDS, TILLAGE, MINIMUM TILLAGE, FERTILIZER.  
 •NOTES, FILED. THE WHYS AND HOWS OF USING NO-TILL ARE ANSWERED.  
 •DATE, 750900

## ABSTRACT 2466

•TITLE, ENERGY-COST BUDGETS FOR GRAIN SORGHUM TILLAGE SYSTEMS.  
 •AUTHOR, CLARK S J, JOHNSON W H.  
 •SOURCE, TRANSACTIONS OF THE ASAE, 18(6)/1057-1060, 1975.  
 •KEYWORDS, TILLAGE, ECONOMICS.  
 •NOTES, FILED.  
 •DATE, 750000

## ABSTRACT 2467

•TITLE, ENERGY REQUIREMENTS AND MACHINERY PERFORMANCE FOR FOUR SUMMER FALLOW  
 METHODS.  
 •AUTHOR, FORNSTROM K J, BECKER C F.  
 •SOURCE, ASAE PAPER 76-1020, 9 PP.  
 •KEYWORDS, TILLAGE, REQUIREMENTS.  
 •NOTES, FILED.  
 •DATE- 760000

## ABSTRACT 2468

•TITLE, REDUCED TILLAGE SYSTEMS FOR CONSERVATION AND PROFITABILITY.  
 •AUTHOR, FORSTER D L, RASK N, BONE S W, SCHURLE B W.  
 •SOURCE, UNPUBLISHED, DEPT OF AGR ECON AND RURAL SOCIOLOGY, THE OHIO STATE UNIV,  
 COLUMBUS, JUNE 1976, 9 PP.  
 •KEYWORDS, TILLAGE, CONSERVATION.  
 •NOTES, FILED.  
 •DATE, 760600

## ABSTRACT 2469

•TITLE, ECONOMIC AND ENERGY EFFICIENCY COMPARISONS OF SOYBEAN TILLAGE SYSTEMS.  
 •AUTHOR, GERMAN L, SCHNEEBERGER K, WORKMAN H, MCKINSEY J.  
 •SOURCE, PROC OF A CONF ON ENERGY AND AGR, CENTER FOR THE BIOLOGY OF NATURAL  
 SYSTEMS, WASHINGTON UNIV, ST LOUIS, MO, 17-19 JUNE 1976, 11 PP.  
 •KEYWORDS, TILLAGE, ECONOMICS, CONSERVATION.  
 •NOTES, FILED.  
 •DATE 760617

## ABSTRACT 2470

- \*TITLE, ENERGY REQUIREMENTS AND AREAS OF ADAPTATION FOR EIGHT TILLAGE-PLANTING SYSTEMS FOR CORN.
- \*AUTHOR, GRIFFITH D R, MANNERING J V, RICHEY C B.
- \*SOURCE, AGR ENGR DEPT, PURDUE UNIV, WEST LAFAYETTE, IN, JUNE 1976, 22 PP.
- \*KEYWORDS, TILLAGE, REQUIREMENTS.
- \*NOTES, FILED. PROC OF CONF ON ENERGY AND AGR, ST LOUIS, MO, 16-19 JUNE 1976.
- \*DATE, 760600

## ABSTRACT 2471

- \*TITLE, ENERGY CONSERVATION FOR KANSAS AGRICULTURE - CAN MINIMUM TILLAGE HELP YOU.
- \*AUTHOR, HERRON M M.
- \*SOURCE, DEPT OF AGR ENGR, KANSAS STATE UNIV, MANHATTAN, KS, SEPT 1976, 4 PP.
- \*KEYWORDS, TILLAGE, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 760900

## ABSTRACT 2472

- \*TITLE, REDUCE TILLAGE - CONSERVE ENERGY AND INCREASE PROFITS.
- \*AUTHOR, HINZ W W.
- \*SOURCE, RAES - OREGON STATE UNIV, CORVALLIS, OR 97331 - 61/5-8, AUG 1977.
- \*KEYWORDS, TILLAGE, CONSERVATION.
- \*NOTES, FILED.
- \*DATE, 770800

## ABSTRACT 2473

- \*TITLE, HALF THE FUEL AND TWICE THE OUTPUT.
- \*AUTHOR, LUERS H.
- \*SOURCE, ARABLE FARMING, NOV 1974, 2 PP.
- \*KEYWORDS, TILLAGE, GENERAL.
- \*NOTES, FILED.
- \*DATE, 741100

## ABSTRACT 2474

- \*TITLE, TILLAGE AND ENERGY SURVEY.
- \*AUTHOR, HARDER S M.
- \*SOURCE, REPORT OF THE ILLINOIS AGR ENERGY ADVISORY COMMITTEE, ILLINOIS DEPT OF BUSINESS AND ECON DEV, DIV OF ENERGY, 222 COLLEGE ST, SPRINGFIELD, 1975, 17 PP.
- \*KEYWORDS, TILLAGE, ILLINOIS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 2475

- \*TITLE, NEW TILLAGE SYSTEMS CAN SAVE FUEL.
- \*AUTHOR, NILSON E B, SCHROCK M D.
- \*SOURCE, MF-337 NO 5, COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIV, MANHATTAN, DEC 1973, 2 PP.
- \*KEYWORDS, TILLAGE.
- \*NOTES, FILED.
- \*DATE, 731200

## ABSTRACT 2476

- \*TITLE, CORN TILLAGE SYSTEMS - WILL ENERGY COSTS DETERMINE THE CHOICE.
- \*AUTHOR, RASK N, FORSTER D L.
- \*SOURCE, UNPUBLISHED, DEPT OF AGR ECON, THE OHIO STATE UNIV, COLUMBUS, 8 PP, UNDATED.
- \*KEYWORDS, TILLAGE, ECONOMICS.
- \*NOTES, FILED.
- \*DATE,



- \*TITLE, A COMPARISON OF THE ENERGY INPUT OF SOME TILLAGE TOOLS.
- \*AUTHOR, REID J T.
- \*SOURCE, ASAE PAPER 78-1039, 1978, 11 PP.
- \*KEYWORDS, TILLAGE, FUEL CONSUMPTION.
- \*NOTES, FILED. IMPLEMENT DRAFT AND FUEL CONSUMPTIONS HAVE BEEN DETERMINED FOR SOME LAND PREPARATION SYSTEMS IN COMMON USE BY GEORGIA FARMERS TO DETERMINE THE MOST EFFICIENT TILLAGE SYSTEM FROM AN ENERGY CONSERVATION STANDPOINT. A THREE POINT DYNAMOMETER FOR MEASURING DRAFT AND A SYSTEM FOR ACCURATELY MEASURING THE FUEL CONSUMED BY A TRACTOR WHEN USED ON SMALL PLOTS WERE USED IN THIS STUDY.
- \*DATE, 780000

## ABSTRACT 2478

- \*TITLE, SOILS.
- \*AUTHOR, ROBERTSON L S, MOKMA D L, QUISENBERRY D L, HEGGITT W F, HANSEN C M.
- \*SOURCE, EXTENSION BULLETIN E-906, COOPERATIVE EXTENSION SERVICE, MICH STATE UNIV, EAST LANSING, JAN 1976, 8 PP.
- \*KEYWORDS, TILLAGE, GENERAL.
- \*NOTES, FILED.
- \*DATE, 760100

## ABSTRACT 2479

- \*TITLE, CONSERVING ENERGY WITH NO TILLAGE.
- \*AUTHOR, ROBERTSON W K, PRINE G M.
- \*SOURCE, EC 37, UNIV OF FLORIDA, GAINESVILLE, FL 32611, 1976, 3PP.
- \*KEYWORDS, TILLAGE, CONSERVATION, FUEL CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 2480

- \*TITLE, NO-TILLAGE - A CONSERVATION SYSTEM THAT MINIMIZES POLLUTION AND ENERGY PROBLEMS.
- \*AUTHOR, SMITH E S, LILLAND J H.
- \*SOURCE, ASAE PAPER 74-2002, 8 PP.
- \*KEYWORDS, TILLAGE, GENERAL.
- \*NOTES, FILED.
- \*DATE, 740000

## ABSTRACT 2481

- \*TITLE, CONSERVATION TILLAGE.
- \*AUTHOR, SOIL CONSERVATION SOCIETY OF AMERICA.
- \*SOURCE, SOIL CONSERVATION SOC OF AMER, 7515 NORTHEAST ANKENY RD, ANKENY, IA, MARCH 1973, 241 PP.
- \*KEYWORDS, TILLAGE, CONSERVATION, ENVIRONMENT, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 730300

## ABSTRACT 2482

- \*TITLE, AGRICULTURE WITHOUT TILLAGE.
- \*AUTHOR, TRIPLETT G B, VAN DOREN D M.
- \*SOURCE, SCI AMERICAN 236(11)/28-33, 1977.
- \*KEYWORDS, TILLAGE, CONSERVATION, MINIMUM TILLAGE, USA.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2483

- \*TITLE, SOIL COMPACTION - OUR NEWEST NATURAL RESOURCE - GOOD AND BAD EFFECTS ON ENERGY NEEDS.
- \*AUTHOR, VOORHEES W B, HENDRICK J G.
- \*SOURCE, CROPS AND SOILS, 29(7)/11-13, 1977.
- \*KEYWORDS, TILLAGE.
- \*NOTES, FILED. ENERGY SAVINGS DUE TO SOIL COMPACTION ARE CONTRASTED WITH THE ENERGY LOSSES.
- \*DATE, 770000

- \*TITLE, ENERGY REQUIREMENTS FOR CONVENTIONAL VERSUS MINIMUM TILLAGE.
- \*AUTHOR, WITTMUSS H, OLSON L, LANE D.
- \*SOURCE, J SOIL AND WATER CONS, MARCH-APRIL 1975, PP 72-75.
- \*KEYWORDS, TILLAGE, REQUIREMENTS, MINIMUM TILLAGE.
- \*NOTES, FILED.
- \*DATE, 750300

## TRANSPORTATION 2485 -- 2500

### ABSTRACT 2485

- \*TITLE, THE ENERGY COST OF AUTOMOBILES.
- \*AUTHOR, BERRY S R, FELS M F.
- \*SOURCE, SCIENCE AND PUBLIC AFFAIRS, DEC 1973, PP 11-17, 58-60.
- \*KEYWORDS, TRANSPORTATION.
- \*NOTES, NAS.
- \*DATE, 731200

### ABSTRACT 2486

- \*TITLE, ENERGY, MANPOWER, AND THE HIGHWAY TRUST FUND.
- \*AUTHOR, BEZDEK R, MANNON E M.
- \*SOURCE, SCIENCE, 185/669-675, 23 AUG 1974.
- \*KEYWORDS, TRANSPORTATION, CONSERVATION, ECONOMICS, POLICY.
- \*NOTES, FILED.
- \*DATE, 740823

### ABSTRACT 2487

- \*TITLE, THE ENERGY CRISIS - ALTERNATIVES FOR TRANSPORTATION.
- \*AUTHOR, COVINSTON J P.
- \*SOURCE, AUTOMOTIVE ENGINEERING, 81 (3)/40-44, MARCH 1973.
- \*KEYWORDS, TRANSPORTATION, ALTERNATIVES.
- \*NOTES, FILED.
- \*DATE, 730300

### ABSTRACT 2488

- \*TITLE, ENERGY AND TRANSPORTATION.
- \*AUTHOR, HAZARD J L.
- \*SOURCE, PHI KAPPA PHI JOURNAL, 15(1)/38-41, WINTER 1975.
- \*KEYWORDS, TRANSPORTATION, PETROLEUM, ENERGY CONSUMPTION.
- \*NOTES, FILED.
- \*DATE, 750000

### ABSTRACT 2489

- \*TITLE, TRANSPORTATION ENERGY CONSERVATION POLICIES.
- \*AUTHOR, HIRST E.
- \*SOURCE, SCIENCE, 192(4234)/15-20, 2 APRIL 1976.
- \*KEYWORDS, TRANSPORTATION, CONSERVATION, POLICY.
- \*NOTES, FILED.
- \*DATE, 760402

\*TITLE, TRANSPORTATION POLICY AND THE RURAL ENVIRONMENT.  
 \*AUTHOR, KRIEBEL W R.  
 \*SOURCE, INCREASING UNDERSTANDING OF PUBLIC PROBLEMS AND POLICIES, FARM FOUNDATION, 6005, MICHIGAN AVE, CHICAGO, 1975, PP 55-64.  
 \*KEYWORDS, TRANSPORTATION, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 750090

## ABSTRACT 2491

\*TITLE, METHANOL - A VERSATILE FUEL FOR IMMEDIATE USE.  
 \*AUTHOR, REED T B, LERNER R M.  
 \*SOURCE, SCIENCE, 182(4119)/1299-1304, 28 DEC 1973.  
 \*KEYWORDS, TRANSPORTATION, METHANOL.  
 \*NOTES, FILED.  
 \*DATE, 731228

## ABSTRACT 2492

\*TITLE, TOWARD MORE TRANSPORTATION WITH LESS ENERGY.  
 \*AUTHOR, RICE R A.  
 \*SOURCE, TECHNOLOGY REVIEW, FEB 1974, PP 44-53.  
 \*KEYWORDS, TRANSPORTATION, ENERGY CONSUMPTION.  
 \*NOTES, FILED. EXPLORED ARE VARIOUS ALTERNATIVES FOR ACHIEVING A DOUBLING IN TRANSPORT OUTPUT BY THE YEAR 20000 WHILE HOLDING OIL CONSUMPTION DEVOTED TO TRANSPORT TO 100 BILLION GALLONS.  
 \*DATE, 740200

## ABSTRACT 2493

\*TITLE, THE AUTOMOBILE AS A SOCIAL MACHINE.  
 \*AUTHOR, SANSOM R L.  
 \*SOURCE, DELIVERED AT THE INTERNATIONAL AUTOMOTIVE ENGINEERING CONGRESS AND EXPOSITION, DETROIT, MI, 10 JAN 1973, USEPA, 13 PP.  
 \*KEYWORDS, TRANSPORTATION, AUTOMOBILE, ENERGY CONSUMPTION, POLLUTION, POLICY.  
 \*NOTES, FILED.  
 \*DATE, 730110

## ABSTRACT 2494

\*TITLE, ENERGY AND THE AUTOMOBILE.  
 \*AUTHOR, SOCIETY OF AUTOMOTIVE ENGINEERS.  
 \*SOURCE, SP-383, SOC OF AUTOMOTIVE ENGR, 400 COMMONWEALTH DR, WARRENDALE, PA 15096, JULY 1973, 73 PP.  
 \*KEYWORDS, TRANSPORTATION, AUTOMOBILE, ENERGY CONSUMPTION, SUPPLY DEMAND.  
 \*NOTES, FILED. PRESENTED IS TEN PAPERS FROM A FORUM ON THE RELATIONSHIP BETWEEN ENERGY AND THE AUTOMOBILE. FIVE PAPERS DEAL WITH THE GAS SUPPLY AND DEMAND SITUATION AND FIVE PAPERS DEAL WITH GENERAL ASPECTS OF THE AUTOMOBILE ENERGY SITUATION.  
 \*DATE, 730700

## ABSTRACT 2495

\*TITLE, ENERGY AND TRANSPORTATION.  
 \*AUTHOR, SOCIETY OF AUTOMOTIVE ENGINEERS.  
 \*SOURCE, SP-406, SOC OF AUTOMOTIVE ENGR, 400 COMMONWEALTH DR, WARRENDALE, PA 15096, FEB 1976, 69 PP.  
 \*KEYWORDS, TRANSPORTATION, ENERGY CONSUMPTION.  
 \*NOTES, FILED. PRESENTED ARE NINE PAPERS FROM A FORUM ON THE RELATIONSHIP BETWEEN ENERGY AND TRANSPORTATION.  
 \*DATE, 760200

## ABSTRACT 2496

\*TITLE, MINIMUM ENERGY REQUIREMENTS FOR TRANSPORTATION OF PROCESSED NEW YORK VEGETABLES USING LINEAR PROGRAMMING.  
 \*AUTHOR, VERGARA W, RAD M A, JORDAN W K.  
 \*SOURCE, ASAE PAPER 78-6515, 1978, 17 PP.  
 \*KEYWORDS, TRANSPORTATION, FRUITS AND VEGETABLES, MODELS.  
 \*NOTES, FILED. MINIMUM ENERGY REQUIREMENTS FOR TRANSPORTATION OF BEETS, PEAS, AND SNAP BEANS WERE ESTIMATED USING LINEAR PROGRAMMING. TWO SUB MODELS WERE DEvised, ONE FOR THE TRANSPORTATION IN NEW YORK AND THE OTHER FOR THE NATION AS A WHOLE.  
 \*DATE, 780000

- \*TITLE, ENERGY OPTIONS FOR TODAY AND TOMORROW.
- \*AUTHOR, VOGELY W A.
- \*SOURCE, INCREASING UNDERSTANDING OF PUBLIC PROBLEMS AND POLICIES, FARM FOUNDATION, 600 S MICHIGAN AVE, CHICAGO, 1975, PP 43-54.
- \*KEYWORDS, TRANSPORTATION, POLICY, ENVIRONMENT.
- \*NOTES, FILED.
- \*DATE, 750000

- \*TITLE, ALTERNATIVE AUTOMOBILE ENGINES.
- \*AUTHOR, WILSON D G.
- \*SOURCE, SCIENTIFIC AMER, 239(1), JULY 1978, 8 PP.
- \*KEYWORDS, TRANSPORTATION, ENGINE, AUTOMOBILE.
- \*NOTES, FILED. REQUIREMENTS FOR CLEANER AND MORE EFFICIENT ENGINES HAVE STIMULATED A SEARCH FOR ALTERNATIVES TO THE CONVENTIONAL SPARK-IGNITION ENGINE.
- \*DATE, 780700

- \*TITLE, ENERGY CRISIS AND TRANSPORTATION.
- \*AUTHOR, WINGER J G.
- \*SOURCE, AUTOMOTIVE ENGR, 81(3)/38-39, MARCH 1973.
- \*KEYWORDS, TRANSPORTATION, ENERGY SOURCES, AUTOMOBILE.
- \*NOTES, FILED.
- \*DATE, 730300

- \*TITLE, HYDROGEN - ITS FUTURE ROLE IN THE NATIONS ENERGY ECONOMY.
- \*AUTHOR, WINSCH E, HOFFMAN K C, SALZANO F J.
- \*SOURCE, SCIENCE, 180(4093)/1325-1332, 29 JUNE 1973.
- \*KEYWORDS, TRANSPORTATION, HYDROGEN, ENERGY FLOW.
- \*NOTES, FILED.
- \*DATE, 730629

## WASTE HEAT 2501 -- 2513

- \*TITLE, USE OF WASTE HEAT FROM ELECTRIC GENERATING PLANTS FOR GREENHOUSE HEATING.
- \*AUTHOR, BOYD L L, FLIKKE A M, STANSFIELD R V, ASHLEY G C, HIETATA J.
- \*SOURCE, ASAE PAPER 77-4531, 1977, 10 PP.
- \*KEYWORDS, WASTE HEAT, GREENHOUSE, DESIGN.
- \*NOTES, FILED.
- \*DATE, 770000

- \*TITLE, HOW WASTE HEAT FROM ELECTRICITY GENERATION CAN HEAT GREENHOUSES.
- \*AUTHOR, BOYD L L, STANSFIELD R V, ASHLEY G C, HIETALA J S, FLIKKE A M.
- \*SOURCE, AGR ENGR, 60(1)/28-31, JAN 1979.
- \*KEYWORDS, WASTE HEAT, ELECTRICAL, GREENHOUSE.
- \*NOTES, FILED. A CONDENSED VERSION OF PAPER 78-3583.
- \*DATE, 790128



- \*TITLE, AGRICULTURE, AQUACULTURE AND INDUSTRIAL POTENTIAL OF WASTE ENERGY MANAGEMENT- AN OVERVIEW.
- \*AUTHOR, HECHTMAN E.
- \*SOURCE, IN THE BOOK PROC OF THE INTERNATIONAL CONF ON ENERGY USE MANAGEMENT VOL 1,2, FAZZOLARE R A, SMITH C B, EDITORS, ELMSFORD, NY 10528/ PERGAMON PRESS INC, 24-28 OCT 1977, PP 779-786.
- \*KEYWORDS, WASTE HEAT, ELECTRICAL
- \*NOTES, FILED ABSTRACT ONLY IS INCLUDED.
- \*DATE, 771024

## ABSTRACT 2504

- \*TITLE, WASTE HEAT UTILIZATION FROM POWER PLANTS WITH AN INTEGRATED AGRICULTURAL AND AQUACULTURAL SYSTEM.
- \*AUTHOR, MEEKHOF R L, ET AL.
- \*SOURCE, DEPT OF AGR ECON, MICH STATE UNIV, EAST LANSING, 1976, 21 PP.
- \*KEYWORDS, WASTE HEAT.
- \*NOTES, FILED.
- \*DATE, 760000

## ABSTRACT 2505

- \*TITLE, SYSTEM STUDIES OF AGRICULTURAL USES OF POWER PLANT CONDENSER EFFLUENT.
- \*AUTHOR, PRICE D R, HAITH D A, BUCHHOLZ B A.
- \*SOURCE, ASAE PAPER 75-3543, 20 PP.
- \*KEYWORDS, WASTE HEAT, TECHNOLOGY ASSESSMENT, AGRICULTURE, ECONOMICS.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 2506

- \*TITLE, SIMULATION MODEL TO STUDY THE UTILIZATION OF WASTE HEAT USING A COMBINATION MULTIPLE RESERVOIR AND GREENHOUSE COMPLEX.
- \*AUTHOR, PRICE D R, PEART R M.
- \*SOURCE, JOURNAL OF ENVIRONMENTAL QUALITY, 2(2)/216-224, APRIL 1973.
- \*KEYWORDS, WASTE HEAT, MODELS, GREENHOUSE, DESIGN.
- \*NOTES, FILED.
- \*DATE, 730400

## ABSTRACT 2507

- \*TITLE, FEASIBILITY OF GREENHOUSE HEATING IN PENNSYLVANIA WITH POWER PLANT WASTE HEAT.
- \*AUTHOR, ROTZ C A, ALDRICH R A.
- \*SOURCE, ASAE PAPER 77-4530, 1977, 10 PP.
- \*KEYWORDS, WASTE HEAT, GREENHOUSE, HEAT, PENNSYLVANIA.
- \*NOTES, FILED.
- \*DATE, 770000

## ABSTRACT 2508

- \*TITLE, YIELD RESPONSE TO SOIL WARMING - AGRONOMIC CROPS.
- \*AUTHOR, RYKBOST K A, BOERSMA L, MACK H J, SCHMISSEUR W E.
- \*SOURCE, AGRONOMY J, 67/733-743, 794-798, NOV-DEC 1975.
- \*KEYWORDS, WASTE HEAT.
- \*NOTES, FILED.
- \*DATE, 751100

## ABSTRACT 2509

- \*TITLE, CROP AND SOIL TEMPERATURE RESPONSE TO SOIL WARMING IN THE SOUTHEAST.
- \*AUTHOR, SANDERS D C, SKAGGS R W.
- \*SOURCE, ASAE PAPER 75-3541, 10 PP.
- \*KEYWORDS, WASTE HEAT, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 2510

- \*TITLE, FEASIBILITY OF SOIL WARMING WITH POWER PLANT WASTE HEAT.
- \*AUTHOR, SHAPIRO H N, ROLLER W L.
- \*SOURCE, ASAE PAPER 75-3542, 8 PP.
- \*KEYWORDS, WASTE HEAT, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 2511

- \*TITLE, HEAT RECOVERY FROM WASTED POULTRY PROCESSING SCALD WATER.
- \*AUTHOR, SHUPE W L, WHITEHEAD W K, RUSSELL R B.
- \*SOURCE, ASAE PAPER 78-6508, 1978, 13 PP.
- \*KEYWORDS, WASTE HEAT, POULTRY, HEAT.
- \*NOTES, FILED. OVERFLOW WATER WASTED FROM THE SCALD TANK IN A POULTRY PROCESSING PLANT WAS USED TO HEAT INCOMING COLD REPLACEMENT WATER. WITH TWO-SHIFT OPERATION RECLAIMED HEAT COULD HAVE PAID FOR THE 5-PLATE HEAT EXCHANGER BANK SYSTEM IN 88 DAYS UNDER WINTER CONDITIONS OR IN 165 DAYS UNDER SPRING AND SUMMER CONDITIONS.
- \*DATE, 781218

## ABSTRACT 2512

- \*TITLE, WASTE HEAT UTILIZATION FOR AGRICULTURE AND AQUACULTURE.
- \*AUTHOR, TENNESSEE VALLEY AUTHORITY.
- \*SOURCE, TECH REPORT B-12, DIV OF FORESTRY, FISHERIES, AND WILDLIFE DEV, NORRIS, TN 37828, AUG 1978, 405 PP.
- \*KEYWORDS, WASTE HEAT, INDUSTRY, ENVIRONMENT, WASTES, WATER USE, DRYING, FOOD PROCESSING, GREENHOUSE.
- \*NOTES, FILED. A STATE-OF-THE-ART ASSESSMENT OF RESEARCH DEMONSTRATION, AND COMMERCIAL PROJECTS THAT INVOLVE THE USE OF POWER PLANT CONDENSER COOLING WATER FOR AGRICULTURAL AND AQUACULTURAL PURPOSES WAS CONDUCTED. INFORMATION WAS OBTAINED FROM A VARIETY OF SOURCES. SPECIFIC RESEARCH NEEDS ARE DISCUSSED.
- \*DATE, 780800

## ABSTRACT 2513

- \*TITLE, SURFACE-HEATING GREENHOUSES WITH POWER-PLANT COOLING WATER.
- \*AUTHOR, WALKER P N.
- \*SOURCE, ASAE PAPER 78-4518, 1978, 14 PP.
- \*KEYWORDS, WASTE HEAT, GREENHOUSE, EFFICIENCY.
- \*NOTES, FILED. EQUATIONS ARE DEVELOPED TO DESCRIBE THE ENERGY EFFICIENCY OF HEAT TRANSFER FROM A LAYER OF WARM WATER FLOWING OVER THE OUTSIDE SURFACE OF A GREENHOUSE. LABORATORY DATA IS ALSO PRESENTED.
- \*DATE, 780000

## WIND 2514 -- 2613

## ABSTRACT 2514

- \*TITLE, ALTERNATIVE ENERGY SOURCES MAY HELP STEM THE ENERGY CRISIS.
- \*AUTHOR, ANON.
- \*SOURCE, PRODUCT ENGINEERING, OCT 1973, PP 22-26.
- \*KEYWORDS, WIND, ENERGY SOURCES, DESIGN, SOLAR.
- \*NOTES, FILED.
- \*DATE, 731000

## ABSTRACT 2515

- \*TITLE, WATTS FROM THE WIND.
- \*AUTHOR, ANON.
- \*SOURCE, MICHIGAN NATURAL RESOURCES, 43(3)/14-17, MAY-JUNE 1974.
- \*KEYWORDS, WIND, HOME.
- \*NOTES, FILED.
- \*DATE, 740500

\*TITLE, COMPANY LITERATURE.  
 \*AUTHOR, ANON.  
 \*SOURCE, ALLGAIER WERKZEUGBAU GMBH, PRESS WORKS, UHINGEN (WUERTT), GERMANY.  
 \*KEYWORDS, WIND, ADVERTISEMENT, STATISTICS.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 2517

\*TITLE, WIND ENERGY.  
 \*AUTHOR, ANON.  
 \*SOURCE, SUBCOMMITTEE ON ENERGY, COMMITTEE ON SCI AND ASTRONAUTICS,  
 US GOVT PRINTING OFFICE, WASHINGTON, D C, 1974, 386 PP.  
 \*KEYWORDS, WIND, ECONOMICS.  
 \*NOTES,  
 \*DATE, 740521

## ABSTRACT 2518

\*TITLE, APPLICATION STUDY OF WIND POWER TECHNOLOGY TO THE CITY OF HART,  
 MICHIGAN YEAR II.  
 \*AUTHOR, ASMUSSEN J. ET AL.  
 \*SOURCE, PROGRESS REPORT 2, EROA, WASHINGTON, D C, 42 PP.  
 \*KEYWORDS, WIND, MICHIGAN, ECONOMICS, MODELS.  
 \*NOTES,  
 \*DATE,

## ABSTRACT 2519

\*TITLE, WELLS AND WINDMILLS IN NEBRASKA.  
 \*AUTHOR, BARBOUR E H.  
 \*SOURCE, WATER-SUPPLY PAPER NO 29, US GEOLOGICAL SURVEY, 1899, 85 PP.  
 \*KEYWORDS, WIND, HISTORICAL.  
 \*NOTES, FILED. EXCELLENT REVIEW OF US WINDMILL TECH AT THE TURN OF THE CENTURY.  
 \*DATE, 990000

## ABSTRACT 2520

\*TITLE, ENERGY FROM THE WIND.  
 \*AUTHOR, BATTELLE MEMORIAL INSTITUTE.  
 \*SOURCE, ENERGY PERSPECTIVES, BATTELLE MEMORIAL INST, 505 KING AVE, COLUMBUS,  
 OH, (18-19)/1-6, JAN-FEB 1975.  
 \*KEYWORDS, WIND, GENERAL.  
 \*NOTES, FILED.  
 \*DATE, 750100

## ABSTRACT 2521

\*TITLE, HOW TO CONSTRUCT A CHEAP WIND MACHINE FOR PUMPING WATER.  
 \*AUTHOR, BODEK A.  
 \*SOURCE, DO-IT-YOURSELF LEAFLET, NO 5, BRACE RESEARCH INST, MACDONALD COLLEGE OF  
 MCGILL UNIV, QUEBEC, CANADA, FEB 1965.  
 \*KEYWORDS, WIND.  
 \*NOTES,  
 \*DATE, 650200

## ABSTRACT 2522

\*TITLE, LOW COST WINDMILL FOR DEVELOPING NATIONS.  
 \*AUTHOR, BOSSEL H.  
 \*SOURCE, VOLUNTEERS IN TECH ASSISTANCE 20, 3706 RHODE ISLAND AVE, MT RAINIER,  
 MARYLAND, 40 PP.  
 \*KEYWORDS, WIND, OPERATING PROCEDURE, DEVELOPING COUNTRIES.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 2523

\*TITLE, HOW TO CONSTRUCT A CHEAP WIND MACHINE FOR PUMPING WATER.  
 \*AUTHOR, BRACE RESEARCH INSTITUTE.  
 \*SOURCE, DO-IT-YOURSELF LEAFLET L-5, BRACE RESEARCH INST, MACDONALD COLLEGE OF MCGILL UNIV, QUEBEC, CANADA, FEB 1973, 13 PP.  
 \*KEYWORDS, WIND, DESIGN, OPERATING PROCEDURE.  
 \*NOTES, FILED.  
 \*DATE, 730200

## ABSTRACT 2524

\*TITLE, TAKING POWER OFF THE WIND.  
 \*AUTHOR, BRUCKNER A.  
 \*SOURCE, NEW SCIENTIST, 69(891)/812-814, 28 MARCH 1974.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED, NAS.  
 \*DATE, 740328

## ABSTRACT 2525

\*TITLE, TILTING AT THE ENERGY CRISIS - A WINDMILL ON YOUR ROOF.  
 \*AUTHOR, BRYSON F E.  
 \*SOURCE, MACHINE DESIGN, 10 JAN 1974, PP 20-25.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED.  
 \*DATE, 740110

## ABSTRACT 2526

\*TITLE, RETURN OF THE WINDMILL.  
 \*AUTHOR, CLARK W.  
 \*SOURCE, SMITHSONIAN MAGAZINE, NOV 1973, 5 PP.  
 \*KEYWORDS, WIND, HISTORICAL.  
 \*NOTES, FILED.  
 \*DATE, 740524

## ABSTRACT 2527

\*TITLE, IRRIGATION PUMPING WITH WIND ENERGY.  
 \*AUTHOR, CLARK R N, SCHNEIDER A D.  
 \*SOURCE, ASAE PAPER 78-2549, 1978, 15 PP.  
 \*KEYWORDS, WIND, IRRIGATION, EFFICIENCY.  
 \*NOTES, FILED. DESCRIBED IS A WIND-ASSIST PUMPING SYSTEM THAT USES COMMERCIALY AVAILABLE EQUIPMENT.  
 \*DATE, 780000

## ABSTRACT 2528

\*TITLE, ELECTRIC POWER FROM THE WIND.  
 \*AUTHOR, CLEWS H.  
 \*SOURCE, SOLAR WIND COMPANY, E HOLDEN, MAINE, 1973, 29 PP.  
 \*KEYWORDS, WIND, ADVERTISEMENT, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 730000

## ABSTRACT 2529

\*TITLE, TILTING AT WINDMILLS.  
 \*AUTHOR, DALYELL T.  
 \*SOURCE, NEW SCIENTIST, 13 JUNE 1974, 1 P.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED.  
 \*DATE, 740613



•TITLE, SITES FOR WIND-POWER INSTALLATIONS.  
 •AUTHOR, DAVIDSON B, GERBIER N, PAPAGIANAKIS S D, RIJKOORT P J.  
 •SOURCE, TECH NOTE NO 63, WORLD METEOROLOGICAL ORGANIZATION, GENEVA,  
 SWITZERLAND, 1964, 38 PP.  
 •KEYWORDS, WIND, WORLD WIDE, REQUIREMENTS.  
 •NOTES, FILED.  
 •DATE, 640000

## ABSTRACT 2531

•TITLE, COMPANY LITERATURE.  
 •AUTHOR, DEMPSTER INDUSTRIES INC.  
 •SOURCE, DEMPSTER INDUSTRIES INC, PO BOX 848, BEATRICE, NE.  
 •KEYWORDS, WIND, ADVERTISEMENT.  
 •NOTES, FILED.  
 •DATE,

## ABSTRACT 2532

•TITLE, WIND POWER IN KENYA.  
 •AUTHOR, DENTON J D.  
 •SOURCE, TECHNICAL REPORT M69/2, UNIV OF NAIROBI, 13 JUNE 1969, 8 PP.  
 •KEYWORDS, WIND, KENYA.  
 •NOTES, FILED.  
 •DATE, 690613

## ABSTRACT 2533

•TITLE, EFFICIENCY AND ECONOMIC COMPARISON OF DIFFERENT WEC (WIND ENERGY  
 CONVERTER) ROTOR SYSTEMS.  
 •AUTHOR, DORNER H.  
 •SOURCE, PRESENTED AT INTERNATIONAL CONF ON APPROPRIATE TECHNOLOGIES FOR  
 SEMIARID AREAS - WIND AND SOLAR ENERGY FOR WATER SUPPLY, 15-20 SEPT 1975,  
 BERLIN (WEST), 28 PP.  
 •KEYWORDS, WIND, EFFICIENCY, ECONOMICS, TECHNOLOGY ASSESSMENT.  
 •NOTES, FILED.  
 •DATE, 750915

## ABSTRACT 2534

•TITLE, A PARTIAL LISTING OF COMMERCIAL SOURCES FOR WINDMILLS AND EQUIPMENT  
 (WINDMILLS FOR GENERATING ELECTRICITY).  
 •AUTHOR, DOSS H J.  
 •SOURCE, AGR ENGR FACTS 17, MICH STATE UNIV, EAST LANSING, MI 48824,  
 JULY 1974, 2 PP.  
 •KEYWORDS, WIND, INDUSTRY.  
 •NOTES, FILED.  
 •DATE, 740700

## ABSTRACT 2535

•TITLE, A PARTIAL LISTING OF COMMERCIAL SOURCES FOR WINDMILLS AND EQUIPMENT  
 (WINDMILLS FOR PUMPING WATER).  
 •AUTHOR, DOSS H J.  
 •SOURCE, AGR ANGR FACTS 18, MICH STATE UNIV, EAST LANSING, MI 48824,  
 JULY 1974, 1 PP.  
 •KEYWORDS, WIND, INDUSTRY.  
 •NOTES, FILED.  
 •DATE, 740700

## ABSTRACT 2536

•TITLE, WIND POWER ENERGY.  
 •AUTHOR, DOSS H J, HALL F W.  
 •SOURCE, AGR ENGR FACTS 16, MICH STATE UNIV, EAST LANSING, MI 48824,  
 JULY 1974, 2 PP.  
 •KEYWORDS, WIND, ENERGY SOURCES.  
 •NOTES, FILED.  
 •DATE, 740700

- \*TITLE, WINDMILLS - A PARTIAL LISTING OF PLANS AND KITS.
- \*AUTHOR, DOSS H J.
- \*SOURCE, AEIS 303, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, JULY 1974, 2 PP.
- \*KEYWORDS, WIND, INDUSTRY.
- \*NOTES, FILED.
- \*DATE, 740700

- \*TITLE, WIND POWER ENERGY.
- \*AUTHOR, DOSS H J.
- \*SOURCE, AEIS 302, AGR ENGR DEPT, MICH STATE UNIV, EAST LANSING, MI 48824, JULY 1974, 4 PP.
- \*KEYWORDS, WIND.
- \*NOTES, FILED.
- \*DATE, 740700

- \*TITLE, WIND-DRIVEN POWER PLANTS.
- \*AUTHOR, EKBLAW K J T.
- \*SOURCE, THE FARM JOURNAL, AUG 1922, PP 6-7.
- \*KEYWORDS, WIND, HISTORICAL, ELECTRICAL.
- \*NOTES, FILED.
- \*DATE, 220800

- \*TITLE, WIND MACHINES.
- \*AUTHOR, ELDRIDGE F R.
- \*SOURCE, THE MITRE CORP, WESTGATE RESEARCH PARK, MCLEAN, VIRGINIA, OCT 1975, 77 PP.
- \*KEYWORDS, WIND, HISTORICAL.
- \*NOTES, FILED.
- \*DATE, 751000

- \*TITLE, PROCEEDINGS OF THE SECOND WORKSHOP ON WIND ENERGY CONVERSION SYSTEMS.
- \*AUTHOR, ELDRIDGE F R.
- \*SOURCE, NSF-RA-N-75-050, THE MITRE CORP, WESTGATE RESEARCH PARK, MCLEAN, VIRGINIA, SEPT 1975, 640 PP.
- \*KEYWORDS, WIND, INTERNATIONAL, AGRICULTURE.
- \*NOTES, FILED.
- \*DATE, 750900

- \*TITLE, COMPANY LITERATURE.
- \*AUTHOR, ENVIRONMENTAL ENERGIES INC.
- \*SOURCE, ENIV ENERGIES INC, 11350 SCHAEFER, DETROIT, MI.
- \*KEYWORDS, WIND, ADVERTISEMENT.
- \*NOTES, FILED.
- \*DATE,

- \*TITLE, FOOD FROM WINDMILLS.
- \*AUTHOR, FRAENKEL P L.
- \*SOURCE, INTERMEDIATE TECHNOLOGY PUB LTD, 9 KING STREET, LONDON WC2E 8HN, NOV 1975, 73 PP.
- \*KEYWORDS, WIND, ETHIOPIA, DEVELOPING COUNTRIES, DESIGN, PUMPS.
- \*NOTES, FILED.
- \*DATE, 751100

- \*TITLE, POWER IN THE WIND.
- \*AUTHOR, FREY, LEWIS, ROTH, PARMOGHADAS.
- \*SOURCE, AGEN 5501, GRADUATE SEMINAR, OHIO STATE UNIV, SPRING 1975, 25 PP.
- \*KEYWORDS, WIND, ECONOMICS, ENERGY SOURCES, DESIGN.
- \*NOTES, FILED.
- \*DATE, 750000

## ABSTRACT 2545

\*TITLE, GENERATION OF ELECTRICITY BY WINDPOWER.  
 \*AUTHOR, GOLDING E W.  
 \*SOURCE, PHILOSOPHICAL LIBRARY, N Y, 1956, 318 PP.  
 \*KEYWORDS, WIND.  
 \*NOTES,  
 \*DATE, 560000

## ABSTRACT 2546

\*TITLE, WINDMILLS FOR WATER LIFTING AND GENERATION OF ELECTRICITY ON THE FARM.  
 \*AUTHOR, GOLDING E W.  
 \*SOURCE, FAO INFORMAL WORKING BULLETIN NO 17, AGR ENGR BRANCH.  
 \*KEYWORDS, WIND.  
 \*NOTES,  
 \*DATE,

## ABSTRACT 2547

\*TITLE, METHODS FOR ASSESSING THE POTENTIALITIES FO WIND POWER ON DIFFERENT SCALES OF UTILIZATION.  
 \*AUTHOR, GOLDING E W.  
 \*SOURCE, PROC ON SOLAR AND AEOLIAN ENERGY, NATO SEMINAR, 4-12 SEPT 1961, PLENUM PRESS, N Y.  
 \*KEYWORDS, WIND.  
 \*NOTES,  
 \*DATE, 610904

## ABSTRACT 2548

\*TITLE, COMPANY LITERATURE.  
 \*AUTHOR, GREAT LAKES WIND POWER INC.  
 \*SOURCE, GREAT LAKES WIND POWER INC, PO BOX 1799, EAST LANSING, MI.  
 \*KEYWORDS, WIND, ADVERTISEMENT.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 2549

\*TITLE, A PROMISE IN THE WIND.  
 \*AUTHOR, GUY D.  
 \*SOURCE, YANKEE, MARCH 1974, PP 84-97.  
 \*KEYWORDS, WIND, GENERAL, VERMONT, MASSACHUSETTS.  
 \*NOTES, FILED.  
 \*DATE, 740300

## ABSTRACT 2550

\*TITLE, WIND AND WINDSPINNERS.  
 \*AUTHOR, HACKLEMAN M A.  
 \*SOURCE, CULVER CITY, CALIF/PEACE PRESS, FEB 1976, 116 PP.  
 \*KEYWORDS, WIND, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 760200

## ABSTRACT 2551

\*TITLE, CAN WE HARNESS THE WIND.  
 \*AUTHOR, HAMILTON R.  
 \*SOURCE, NATIONAL GEOGRAPHIC, NOV 1975, PP812-828.  
 \*KEYWORDS, WIND, HISTORICAL, DESIGN.  
 \*NOTES, FILED.  
 \*DATE, 751100

## ABSTRACT 2552

\*TITLE, ARTIFICIAL TORNADOES - A NOVEL WIND ENERGY CONCEPT.  
 \*AUTHOR, HAMMOND A L.  
 \*SOURCE, SCIENCE, 190/257, 17 OCT 1975.  
 \*KEYWORDS, WIND, DESIGN.  
 \*NOTES, FILED.  
 \*DATE, 751017

## ABSTRACT 2553

\*TITLE, COMPANY LITERATURE.  
 \*AUTHOR, HELLER-ALLER CO.  
 \*SOURCE, HELLER-ALLER CO, NAPOLEON, OH.  
 \*KEYWORDS, WIND, ADVERTISEMENT.  
 \*NOTES, FILED.  
 \*DATE,

## ABSTRACT 2554

\*TITLE, A SURVEY OF THE POSSIBLE USES OF WINDPOWER IN THAILAND AND THE PHILIPPINES.  
 \*AUTHOR, MERONEHEUS W E.  
 \*SOURCE, CONTRACT AID/TA-C-1143, DEPT OF STATE, WASHINGTON D C, NOV 1974, 139 PP  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED.  
 \*DATE, 741100

## ABSTRACT 2555

\*TITLE, ENERGY FROM THE WIND.  
 \*AUTHOR, HEWSON E W.  
 \*SOURCE, BULLETIN AMER METEOROLOGICAL SOCIETY, 58(1)/33-38, JAN 1977.  
 \*KEYWORDS, WIND, USA, STORAGE.  
 \*NOTES, FILED.  
 \*DATE, 770100

## ABSTRACT 2556

\*TITLE, LUTILISATION DE LENERGIE EOLIENNE POUR LEXHAVRE DE LEAU AU MALI  
 BILAN DEXPLOITATION DES EOLIENNES DE LA REGION DE GAG.  
 \*AUTHOR, HLAVEK R, DUPUIS J.  
 \*SOURCE, BULLETIN DE LIAISON, COMITE INTER-AFRICAIN, OCT 1971, PP 6-13.  
 \*KEYWORDS, WIND, PUMPS, MALI.  
 \*NOTES, FILED. WIND ENERGY FOR WATER PUMPING IN MALI. DEVELOPMENTS IN THE GAO AREA.  
 \*DATE, 710900

## ABSTRACT 2557

\*TITLE, SMALL WIND-POWER SYSTEMS.  
 \*AUTHOR, HUGHES H A, VAUGHAN D H.  
 \*SOURCE, PUBL 795, VIRGINIA POLYTECHNIC INST AND STATE UNIV, EXTENSION DIV, NOV 1978, 16 PP.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED.  
 \*DATE, 781100

## ABSTRACT 2558

\*TITLE, REVIEW OF DEVELOPMENT IN WEST-GERMANY.  
 \*AUTHOR, MUTTER U.  
 \*SOURCE, PAPER PRESENTED AT WORKSHOP ON ADVANCED WINDENERGY-SYSTEMS IN STOCKHOLM 29 AUG 1974, UNIV OF STUTTGART, WEST GERMANY, 28 PP.  
 \*KEYWORDS, WIND, GERMANY, TECHNOLOGY ASSESSMENT.  
 \*NOTES, FILED.  
 \*DATE, 740829

## ABSTRACT 2559

\*TITLE, OPTIMUM DESIGN CONCEPT FOR WIND ELECTRIC CONVERTERS.  
 \*AUTHOR, MUTTER U.  
 \*SOURCE, PAPER PRESENTED AT WORKSHOP ON ADVANCED WINDENERGY-SYSTEMS IN STOCKHOLM 29 AUG 1974, UNIV OF STUTTGART, WEST GERMANY, 20 PP.  
 \*KEYWORDS, WIND, DESIGN, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 740829



\*TITLE, COMPANY LITERATURE.  
 \*AUTHOR, INDEPENDENT POWER DEVELOPERS INC.  
 \*SOURCE, INDEPENDENT POWER DEVELOPERS INC, BOX 1468, NOXON, MT.  
 \*KEYWORDS, WIND, ADVERTISEMENT.  
 \*NOTES, FILED.  
 \*DATE,  
 1977.1

## ABSTRACT 2561

\*TITLE, WIND POWER NOW.  
 \*AUTHOR, INGLIS D R.  
 \*SOURCE, BULLETIN OF THE ATOMIC SCIENTISTS, OCT 1975, PP 20-26.  
 \*KEYWORDS, WIND, INDUSTRY, NUCLEAR.  
 \*NOTES, FILED.  
 \*DATE, 751020

## ABSTRACT 2562

\*TITLE, WIND POWER DEVELOPMENT AND APPLICATION.  
 \*AUTHOR, JOHNSON C C, SMITH R T, SWANSON R K.  
 \*SOURCE, POWER ENGINEERING, OCT 1974, PP 50-54.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED.  
 \*DATE, 741000

## ABSTRACT 2563

\*TITLE, WIND POWER FOR PUMPING WATER.  
 \*AUTHOR, KRISHNAN A, GARG H P.  
 \*SOURCE, THE INDIAN AND EASTERN ENGR, MARCH 1975, PP 105-109.  
 \*KEYWORDS, WIND, PUMPS, INDIA.  
 \*NOTES, FILED. DAILY MEAN WIND SPEED DATA OF JUDHPUR, JAISALMER AND BIKANER FOR THE PERIOD OF 1949-1960 WERE ANALYSED FROM THE POINT OF VIEW OF WIND POWER UTILIZATION AND THE AMOUNT OF ENERGY THAT CAN BE HARNESSSED BY WIND MILLS HAS BEEN PRESENTED. THE POSSIBILITIES OF USING WIND POWER FOR PUMPING WATER IN THE ARID ZONE OF NORTH WEST INDIA HAVE BEEN INDICATED.  
 \*DATE, 750300

## ABSTRACT 2564

\*TITLE, QUIRK - HIGH-OUTPUT WIND GENERATOR.  
 \*AUTHOR, LINDSLEY E F.  
 \*SOURCE, POPULAR SCIENCE, MARCH 1974, P 52.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED.  
 \*DATE, 740300

## ABSTRACT 2565

\*TITLE, ROBERT LANDING - HE RIDES ON THE WIND.  
 \*AUTHOR, LINDSLEY E F.  
 \*SOURCE, POPULAR SCIENCE, APRIL 1975, PP 116-117.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED.  
 \*DATE, 750400

## ABSTRACT 2566

\*TITLE, WIND POWER - HOW NEW TECHNOLOGY IS HARNESSING AN AGE-OLD ENERGY SOURCE.  
 \*AUTHOR, LINDSLEY E F.  
 \*SOURCE, POPULAR SCIENCE, JULY 1974, PP 54-59.  
 \*KEYWORDS, WIND, DESIGN, GENERAL.  
 \*NOTES, FILED.  
 \*DATE, 740700

## ABSTRACT 2567

\*TITLE, WINDMILLS.  
 \*AUTHOR, MCCAULL J.  
 \*SOURCE, ENVIRONMENT, 15(1)/6-17, JAN-FEB 1973.  
 \*KEYWORDS, WIND.  
 \*NOTES, NAS.  
 \*DATE, 730100

## ABSTRACT 2568

\*TITLE, HOMEMADE SIX-VOLT WIND ELECTRIC PLANTS.  
 \*AUTHOR, MCCOLLY M F, BUCK F.  
 \*SOURCE, CIRCULAR 58, AGR EXPT STA, NORTH DAKOTA AGR COLLEGE, FARGO, DEC 1935,  
 16 PP.  
 \*KEYWORDS, WIND, HISTORICAL, DESIGN, OPERATING PROCEDURE.  
 \*NOTES, FILED.  
 \*DATE, 351200

## ABSTRACT 2569

\*TITLE, HARNESSING THE WIND FOR HOME ENERGY.  
 \*AUTHOR, MCGUIGAN D.  
 \*SOURCE, CHARLOTTE, VT 05445/GARDEN WAY PUEL, 1978, 134 PP.  
 \*KEYWORDS, WIND, HOME.  
 \*NOTES, FILED.  
 \*DATE, 780000

## ABSTRACT 2570

\*TITLE, IS THERE A PLACE FOR THE WINDMILL IN THE LESS DEVELOPED COUNTRIES.  
 \*AUTHOR, MERRIAM M F.  
 \*SOURCE, WORKING PAPER SERIES NO 20, EAST-WEST TECH AND DEV INST, HONOLULU,  
 HAWAII, MARCH 1972, 21 PP.  
 \*KEYWORDS, WIND, DEVELOPING COUNTRIES.  
 \*NOTES, FILED, NAS.  
 \*DATE, 720300

## ABSTRACT 2571

\*TITLE, WIND ENERGY FOR HUMAN NEEDS.  
 \*AUTHOR, MERRIAM M F.  
 \*SOURCE, PREPARED FOR UN ENVIRONMENT PROGRAM, LAWERENCE BERKELEY LAB, UNIV OF  
 CALIF, BERKELEY, NOV 1974, 99 PP.  
 \*KEYWORDS, WIND, ENVIRONMENT, WORLD WIDE, DESIGN, ENERGY SOURCES.  
 \*NOTES, FILED, NAS.  
 \*DATE, 741100

## ABSTRACT 2572

\*TITLE, WINDMILLS FOR LESS DEVELOPED COUNTRIES.  
 \*AUTHOR, MERRIAM M F.  
 \*SOURCE, TECHOS (ASEE INTERNATIONAL DIV PUB), APRIL-JUNE 1972, PP 9-23.  
 \*KEYWORDS, WIND, DEVELOPING COUNTRIES, TECHNOLOGY ASSESSMENT, DESIGN, INDUSTRY.  
 \*NOTES, FILED.  
 \*DATE, 720400

## ABSTRACT 2573

\*TITLE, WIND ENERGY - LARGE AND SMALL SYSTEMS COMPETING.  
 \*AUTHOR, METZ W D.  
 \*SOURCE, SCIENCE, 197/971-973, 2 SEPT 1977.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED. SIXTH IN A SERIES OF SEVEN.  
 \*DATE, 770902

## ABSTRACT 2574

\*TITLE, SUPPLEMENT TO THE CLIMATE OF MICHIGAN BY STATIONS FOR THE PERIOD 1940  
 \*AUTHOR, MICHIGAN DEPARTMENT OF AGRICULTURE, MICHIGAN WEATHER SERVICE.  
 \*SOURCE, MICH DEPT OF AGR, MICH WEATHER SERVICE, JUNE 1974, 26 PP.  
 \*KEYWORDS, WIND, STATISTICS.  
 \*NOTES, FILED.  
 \*DATE, 740600

## ABSTRACT 2575

\*TITLE, WIND ON A BOOM.  
 \*AUTHOR, MORAN E.  
 \*SOURCE, POPULAR SCI, FEB 1977, PP 22-23.  
 \*KEYWORDS, WIND, DESIGN.  
 \*NOTES, FILED. AN EASY TO ASSEMBLE PORTABLE WINDMILL IS DISCUSSED.  
 \*DATE, 770200

\*TITLE, GARY BREGG - WINDPOWER IN A DRUM.  
 \*AUTHOR, MORAN E.  
 \*SOURCE, POPULAR SCIENCE, AUG 1975, PP 104-105.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED.  
 \*DATE, 750800

## ABSTRACT 2577

\*TITLE, WIND ENGINEERING.  
 \*AUTHOR, MOWFORTH E. ED.  
 \*SOURCE, WIND ENGINEERING, 1(3)/163-233, 1977.  
 \*KEYWORDS, WIND.  
 \*NOTES, FILED.  
 \*DATE, 770300

## ABSTRACT 2578

\*TITLE, ENERGY FOR THE FUTURE - THE OSU EFFORT.  
 \*AUTHOR, OKLAHOMA STATE UNIVERSITY.  
 \*SOURCE, ENGR ENERGY LAB, OKLAHOMA STATE UNIV, STILLWATER, OK, 1974, 13 PP.  
 \*KEYWORDS, WIND, SOLAR, BIBLIOGRAPHY.  
 \*NOTES, FILED.  
 \*DATE, 740300

## ABSTRACT 2579

\*TITLE, COST COMPARISON OF VILLAGE LEVEL POWER SOURCES.  
 \*AUTHOR, PAK S.  
 \*SOURCE, IBRD UNPUBLISHED PAPER, 30 MAY 1974, 10 PP.  
 \*KEYWORDS, WIND, ECONOMICS, DEVELOPING COUNTRIES, ENGINE.  
 \*NOTES, FILED.  
 \*DATE, 740530

## ABSTRACT 2580

\*TITLE, SUMMARY OF WIND-ELECTRIC POTENTIAL IN WESTERN MICHIGAN.  
 \*AUTHOR, PARK G L, ASHUSSEN J, KRAUSS O.  
 \*SOURCE, DIV OF ENGINEERING RESEARCH, MICH STATE UNIV, E LANSING,  
 MI 48824, 21 NOV 1977, 5 PP.  
 \*KEYWORDS, WIND, ELECTRICAL, ECONOMICS, MICHIGAN.  
 \*NOTES, FILED.  
 \*DATE, 771121

## ABSTRACT 2581

\*TITLE, SIMPLIFIED WIND POWER SYSTEMS FOR EXPERIMENTERS.  
 \*AUTHOR, PARK J.  
 \*SOURCE, JACK PARK, BOX 4301, SYLMAR, CALIF, 1975, 80 PP.  
 \*KEYWORDS, WIND.  
 \*NOTES,  
 \*DATE, 750000

## ABSTRACT 2582

\*TITLE, WINDMILLS AND WIND GENERATORS.  
 \*AUTHOR, PARSONS R A, FAIRBANK W C.  
 \*SOURCE, AGR ENGR LEAFLET 2001, UNIV OF CALIF, BERKELEY, 1974, 7 PP.  
 \*KEYWORDS, WIND, CALIFORNIA, ECONOMICS.  
 \*NOTES, FILED.  
 \*DATE, 740000

## ABSTRACT 2583

\*TITLE, WIND ENERGY SYSTEMS.  
\*AUTHOR, PRICE D R, WEEKS S A.  
\*SOURCE, AGR ENGR EXTENSION BULLETIN 413, NY STATE COLLEGE OF AGR AND LIFE SCIENCES, CORNELL UNIV, ITHACA, MAY 1975, 9 PP.  
\*KEYWORDS, WIND, CONVERSION, GENERAL.  
\*NOTES, FILED.  
\*DATE, 750500

## ABSTRACT 2584

\*TITLE, ENERGY ALTERNATIVES - THEY ARE BLOWING IN THE WIND.  
\*AUTHOR, PRINCE M.  
\*SOURCE, UNIV OF MASS ALUMNUS MAGAZINE, 6(3)/12-15, OCT-NOV 1975.  
\*KEYWORDS, WIND, SOLAR, ENERGY SOURCES, DESIGN, MASSACHUSETTS.  
\*NOTES, FILED.  
\*DATE, 751000

## ABSTRACT 2585

\*TITLE, WIND POWER SYSTEMS.  
\*AUTHOR, PRIVETTE C V.  
\*SOURCE, EXTENSION LEAFLET 102, CLEMSON UNIV, JAN 1976, 12PP.  
\*KEYWORDS, WIND.  
\*NOTES, FILED.  
\*DATE, 760100

## ABSTRACT 2586

\*TITLE, POWER FROM THE WIND.  
\*AUTHOR, PUTNAM P C.  
\*SOURCE, NEW YORK/VAN NOSTRAND CO, 1948, 224 PP.  
\*KEYWORDS, WIND.  
\*NOTES, FILED.  
\*DATE, 480000

## ABSTRACT 2587

\*TITLE, A WIND ENERGY STORAGE AND CONVERSION SYSTEM FOR USE IN UNDERDEVELOPED COUNTRIES.  
\*AUTHOR, RAMAKUMAR R, MCCOLLOM K A, ALLISON H J, HUGHES W L.  
\*SOURCE, PROCEEDINGS OF 4TH INTERSOCIETY ENERGY CONVERSION ENGINEERING CONF, WASHINGTON D C, 1969, PP 606-613.  
\*KEYWORDS, WIND, DEVELOPING COUNTRIES.  
\*NOTES, FILED.  
\*DATE, 690000

## ABSTRACT 2588

\*TITLE, HARNESSING WIND POWER IN DEVELOPING COUNTRIES.  
\*AUTHOR, RAMAKUMAR R.  
\*SOURCE, IECEC RECORD, NEWARK, DELAWARE, AUG 1975, PP 966-973.  
\*KEYWORDS, WIND, DEVELOPING COUNTRIES, EGYPT, INDIA, ECONOMICS.  
\*NOTES, FILED.  
\*DATE, 750800

## ABSTRACT 2589

\*TITLE, THE OKLAHOMA STATE UNIVERSITY WIND ENERGY RESEARCH PROGRAM.  
\*AUTHOR, RAMAKUMAR R, ALLISON H J, HUGHES W L.  
\*SOURCE, PRESENTED AT SECOND US NATIONAL CONF ON WIND ENGINEERING RESEARCH, FORT COLLINS, COLORADO, JUNE 1975, 3 PP.  
\*KEYWORDS, WIND.  
\*DATE, 750600

## ABSTRACT 2590

\*TITLE, WIND ENERGY UTILIZATION PROSPECTS.  
\*AUTHOR, RAMAKUMAR R, HUGHES W L, ALLISON H J.  
\*SOURCE, PROC OF THE INST OF ENVIRONMENTAL SCI, 14-16 APRIL 1975, ANAHEIM, CALIF PP 138-142.  
\*KEYWORDS, WIND, ENVIRONMENT, ECONOMICS.  
\*NOTES, FILED.  
\*DATE, 750414



- TITLE, COMPANY LITERATURE.
- AUTHOR, REAL GAS AND ELECTRIC CO INC.
- SOURCE, REAL GAS AND ELECTRIC CO INC, PO BOX A, GUERNEVILLE, CA.
- KEYWORDS, WIND, ADVERTISEMENT.
- NOTES, FILED.
- DATE, .

## ABSTRACT 2592

- TITLE, WIND ENERGY CONVERSION SYSTEMS - WORKSHOP PROCEEDINGS.
- AUTHOR, SAVINO J M. ET AL.
- SOURCE, NSF-RA-N-73-006, NATIONAL TECH INFO SERVICE, SPRINGFIELD, VIRGINIA, 11-13 JUNE 1973, 258 PP.
- KEYWORDS, WIND, HISTORICAL, CONVERSION, DESIGN, WORLD WIDE, OPERATING PROCEDURE.
- NOTES, FILED.
- DATE, 730611

## ABSTRACT 2593

- TITLE, COMPANY LITERATURE.
- AUTHOR, SENCENBAUGH WIND ELECTRIC.
- SOURCE, SENCENBAUGH WIND ELECTRIC, PO BOX 11174, PALO ALTO, CA.
- KEYWORDS, WIND, ADVERTISEMENT.
- NOTES, FILED.
- DATE, .

## ABSTRACT 2594

- TITLE, COMPANY LITERATURE.
- AUTHOR, SENCENBAUGH J.
- SOURCE, SENCENBAUGH INC, PALO ALTO, CALIF.
- KEYWORDS, WIND, OPERATING PROCEDURE, DESIGN, ADVERTISEMENT.
- NOTES, FILED.
- DATE, .

## ABSTRACT 2595

- TITLE, DEVELOPMENT OF WIND ENERGY UTILIZATION IN ASIA AND THE PACIFIC.
- AUTHOR, SHERMAN M M.
- SOURCE, ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC EXPERT WORKING GROUP ON THE USE OF SOLAR AND WIND ENERGY, BANGKOK, 2-9 MARCH 1976, 40 PP.
- KEYWORDS, WIND, PUMPS, ELECTRICAL, ASIA.
- NOTES, FILED.
- DATE, 760309

## ABSTRACT 2596

- TITLE, WIND-ELECTRIC POWER.
- AUTHOR, SODERHOLM L M, ANDREW J F.
- SOURCE, ASAE PAPER 74-3503, 11 PP.
- KEYWORDS, WIND, IOWA, ELECTRICAL.
- NOTES, FILED.
- DATE, 740000

## ABSTRACT 2597

- TITLE, WIND ENERGY FOR MODIFYING ELECTRIC HEATING LOAD DEMANDS.
- AUTHOR, SODERHOLM L M, WEMER R C.
- SOURCE, ASAE PAPER 77-3051, 1977, 10PP.
- KEYWORDS, WIND, ELECTRICAL, HEAT PUMPS.
- NOTES, FILED. A WIND-ENERGY/WATER-STORAGE HEATING SYSTEM AND A HEAT-PUMP/BACKUP ENERGY SOURCE ARE EVALUATED FOR PERFORMANCE AND FOR MODIFYING ELECTRIC HEATING LOAD DEMANDS.
- DATE, 770000

## ABSTRACT 2598

- TITLE, USING WIND ENERGY FOR PEAK ELECTRICAL LOAD LEVELING.
- AUTHOR, SODEAHOLOM L H.
- SOURCE, ASAE PAPER 78-3040, 1978, 11 PP.
- KEYWORDS, WIND, ELECTRICAL.
- NOTES, FILED. PROJECT BACKGROUND, OBJECTIVES AND INITIAL EXPERIMENTAL AND SIMULATION RESULTS ARE PRESENTED FOR INVESTIGATIONS DEVOTED TO DETERMINING THE FEASIBILITY OF USING WIND ENERGY FOR HEATING RURAL STRUCTURES AND REDUCING PEAK ELECTRICAL LOADS.
- DATE, 780000

## ABSTRACT 2599

- TITLE, DEPENDABILITY OF WIND ENERGY GENERATORS WITH SHORT TERM ENERGY STORAGE.
- AUTHOR, SORENSEN B.
- SOURCE, SCIENCE, 194(4268)/935-937, 26 NOV 1976.
- KEYWORDS, WIND, STORAGE, ELECTRICAL, NUCLEAR.
- NOTES, FILED. POWER FLUCTUATIONS AND POWER DURATION CURVES FOR WIND ENERGY GENERATORS ARE COMPARED TO THOSE OF TYPICAL NUCLEAR REACTORS. A STORAGE SYSTEM CAPABLE OF DELIVERING THE YEARLY AVERAGE POWER OUTPUT FOR ABOUT 10 HOURS ALREADY MAKES THE DEPENDABILITY OF THE WIND ENERGY SYSTEM COMPARABLE TO THAT OF A TYPICAL NUCLEAR PLANT.
- DATE, 761126

## ABSTRACT 2600

- TITLE, NRC S VERTICAL WIND TURBINE.
- AUTHOR, SOUTH P, RANGI R.
- SOURCE, AGR ENGR, 55(2)/14-16, FEB 1974.
- KEYWORDS, WIND, DESIGN.
- NOTES, FILED.
- DATE, 740200

## ABSTRACT 2601

- TITLE, THE PERFORMANCE AND ECONOMICS OF THE VERTICAL-AXIS WIND TURBINE DEVELOPED AT THE NATIONAL RESEARCH COUNCIL, OTTAWA, CANADA.
- AUTHOR, SOUTH P, RANGI R.
- SOURCE, ASAE PAPER PNV 73-303, 20 PP.
- KEYWORDS, WIND, DESIGN, ECONOMICS, OPERATING PROCEDURE.
- NOTES, FILED.
- DATE, 730000

## ABSTRACT 2602

- TITLE, EGGBEATER WINDMILL.
- AUTHOR, STEPLER R.
- SOURCE, POPULAR SCIENCE, MAY 1975, PP 74-76.
- KEYWORDS, WIND, DESIGN.
- DATE, 750500

## ABSTRACT 2603

- TITLE, FAIR STAND THE WINDMILLS FROM FRANCE.
- AUTHOR, TAYLOR D.
- SOURCE, UNOERCURRENTS 16, MARCH 1974, PP 20-22,42.
- KEYWORDS, WIND, FRANCE.
- NOTES, FILED.
- DATE, 740300

## ABSTRACT 2604

- TITLE, PRELIMINARY RESULTS OF THE LARGE EXPERIMENTAL WIND TURBINE PHASE OF THE NATIONAL WIND ENERGY PROGRAM.
- AUTHOR, THOMAS R L, SHOLES J E.
- SOURCE, TECH PAPER PRESENTED AT THE FRONTIERS OF TECH CONF, OKLAHOMA STATE UNIV STILLWATER, 1-2 OCT 1975, 13 PP.
- KEYWORDS, WIND, DESIGN, TECHNOLOGY ASSESSMENT.
- NOTES, FILED.
- DATE- 751001

\*TITLE, WIND ENERGY UTILIZATION, A BIBLIOGRAPHY.  
 \*AUTHOR, UNIVERSITY OF NEW MEXICO.  
 \*SOURCE, TECH APPLICATION CENTER, UNIV OF NEW MEXICO, ALBUQUERQUE, NM, APRIL 1975, 496 PP.  
 \*KEYWORDS, WIND, BIBLIOGRAPHY.  
 \*NOTES, FILED.  
 \*DATE, 750400

## ABSTRACT 2606

\*TITLE, FEDERAL WIND ENERGY PROGRAM, SUMMARY REPORT.  
 \*AUTHOR, US-ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION.  
 \*SOURCE, ERDA, DIV OF SOLAR ENERGY, WASHINGTON DC, OCT 1975.  
 \*KEYWORDS, WIND.  
 \*DATE, 751000

## ABSTRACT 2607

\*TITLE, WIND ENERGY BIBLIOGRAPHY (PART 1 AND 2).  
 \*AUTHOR, VAN STEYN R.  
 \*SOURCE, LIBRARY ADMINISTRATION, UNIV OF TECH, EINDHOVEN, NETHERLANDS, JULY 1975.  
 \*KEYWORDS, WIND, BIBLIOGRAPHY.  
 \*NOTES, FILED.  
 \*DATE, 750700

## ABSTRACT 2608

\*TITLE, WINDMILLS - THE RESURRECTION OF AN ANCIENT ENERGY TECHNOLOGY.  
 \*AUTHOR, WADE N.  
 \*SOURCE, SCIENCE, 184/1055-1058, 7 JUNE 1974.  
 \*KEYWORDS, WIND, HISTORICAL, GENERAL.  
 \*NOTES, FILED.  
 \*DATE, 740607

## ABSTRACT 2609

\*TITLE, APPROACHES TO WATER PUMPING IN ARID AND SEMI-ARID LANDS AND A DESCRIPTION OF THE CRETAN SAIL WINDWHEEL.  
 \*AUTHOR, WATT S B.  
 \*SOURCE, PAPER PRESENTED AT THE INTERANTIONAL CONF ON APPROPRIATE TECHNOLOGIES FOR SEMIARID AREAS - WIND AND SOLAR ENERGY FOR WATER SUPPLY, 15-20 SEPT 1975, 34 PP.  
 \*KEYWORDS, WIND, PUMPS, DEVELOPING COUNTRIES, WORLD WIDE.  
 \*NOTES, FILED.  
 \*DATE, 750915

## ABSTRACT 2610

\*TITLE, WIND ENERGY FOR WATER HEATING.  
 \*AUTHOR, WEEKS S A, PRICE D R.  
 \*SOURCE, 33RD ANNUAL PROGRESS REPORT TO THE NEW YORK FARM ELECTRIFICATION COUNCIL, MAY 1976, PP. 84-87.  
 \*KEYWORDS, WIND, HEAT.  
 \*NOTES, FILED.  
 \*DATE, 760500

## ABSTRACT 2611

\*TITLE, JACK KRUEGER - WIND POWER HELPS HEAT HIS HOME.  
 \*AUTHOR, WILKE J.  
 \*SOURCE, POPULAR SCIENCE, JAN 1976, PP 103, 131.  
 \*KEYWORDS, WIND, MODELS.  
 \*NOTES, FILED.  
 \*DATE, 760100

## ABSTRACT 2612

\*TITLE, THERES ELECTRICITY IN THE WIND IN CLAYTON, NM.  
 \*AUTHOR, RISE C E.  
 \*SOURCE, MACHINE DESIGN, 90(7)/30-32, 23 MARCH 1978.  
 \*KEYWORDS, WIND, NEW MEXICO, ELECTRICAL.  
 \*NOTES, FILED.  
 \*DATE, 780323

- TITLE, WIND ENERGY BIBLIOGRAPHY.
- AUTHOR, WOLFF B.
- SOURCE, WINDWORKS, BOX 329, ROUTE 3, MUKWONAGO, WISCONSIN, AUG 1974, 70 PP.
- KEYWORDS, WIND, BIBLIOGRAPHY.
- NOTES, FILED.
- DATE, 740800



AAAS.....	American Association for the Advancement of Science
Agr.....	Agriculture (al)
Agron.....	Agronomy
Aid.....	Agency for International Development
AIT.....	Asian Institute of Technology
Amer.....	America (n)
ASAE.....	American Society of Agricultural Engineers
ASEE.....	American Society of Electrical Engineers
Assoc.....	Association
Aug.....	August
Ave.....	Avenue
Bldg.....	Building(s)
Blvd.....	Boulevard
Calif.....	California
CENS.....	Center for Biology and Natural Science
CEMA.....	Comite Europeen De Machinisme Agricole
Chem.....	Chemical
Co.....	Company
Conf.....	Conference
Conn.....	Connecticut
Corp.....	Corporation
CSIR.....	Council for Scientific and Industrial Research
CSIRO.....	Commonwealth Scientific and Industrial Research Organization
Dec.....	December
Dept.....	Department
Dev.....	Development
Div.....	Division
Dr.....	Drive
E.....	East (street address only)
ECE.....	Economic Commission for Europe
Econ.....	Economic(s)
EOCP.....	Extension Committee on Policy
Engr.....	Engineering
Envir.....	Environment (al)
EPA.....	Environmental Protection Agency
ERDA.....	Energy Research and Development Administration
ESCAP.....	Economic and Social Commission for Asia and the Pacific
EXPT.....	Experiment
FAO.....	Food and Agriculture Organization-U.N.
FEA.....	Federal Energy Administration
Feb.....	February
Fed.....	Federation or Federal
HUD.....	Housing and Urban Development
IBRD.....	International Bank for Reconstruction and Development
ILL.....	Illinois
Inc.....	Incorporated
Info.....	Information
Ind.....	Indiana
Inst.....	Institution or Institute(s)
J.....	Journal
Jan.....	January
Lab.....	Laboratory
Ltd.....	Limited
Mass.....	Massachusetts
Mich.....	Michigan
Minn.....	Minnesota
MIT.....	Massachusetts Institute of Technology
N.....	North (street address only)
NAS.....	National Academy of Sciences

NATO.....North Atlantic Treaty Organization  
 NBS.....National Bureau of Standards  
 NE.....Northeast (street address only)  
 Nebr.....Nebraska  
 No.....Number  
 Nov.....November  
 NRC.....National Research Council  
 NSF.....National Science Foundation  
 NTIS.....National Technical Information Service  
 NW.....Northwest (street address only)  
 OARDC.....Ohio Agricultural Research and Development Center  
 Oct.....October  
 OPEC.....Organization of Petroleum Exporting Countries  
 Penn.....Pennsylvania  
 Proc.....Proceedings  
 Publ.....Publishing or Publisher  
 Rd.....Road  
 Rep.....Representatives  
 S.....South (street address only)  
 Sci.....Science(s)  
 Sept.....September  
 Sng.....Synthetic Natural Gas  
 Soc.....Society  
 SRI.....Stanford Research Institute  
 St.....Street  
 Sta.....Station  
 Tech.....Technology  
 Tenn.....Tennessee  
 TVA.....Tennessee Valley Authority  
 UNEP.....United Nations Environment Program  
 UNESCO.....United Nations Educational, Scientific and Cultural Organization  
 UNICEF.....United Nations Children's Fund  
 Univ.....University  
 UNITAR.....United Nations Institute for Training and Research  
 UN.....United Nations  
 USDA.....United States Department of Agriculture  
 US.....United States  
 Vol.....Volume  
 W.....West (street address only)  
 WISC.....Wisconsin

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FOOD PRODUCTION.....	1909.
FOOD SYSTEM.....	15.
FUSSIL FUELS.....	4,52,59,83,90,104,109,112-113,145,186,232,241,243,257,261,272-273,317,320,342,349,358,364,366,405,413,430,444,527,685-686,696-697,714,720,729,772,864,900,977,985,993,1006,1013,1038,1042,1045,1051,1066,1068,1076-1077,1082,1085,1096,1102,1104,1115,1121,1123,1126,1130,1135,1143,1145,1147,1390,1400,1405,1411,1450,1521,1554,1557,1678,1682,1775,1803-1804,1950,1979,2036,2048,2058,2093,2319,2452.
FPOD PROCESSING.....	959.
FRANCE.....	87-88,467,475,523-524,840,855,857,910,1123,1436,1552,1582,1606,1628,1844,1960,1992,2047,2119,2603.
'FREEZING.....	833,835,861,882,888,894,904,909,928.
FROZEN DAIRY PRODUCTS.....	924.
FROZEN STORAGE.....	833.
FRUIT AND VEGETABLES.....	2087.
FRUITS AND VEGETABLES.....	264,302,328,372,833,842,847-849,868,872-873,879,882,890,894,896,904,909,915,917,928,937,946,951,953,2074,2164,2496.
FUEL CELL.....	711,726,1038,1400,1421.
FUEL CONSUMPTION.....	3,53,118-119,129,192,240,294,305,314,473,475,693,720,1316,1499,1626,1861,2081-2082,2477,2479.
GAS PRODUCER.....	1988.
GASIFICATION.....	1632,1691,1745,1752,1778,1995-1996.
GENERAL.....	29,37,263,298,417,459,461,484,548,566,578,682,711,713,737,743,746,773,867,890,904,923,925,960-1155,1160,1350,1367,1414,1508,1511,1514,1547-1550,1566-1567,1573,1581,2031,2129,2386,2396,2407,2473,2478,2480,2520,2549,2566,2583,2608.
GEORGIA.....	616,1666,1818.
GEOTHERMAL.....	418,729,764,772,960,964,973-974,977,998,1002,1007,1009,1038,1068-1069,1109,1120,1123,1126,1135,1142,1156-1175,1381-1383,1398,1400,1411,1415-1416,1421,1450,2125,2267.
GERMANY.....	577,837,853,890,957-958,1123,1426,1823,1960,2558.
GHANA.....	400,1689.
GOBARGAS.....	1626,1806.
GRAIN MILL PRODUCTS.....	849,862.
GREENHOUSE.....	45,97,232,263,319,343,372,467-468,545,599,755,1176-1219,1441,2249,2269,2287,2293,2354,2359-2361,2403,2415,2424,2428,2501-2502,2506-2507,2512-2513.
GREENHOUSES.....	1220-1221.



HARVESTING.....33,41,48,205,549,567,1671,1693,1776,1863.  
 HAWAII.....1743.  
 HEAT.....383,390,403,465,470,472,474,481,489,491,503,520,522,531,538,545,546,551,562,568,570,575,  
 580,595,603,658,767,831,840,860,866,872,876,890,892,910,912,914,916,930,944,957,958,1066,  
 1014,1319,1020,1096,1150,1181,1195,1196,1198,1199,1201,1206,1208,1211,1214,1220,1233,1239,  
 1245,1249,1250,1252,1258,1261,1266,1271,1277,1282,1291,1299,1310,1312,1313,1318,1322,  
 1330-1331,1439,1561,1628,1782,1822,1823,1825,1878,1891,1919,1921,1992,2108,2109,2118,  
 2120,2122,2124,2133,2136,2138,2143,2154,2158,2181,2183,2184,2193,2197,2199,2201,2202,2208,  
 2218,2220,2223,2226,2229,2232,2235,2239,2244,2266,2268,2276,2280,2291,2293,2297,2309,2311,  
 2318,2320,2327,2329,2336-2337,2340,2349,2351-2352,2356,2358-2362,2373,2379,2390,2392,2394,  
 2403-2405,2411,2416,2428,2428-2430,2434,2507,2511,2610.  
 HEAT PUMPS.....594,884,1222-1229,2324,2410,2415,2458,2597.  
 HISTORICAL.....21,67,68,245,312,482,494,612,891,962,973-974,998,1000,1023-1024,1026,1072,1089,1106,  
 1108-1109,1121,1144,1150,1360,1450,1658,1807,1915,1934,1960,1999,2024,2058,2190,2429,2519,  
 2526,2539-2540,2551,2568,2592,2608.  
 HOME.....20,41,185,309,373,462,465,466,472,478,481,482,484,488-489,491,493,507,516,520,522,529,531,  
 538,544,546,548,551-552,557,560,563,564,568,572,581,584,693,708,715,986,1094,1209,1212,  
 1222,1230-1234,1388,1516,1726,1760,1782,2101,2113,2117,2126,2129,2157,2162,2176,2185,  
 2189,2203,2206,2220,2232,2237,2247,2256,2292,2304,2308,2318,2338,2342,2346,2352,2357,  
 2359-2360,2362,2365,2369,2372,2390,2396,2402,2406,2409,2411,2413-2414,2419,2429,2515,2569.  
 HUMAN ENERGY..1322,1335-1343,1427.  
 HUNGARY.....1368,2047.  
 HYDROGEN.....11,960,978,998,1038,1123,1344-1358,1401,1662,1701,2267,2290,2500.  
 HYDROPOWER.....1002,1359-1371,1383,1387,1398,1405,1416,1574.  
 IDAHO.....1501.  
 ILLINOIS.....1936,2474.  
 INDIA.....3,43,210,614,876,1044,1338,1376,1411,1420-1421,1424,1430-1433,1442,1502,1626,1669,1806,  
 1828,1867,1880,1889,1891,1898,1915,1925-1926,1934,1960,1963,1992,2004,2047,2069,2179,  
 2223-2227,2229-2233,2233,2238,2263,2301,2303,2370,2563,2588.  
 INDIANA.....117,129,244,1012,1515,1936.  
 INDONESIA.....1455,1956.  
 INDUSTRY.....8,20,142,409,447,463,470,477,492,507,519,521,524,527,538-539,544,548,570,576-577,579,584,  
 687,692,722,727,744-745,807,859,929,960,979,982,986,993,1019-1020,1037,1050,1088,1096,  
 1133,1155,1345,1388,1411,1420,1451,1515-1516,1531,1561,1609,1650,1896,2009,2032,2050,2158,  
 2177,2370,2403,2512,2534-2535,2537,2561,2572.  
 INSULATION.....1176,2145,2165,2311,2353.  
 INSULATION.....314,465-466,516,520,546,559,883,921,1057,1238-1239,1241-1243,1246-1248,1254,1260,  
 1263-1265,1268,1272,1274,1279,1285-1286,1300,1305,1308,1313,1318,1323-1325,1327,1329,1333,  
 2415.  
 INTERNATIONAL, 21,36,91,280,336,416,419,681,703,712,723,741,763,767,987,991,1019-1020,1035,1046,1049,  
 1052,1069,1112,1115,1123,1125,1146,1372-1456,1523,1576,1597,1660,2012,2024,2045,2047,2060,  
 2066,2541.

IOVA.....243,1862,1931,2596.  
 IKAN.....2018,2135,2355.  
 IRRIGATION...33,43,52,67,97,136,206,211,226,231,237,295,301,310,336,341,364,370,468,479,558,567,683,  
 688,1377,1425,1457-1505,1539,1983,2067-2083,2142,2233,2249,2282,2293,2307,2335,2355,  
 2394,2459,2462,2527.  
 ISRAEL.....317,2382.  
 ITALY.....3,350,1158,2112.  
 JAPAN.....1123,1374,1953,1963,2035,2090,2267-2268,2276,2336.  
 JOURNAL.....374,379,974-976,1852,2368,2401.  
 KANSAS.....303,2082.  
 KENTUCKY.....1263.  
 KENYA.....70,250,1382,1787,2532.  
 KOREA.....1963.  
 LABOR.....150,237,273,282,321,365,499,677,694,701,1335-1336,1340-1341,1343,1454,1473,2095-2096.  
 LAND USE.....68,225,246,256,281-282,295,400,406,514,750,756,1019-1020,1062,1078,1418,1450,1497,1524,  
 1663,1768,1975,2043.  
 LATIN AMERICA..1389.  
 LEGISLATION...329,706,735,761,772,1094,1123,1133,1529,1542-1543,1588,2043,2346.  
 LIGUEFACTION..356,442,447,451,454,459-460,1039.  
 LIVESTOCK.....2107.  
 LOAD SPEED...211,497,525,537,545.  
 LPGAS.....118,244,249,593,1506-1520.  
 LUDRICATION...497,2020.  
 MACHINERY.....33,54-55,71,86,108,122,209,294,1525,2433.  
 MAINE.....2453.  
 MAINTENANCE...466,537,542,545-546,565,570,1520,1652,2220.  
 MALAYSIA.....1418.  
 MALI.....2556.  
 MAITUBA.....1879.  
 MAJURE.....72,237,278,361,468,609-610,823,1613,1635-1637,1673,1684,1696,1698,1704,1712,1715,  
 1718-1719,1723,1732-1734,1749,1751,1758,1761-1762,1769,1772,1779-1781,1788,1795,1799,1806,  
 1822,1825-1826,1864-1865,1882,1884,1887,1890,1899-1900,1920,1922-1923,1925,1928,1949,1960,  
 1981-1982,1994,2340.  
 MARKETING....129,148,275,391,404,620,644,685,839,862,904,942,1891,1999,2001,2129.  
 MARYLAND.....355,2170.  
 MASSACHUSETTS..2549,2584.  
 MATERIALS....1019-1020,1521-1523.  
 MEAT.....869,884,896,946,956..  
 MEAT PACKING..830,844-845,869,874,897,903.  
 MEAT PRODUCTS..830,849,862,882,919.  
 MECHANIZATION..177,210,215,226,228,237,261,265,272-274,278,315,336,338,341,349,365,545,1190,1338,1431,  
 1433,1524-1527.

METHANE.....87,215,263,1100,1122,1268,1387,1617,1626,1647,1653,1658,1662,1667-1669,1684,1692,1695,  
 1698,1702,1713,1718,1723,1729,1733,1740,1753,1758,1761-1762,1775,1783,1787,1794,1796,1806,  
 1811,1821-1824,1832,1851,1862,1877-1878,1884,1890-1892,1898,1911,1920,1922,1927-1928,1931,  
 1990,2340.  
 METHANOL.....455,1129,1268,1756,1774,1830-1831,1834,1843,1893,1942,1984,2491.  
 MEXICO.....3,1123.  
 MHU.....123,1421,1528.  
 MICHIGAN.....12,50,100-101,165,221,286,593,713,735,785,1010,1037,1043,1075,1082,1084,1267,1297,1529,  
 1853,1936,2061,2095,2518,2580.  
 MICROJAVE.....391,404,620,644.  
 MICROJAVES.....531.  
 MIDDLE EAST.....151,2002,2019,2252.  
 MILK.....238U.  
 MINIMUM TILLAGE.....152,497,537,2463,2465,2482,2484.  
 MINNESOTA.....698,1083,1538,1663.  
 MISCELLANEOUS FOOD  
     PRODUCTS.....849.  
 MISSOURI.....1254.  
 MODELS.....11-13,24,28,94,121,123,181,234,250,253,268,290,334,391,394-395,399,404,407,596,598-599,  
 605,607,620,641,644,646,655,698,791,860,862-863,888,895-896,916,950,1000,1019-1020,1090,  
 1185,1197,1207,1215,1220,1245,1271,1320,1334,1454,1466-1468,1479,1492,1544,1619,1863,2093,  
 2217,2240,2260,2270,2388-2389,2458,2496,2506,2518,2611.  
 MONTANA.....1947.  
 MUNICIPAL WASTE.....1149,1614,1623,1634,1653,1810-1812,1831,1892,1895-1896,1932,1943,1993-1994.  
 MUNICIPAL WASTE.....1868.  
 NATURAL GAS.....44,128,453,789,807,937,968,1058,1069,1072,1074,1084,1109,1123,1143,1147,1151-1152,1384,  
 1398,1402,1457,1480,1530-1545,1814,1893,2055.  
 NEBRASKA.....53,211,303,2582.  
 NEPAL.....1412.  
 NET ENERGY.....17,471,1738.  
 NETHERLANDS.....212,806,978,1123,1390.  
 NEW GUINEA.....291.  
 NEW MEXICO.....268,2612.  
 NEW YORK.....162-163,288,731,950.  
 NEW ZEALAND.....710,854,869,905,1167.  
 NIGERIA.....120.  
 NITROGEN.....194,295,310,679,778,782,785-786,788-790,792-793,795-797,799-801,803,805,807-809,820-822,  
 824,1900.  
 NITROGEN FIXATION.....262,604,816,818,829.

NORTH DAKOTA.....2077.  
 NOKWAY.....1823.  
 NUCLEAR.....7,11,139,243,286,416,690,711,713-714,729,732,758,765,772,774,960,964,974,978,985-986,990,996,998,1002,1006,1009,1014,1038,1042,1050-1051,1068-1070,1077,1082,1085-1086,1102,1104,1109,1113,1116,1121,1123,1126-1127,1130,1135,1142-1143,1151-1152,1349,1372,1379,1381-1382,1391,1398,1400,1405,1411,1415-1416,1446,1499,1546-1609,1701,1803-1804,1942,1950,2055,2059,2103,2561,2599.  
 OHIO.....617,1936.  
 OKLAHOMA.....1290-1291.  
 OPERATING PROCEDURE.....211,252,525,537,546,571,610,621,647,856,1228,1504,1666,1674,1697,1732,1753,1762,1769,1806,1864,1919,1925,1930,1968,2211,2522-2523,2568,2592,2594,2601.  
 OREGON.....94,1094,2162.  
 ORGANIC.....45,67,149,153,194,215,227,232,241,312,324,331,416,973,987,998,1038,1044,1135,1372,1381,1387,1415,1441,1610-1997,2132,2175,2244,2290,2326,2339,2411.  
 PACKAGING.....841,843,890,937.  
 PACKING.....901.  
 PAKISTAN.....1898,1963.  
 PEAT.....1663.  
 PEELING.....904.  
 PENNSYLVANIA.....58,2507.  
 PETROLEUM.....59,64,79,89,113,176,241,265,270,272-274,279,287-288,308,319,342,356,366,444,463,490,494,497,525,527,569,577,589,666,676,681,696,960,967-968,977,991,1002,1007,1039,1045,1053,1055,1058,1068-1069,1072,1074,1077,1084,1086,1089,1109,1115,1123,1125,1127,1130,1135,1145-1146,1151-1152,1324,1379,1384,1402,1416,1450,1453,1518,1998-2031,2055,2060,2319,2488.  
 PHILIPPINES.....702,1408,1416,1617,1963.  
 PHOSPHATE.....782,799-801,807,821,824,826.  
 PHOTOCHEMICAL.....2160,2174,2290.  
 PHOTOSYNTHESIS.....156,172,256,263,295,362-364,1029,1077,1153,1182,1379,1620,1658,1662,1677-1679,1682,1700,1738,1798,1814,1847,1885,1913,1917,1927,1974,2140,2174-2175,2214,2279,2288,2326,2340,2355,2411,2431.  
 PHOTOVOLTAIC.....654,1009,1038,1387,1798,2119-2120,2133,2150,2180-2181,2190,2195,2202,2218,2221,2239,2244-2246,2258,2262,2268,2271,2273,2289,2307,2311,2322,2334,2348,2384,2395,2404-2405,2417-2418,2427.  
 PICKLED FRUITS AND VEGETABLES.....914.  
 POLICY.....9-10,20,22,38,78,101-102,104,111,115,119,127-129,154,178,185,206,231,258,284-285,288,311,322,347,377,449,589,687,690-691,698,717,732,747,764,771,781,789,862,962,965,977,991,1006,1011,1019-1020,1024,1026,1035,1038,1043,1047,1049,1058,1066,1070,1074-1075,1082,1085,1090,1094,1111,1113-1114,1121,1123,1128,1144,1151,1296,1360,1384,1406,1416,1434,1448,1454,1531,1540,1569,1577,1588,1706,2015-2016,2019,2028,2032-2061,2096,2129,2150,2186,2257,2300,2380,2486,2489-2490,2493,2497.



POLLUTION.....435,460,519,771,777,1555,1580,1659,1768,2493.  
 POPULAR ARTICLE.....485,493.  
 POPULATION.....16,25,37,138,143,154,279,312,344,720,762,1000,1078,1118,1425,1450,1489.  
 POTASH.....782,799-801,807,821,824.  
 POTATO.....1853.  
 POTATOES.....904.  
 POULTRY.....84,190,381,391,404,587,620,644,954,1764,1908,2107,2159,2170,2219,2242,2261,2350,2511.  
 POULTRY AND EGG PRODUCTS.391,404,620,644,849,862.  
 POULTRY SLAUGHTER.....871.  
 PRODUCER GAS GENERATION..1670,1986.  
 PRODUCTION.....5,24,26,49,60,68,78,94-95,99,110,135,148,170,193,227,230,237,321,328,333,337,346,368,378,  
 422,441,443,567,663,679,685,688,742,774,782-783,791,819,826-827,907,1140,1336,1345,1349,  
 1351,1353,1358,1443,1454,1519,1534,1709,1770,1823-1824,1852,1878,1890,1975,2001,2017,2074,  
 2100.  
 PUMPS.....343,683,1377,1457,1459-1460,1481,1483-1484,1487,1501,1537,2062-2071,2127-2128,2142,2193,  
 2197,2210,2226,2233,2263,2302,2543,2556,2563,2595,2609.  
 PYROLYSIS.....460,1381,1415,1630,1639-1641,1658,1662,1684,1713-1714,1728,1737,1747-1748,1812,1818,1848,  
 1859,1893,1954-1956,1993.  
 RADIATION.....591,1557,1566,1580,1600,2144,2161,2190,2205,2209,2212,2224,2227,2230,2248,2271,2280,2294.  
 RECYCLING.....313,629,1614,1623,1634,1673,1684,1706,1768,1932.  
 REFINIGATION.....522,531,546,854,869,883,899-900,948,1240,1367,2190,2193,2210-2211,2215,2263,2378,2429.  
 RENEWABLE ENERGY.....379,774,1100,1407,1706,1747,1823,1852,1943,1975.  
 REQUIREMENTS.....32-33,35,71,69,145,162,177,192-193,205,210-211,248,268,306-307,333,338,359,393,628-629,  
 657,718,768,783,826,929,1119,1206,1303,1434,1466,1470,1505,1527,1907,2072-2093,2467,2470,  
 2484,2530.  
 RESOURCES.....367,1027,1140,1151,1410,1449,1536,1852.  
 RICE.....604.  
 RICE MILLING.....836,927.  
 RVALUE.....1239,1250.  
 SAFETY.....765,1018,1070,1231,1564,1566,1571,1574,1577,1587,1608,1612,1760,1792,2408.  
 SCOTLAND.....1823.  
 SEAFOOD.....849.  
 SLATERMAL.....2313.  
 SEATHERMAL.....1021-1022,1303,2268,2385.  
 SENEGAL.....1436.  
 SEPARATION.....885.  
 SILICA GEL.....2278.  
 SINGLE CELL PROTEIN.....1658.  
 SNO.....445,453,1727,1812,1814,1943,1976.

SOCIAL IMPLICATIONS	30,74,79,141,178,233,344,375,401,420,666,693,746,759,977,1019-1020,1024,1035,1050,1070,1077,1080,1101,1154,1267,1295-1297,1338,1450,1523,1546,1560,1564,1571,1578,1588,1594,1596,1607-1608,1629,1658,1663,1724,1747,1766,1852,1943,1946,2002,2044,2031,2061,2094-2105,2328,41,79,85,87-88,139,149,160,174,183,191,232,236,242-243,254,264,279,284,295,317,324,350,353-354,360,364,370,375,414,418,468,470,533,592,595-596,599-603,605-606,611,613-614,616-619,624,627-628,633-634,636-637,640-642,645-646,649-650,654-656,658,660,764,772,838,842,845,864,874,888,895-897,900,908,934,951,960,964,968,973-974,977-978,985-987,989-990,996,998,1001-1003,1007,1009,1013,1019-1022,1029,1031,1034,1038,1042,1050,1053,1057,1077,1082,1091,1093,1100,1104,1109,1116,1120,1122-1123,1126,1130,1135,1142,1178,1180-1182,1184-1185,1189-1192,1194-1196,1198,1201,1203,1205,1209-1213,1218-1219,1222,1224,1227,1229,1235,1266,1268,1278,1280,1294,1317,1348,1372,1377,1379,1381-1383,1386-1387,1391,1398,1400-1401,1405,1411,1415-1416,1421,1434,1439,1441,1458-1459,1481,1483-1484,1486,1503,1521,1620,1633,1662,1686,1738,1775,1803-1804,1858,1860,1877-1878,1883,1889,1905,1917,2059,2067-2069,2106-2432,2436,2440,2442-2444,2446-2448,2450,2453-2454,2458-2461,2514,2578,2584,2184.
SOUTH AFRICA	2184.
SOVIET UNION	1582,2045,2142,2394.
SOYBEANS	2075.
STATISTICS	1,148,238-239,1136,1326,1518-1519,1696,1749,1769,1802,1812,2009,2024,2088,2090,2256,2516,2574.
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