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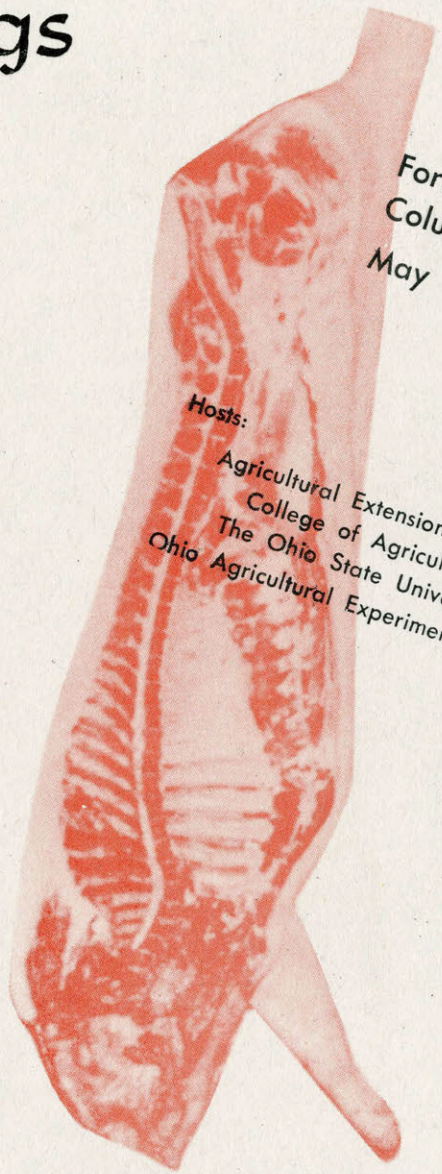
[Ohio State University College of Agriculture. Agricultural Extension Service

North Central Region

# Meat-Type Hog Workshop

# Proceedings



Fort Hayes Hotel
Columbus, Ohio
May 7, 8, 9, 1956

Hosts:

Agricultural Extension Service
College of Agriculture
The Ohio State University
Ohio Agricultural Experiment Station

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CONTENTS

Page

Introduction ..... 1

Trends Behind the Hog Situation ..... 2

What is a Meat-Type Hog? ..... 4

Extension's Responsibility and Opportunity in the Meat-Type Hog Program ..... 7

Essentials and Potentials of Teamwork in the Production and Marketing of Meat-Type Hogs ..... 12

A Demonstrational and Training Program to Increase the Supply of Meat-Type Slaughter Hogs ..... 22

Developing a Meat-Type Hog Educational Program With Livestock Markets ..... 26

Report of Work Group I ..... 32

Report of Work Group II ..... 35

Report of Work Group III ..... 37

Report of Work Group IV ..... 40

Where Do We Go From Here? ..... 45

Guideposts for the Meat-Type Hog Program ..... 50

Workshop Enrollment ..... 52

# INTRODUCTION

The 12-state North Central region produces nearly 75 percent of all hogs in the United States. The entire swine industry looks to this region to produce hogs which are economical for farmers to raise, for packers to process, and that yield cuts of pork which consumers will buy in competition with other meats and poultry. Many observers believe the meat-type hog holds the answer to these problems.

Extension directors of the region authorized this workshop to help colleges and universities develop or improve research and extension projects on the meat-type hog through an exchange of ideas.

Early in February, 1956, a program committee met in Columbus, O., to outline workshop plans. Committee members included C. C. Bowen, extension marketing specialist, Ohio State University, chairman; Richard Hollandbeck, swine specialist, Purdue University; R. L. Coppersmith, extension economist, University of Illinois; Charles E. Bell, federal extension service, U. S. Department of Agriculture; Elmer R. Kiehl, agricultural economist, University of Missouri, and W. B. Wood, Ohio director of Extension and chairman of the North Central Region Extension Directors' association.

More than 100 persons from 14 states attended the workshop. They included Agricultural Extension Service personnel, university research and teaching staff members, and representatives of different segements of the swine industry and the U. S. Department of Agriculture.

During the 3 days they participated in discussions, witnessed live hog grading and carcass cut-out demonstrations and toured Ohio State University's swine evaluation station. In small study groups they worked out plans for developing meat-type hog educational programs with farmers, livestock markets, processors and packers, and retailers and consumers. The following pages summarize proceedings of this workshop.

Trends Behind the Hog Situation

by

Gerald Engelman, head, livestock section, Agricultural Marketing Service
Marketing Research Division, U. S. Department of Agriculture

Hog slaughter may be somewhat larger this year than last. Marketing margins probably will change with demands for marketing services. Demand for all meats may rise to support expanding meat production. Loss in demand for pork may be halted as hogs produced and pork merchandising methods are changed to better fit consumer tastes.

On the production side - Hog slaughter is expected to be somewhat larger this year than last. During the earlier part of the year it has been running higher than the corresponding months of last year because of the larger fall pig crop. If farmers actually reduce their spring pig crop, as they said they intended to do, slaughter during the latter part of the year may well be somewhat lower than for the corresponding months last year. If hog production follows previous patterns, pig crops may be somewhat smaller for the next year or two. If so, hog slaughter will be correspondingly reduced.

On the margins side - We have noted an increasing tendency for widening margins during the period of heavier marketings. This may be a continuing feature of our marketing system. We can expect the margin for marketing hogs and pork to change with demands for marketing services. The demands for marketing services are high seasonally when large numbers of hogs are rushed to market.

On the demand side - The demand for meat may not rise correspondingly with consumer income. Demand for all meats is expected to rise to support an expanding meat production. The demand for beef may increase more than that for pork,

continuing the long-time trend. One of the important jobs of this Workshop is to find ways and means to slow down, and perhaps even arrest, the tendency for pork to become a second class meat in relation to beef. Insofar as the type of hogs produced and the methods of merchandising pork can be changed to better fit consumer tastes, the relative loss in demand for pork may be halted.

(Mr. Engelman's complete report is carried as a supplement to proceedings)

# What is a Meat-Type Hog?

by

Richard Hollandbeck, extension swine specialist, Purdue University

Meat-type hogs are those which will consistently reproduce themselves in litters of 8 or more pigs. At handy market weights of 200 to 225 pounds they will have a minimum of carcass fat and adequate muscling so as to produce choice, readily acceptable cuts of pork. They will attain these 2 goals in from 5 to not more than 6 months of age while on full feed of a common, practical ration consisting largely of corn.

How can we measure the usefulness of hogs? This may be done in 3 steps. First, by ability to produce big litters; second, by ability to convert corn and other cereal grains into pork efficiently; and third, by yielding pork cuts acceptable to the public.

It would seem logical then to build a definition of meat-type hogs from these basic measures of usefullness.

The importance of big litters shows up in the cost of each pig at birth. Considering the feed fed the sow as overhead, each pig of an 8-pig litter is about $6.25 in the red, compared to an indebtedness of $8.33 for each pig from a litter of 6. Eight pigs per litter is an acceptable standard for brood sow productivity which has been recognized almost universally for decades. Each national breed association has a production registry, or registry of merit testing program which is designed to ferret out the top producing families and strains of its own particular breed. This would seem to be a good starting point for working out the definition in question.

The second measure is of primal importance to the farmer - the efficiency of feed utilization. It is not a new concept that feed efficiency is linked with type. That it requires two and a quarter times as much energy to produce a pound of fat as a pound of lean is now becoming more fully appreciated. Some progress reports of current experiments indicate this saving to be approximately $2 per pig. With the feed costs making up from 75 to 85 percent of the total cost of production, the feed efficiency truly is an important factor in the economics of production. Geneticists would lead us to believe that this is reasonably heritable. A practical on-the-farm substitute for the experimental determination of feed efficiency is weight for age so long as the pigs are on a full feed. Thus, a 200-pound hog at 180 days has become an acceptable standard.

The third, and certainly not the least of these measures of usefulness, was the consumer acceptability of the carcass in terms of retail cuts of pork. No longer does Mrs. American Housewife ask a butcher for pork chops and receive the same wrapped in brown paper. She chooses them from an array of retail cuts of meat, prepackaged with a transparent material. Not only is the quantity of external fat important to her but also the seam fat and marbling.

The housewife is not easily fooled. There was a time when we tried to fool her into buying pork with a minimum of fat covering. From this corner it would appear that those days are gone. It is not entirely the lack of fat that she is demanding, but rather a lot of muscle (red meat) with a favorable ratio of fat to lean. The shallow-bodied "meatless wonders" will not provide the type of pork which will meet these demands. Leaner, meatier hogs with an adequate muscling and a minimum of carcass fat seem to be the answer. Surely carcass grade and quality must be included in our definition.

With these things in mind, what is a meat-type hog? Meat-type hogs are those which will consistently reproduce themselves in litters of 8 or more pigs. At the handy market weights of 200 to 225 pounds they will have a minimum of carcass fat and adequate muscling so as to provide choice, readily acceptable cuts of pork and will attain these 2 goals in from 5 to not more than 6 months of age while on a full feed of a common, practical ration consisting largely of corn.

Such a hog would be economical for the farmer to raise and it should command a higher market price. Such a hog would yield more choice, readily acceptable cuts of pork.

# Extension's Responsibility and Opportunity in the Meat-Type Hog Program

By

W. B. Wood, director, Agricultural Extension Service
Ohio State University

The meat-type hog program poses many problems. Agricultural Extension has assisted cooperative and private marketing ventures and has helped improve market facilities and marketing methods. Extension's main function is to help people help themselves, and therein lies both our responsibility and opportunity with the meat-type hog program.

It is both a pleasure and a privilege, I assure you, to participate in this workshop. I trust each of you in attendance have similar feelings concerning your participation here. This is a North Central Regional Extension activity, supported by resident teaching and research. You would agree, I am sure, that we have a representative group in attendance from each of these three areas.

This type of workshop is most significant under present conditions in terms of the total extension program being carried out in your respective states. Much emphasis is being placed upon marketing these days by extension everywhere. Whether it be overall marketing, work in special enterprise areas, or in the broad field of market information for consumers, it is extremely important to your total extension program. In this instance it also is significant that we are combining this marketing emphasis with the production know-how of specialists in those areas.

You could well be referred to as students of the mighty hog. The swine

industry is important in all states of the North Central region. In fact, as you look at the record of the 10 leading states in hog production in the United States, nine of these states are found in this region. The swine industry is indeed mighty in these states.

My topic is - "Extension's Responsibilities and Opportunities in the Meat-type Hog Program." I should like to start with one assumption - that extension desires to assume its full responsibility and to use every opportunity at its disposal to serve people. Our job at this workshop is to spell out that responsiblity and to work out ways and means of discharging it.

There are many problems facing the swine industry today. I can take sufficient time to enumerate only a few:

1. The most rapid drop in prices of hogs in history occurred in the six-month period, June to December 1955. The primary reason for this drop, according to economists, has been the increase in market hogs that were not the type to command increased purchases in line with production.
2. Hogs are one of the most important sources of income in the North Central region. Such a drop in prices is serious for its producers.
3. Marketing hogs on the basis of average price per cwt. is not satisfactory to many segments of the industry. We know from our experience in this country, and from the experiences of producers in other countries, there are more satisfactory methods.
4. The type of hogs being produced does not fully meet consumer demands. As a result, producers have lost their proportionate share of the total meat market.

There are many other problems. The surplus problem with which we are faced in this country plagues us on all sides. Extension has been blamed, as you well know, as a factor in developing these surpluses. It has been said that we have been taught how to grow two blades of grass where one

grew before. You and I do not share wholly in that philosophy. Extension has worked in the field of marketing as well as in the field of production.

We are told by farmers and market agencies of their experiences over the years in which Agricultural Extension has assisted both cooperative and private marketing ventures. We have had a hand in improving market facilities and marketing methods.

A. Z. Baker, president of the American Stockyards association and currently president of Rotary International, tells this story:

"I have just returned from a trip to the Far East (or to the Middle East or South America depending on the last trip made). I witnessed there the backward conditions of agricultural production and marketing. I learned there was as much as a 15 percent deficiency in the amount of food produced compared to that actually needed by the peoples there. I returned to the United States and immediately started out for a meeting in the Mid-West where I witnessed American agriculture and its high standard of productivity. I thought of the standard of living resulting from that productivity in this country. I thought of the five percent surplus of food in America and compared its evils with the 15 percent deficiency elsewhere. I asked myself this question: "What is the difference between agriculture in America and that in these other countries?" To me here is the answer. It is the land-grant college system which makes the difference with its program of resident teaching on the campus, with its program of agricultural research and its off-campus Agricultural Extension Service."

That is the philosophy you and I want to buy.

Extension was conceived and born of a problem. At the turn of the century the cotton boll weevil threatened the entire future of the cotton crop in the southwest. As a result, Dr. Seamen A. Knapp of the U. S. Department of Agriculture, together with the people involved, organized the first

farmer-owned demonstration farm. It occurred in Terrill, Texas in 1903. This is credited with being the forerunner of Agricultural Extension.

Our job is to promote an educational program. That is a simple statemet but broad in its total expanse when we consider all its ramifications. Dr. Paul Kruse defines education as anything that changes the behavior of people. He says there are three important ingredients to that education: We must acquire knowledge; we must develop skills; we must change attitudes.

Our job is to help people help themselves in acquiring knowledge, developing skills and in changing attitudes. To conduct an educational program we need to identify the problems by working closely with the people involved. We need to help people set up objectives or goals, plan a method of procedure to obtain these goals, and continually evaluate the results obtained with the idea of improving.

Extension is made up of administrators, supervisors, specialists and county workers. Each has an important role to plan in this educational process.

All of this implies working closely together with people and the meat-type hog program is a splendid example in this connection. May I repeat - extension's primary function is to help people help themselves, and therein lies both our responsibility and opportunity.

To illustrate further this connection to the meat-type hog program here are 10 objectives generally agreed on in Ohio's meat-type hog program:

1. To identify breeding stock with proved performance.
2. To evaluate various methods of testing breeding stock.
3. To develop a program for distributing meat-type breeding stock.
4. To develop an improved system of marketing hogs.
5. To encourage farmers to market hogs at proper weights (under 220 lbs.)
6. To encourage packers to buy meat-type hogs on grade and priced in relation to actual values.

7. To encourage consumers to understand differences in quality of pork.

8. To keep Ohio hog producers informed of progress in meat-type hog program.

9. To encourage formation and use of swine committees in major commercial swine producing counties.

10. To encourage all groups interested in meat-type hogs to exchange information, experiences, plans for future work and other efforts.

There are persons here with years of valuable experience in the livestock field, many of whom have spent most of their time in swine studies. There are other young men with splendid training who have many years ahead of them.

The problems involved in the meat-type hog program are not easily solved. I am impressed with the group assembled here and am confident that if there is an answer to these problems it will be forthcoming from this type of activity.

You are about to enter into your work groups. Team work is the answer, and these groups, along with extension and research, represent the team to do the job.

# Essentials and Potentials of Teamwork in the Production and Marketing of Meat-Type Hogs

by F. G. Ketner

Secretary-Treasurer & General Manager of Producers Livestock Cooperative Association

Director-National Live Stock and Meat Board

Chairman-Board of Trustees, Ohio State University

Fat pork is losing the race for a prominent place on the American table. Producers associations have demonstrated that live meat-type hogs can be and are successfully graded on foot. We need research for guidance to increase the muscling of hogs and further improve economy of production. We need studies of marketing, slaughtering, processing and retailing costs, as well as research studies that will point out and help establish proper price relationships between producing, processing and retailing divisions of the industry.

All segments of the swine and pork industry occupy front seats in the Corn Belt area, witnessing the fat hog in a losing fight for his economic life. What researchers and extension workers in the 12 states region here represented do will be an influential factor in the outcome.

From 1539 when DeSoto brought hogs to America until a few years ago, pork was the leading red meat diet of most of our people. Hogs have been a major source of income for the farmers in these 12 states, where approximately three out of every four hogs in the United States are produced. The hog has earned the reputation of the "mortgage lifter".

The American diet is shifting from starches, sugars and fats to proteins, vitamins and minerals. Mrs. Homemaker wants tender, lean meat for her family. Machinery in the factories and on the farms has greatly lessened the need for energy foods. The call is for protective foods. Fat pork is losing the race for a prominent place on the American table.

The chemist with his hydrogenated vegetable oils has replaced much lard as shortening in domestic and commercial kitchens. The researcher, with his detergents has all but driven lard from its last stronghold - the soap factory. Soybeans thrive and are a popular cash crop in the identical area where most of the lard is produced - the Corn Belt. Soybean oil exceeds the production of lard. It is unlikely that animal fats will recapture the markets they have lost to vegetable oils. Lard has been and probably will continue to be, so long as produced in excessive quantities, a heavy drag on the price of live hogs.

During the past year the importation of pork exceeded pork exports. Even more serious, pork imports included approximated 107 million pounds of canned hams, some of which originated behind the Iron Curtain. This imported product captured the market for hams from more than four million hogs produced by American farmers. Approximately one-half of all the canned hams consumed in the United States last year were imported. During the same period it was claimed that there was a surplus of pork in the United States. Imported canned hams sell at high prices to discriminating homemakers and chefs in good hotels and restaurants. Imported canned hams are obviously therefore a high profit product for European packers and bacon factories. I am informed that a big promotional campaign for rapidly and greatly expanding markets for European canned hams is to be launched soon and will cover the leading meat consuming areas throughout the United States including those in the home of the American hog, the Corn Belt.

Excessively fat pork, the loss of markets for lard to vegetable oils and detergents and now the threatened loss of markets to imported pork are reasons why the hog is losing successive rounds in the fight for its economic life.

Pakers and retailers are now giving pork cuts a new look by trimming off excessive and unwanted fat. This is an expedient in merchandising that necessarily reflects lower prices for hogs to growers. The only universally beneficial way to attack this situation is to produce leaner hogs.

Total meat production last year reached an all-time high, with beef at its crest and pork near the top in volume. Fat hogs were marketed in large numbers. Pork cuts were heavy and too fat. Nevertheless, all pork and beef was eaten due to good merchandising campaigns by packers and retailers with the helpful assistance of the National Live Stock and Meat Board and various segments of the livestock and meat industry.

Less pork was in storage at the end of last year than at the close of 1954. Pork prices to consumers were relatively high but hog prices to farmers were ruinously low. Some reasons for this disparity in hog and pork prices were self evident. However, my point here is that we have not yet saturated the growing American market with tender, red meat at fair prices to all concerned when aggressive production, processing and distribution methods equitable to all are employed.

It is apparent that there is a dwindling market for lard and fat pork. Those farmers who continue to produce fat, heavy hogs render a dis-service to themselves and the swine and pork industry.

These facts and conditions are not new to many. They have been developing for more than a decade. Twelve years ago an Ohio lard improvement and promotion committee, after intensive study, came to the reluctant conclusion that the future for lard and fat pork was not bright. That report was very

unpopular as I, a member of the committee, well recall.

The next year a few leading Ohio swine producers, Producers marketing associations, the agricultural college, agricultural experiment station, extension service and others started a systematic search for strains of hogs having less fat and more lean meat, under the leadership of Wilbur Bruner, then county agent in Preble County. Two years of selection, feeding in a test station and cut-out tests at The Ohio State University meats laboratory produced encouraging results.

Growing interest and limitations of the small testing station resulted in the launching of a state-wide on-farm testing program and certification of litters attaining certain standards of feed conversion, rate of gain and carcass cut-out. The Ohio Swine Improvement Association was then organized to standardize and direct the improvement program and accredit worthy litters and families.

Field testing, though very helpful in furthering interest in swine improvement and demonstrating the basic soundness of the testing program, did not lend itself to the application of uniform and accurate methods of testing. The need for a central evaluation station providing absolute control, became apparent.

The field testing program did demonstrate that some price incentive in the market place was essential if farmers were to vigorously pursue a program of swine improvement.

To ascertain more accurately the comparative value of Ohio's best meat-type hogs, grading, slaughter and cut-out tests were conducted in the plant of the Shen-Valley Meat Packers on over 37,000 hogs. This was done under the supervision of the Farmer Cooperative Service of the Farm Credit Administration and with the help of swine producing groups, Producers Livestock Cooperative Association, college of agriculture, agricultural extension service and the experiment station. This project demonstrated that Ohio was producing

increasing numbers of meat-type hogs of higher carcass values.

In 1951 Producers Livestock Cooperative Association began the grading of hogs in market areas having the best and most hogs of meat-type strains. The association began selling these hogs on their merits at price differentials of 50¢ to 75¢ per cwt. over the prevailing price of top hogs in the customary manner without grading.

This forward step was taken after much solicitation of packer cooperation in buying graded hogs on price differentials and then only after numerous cut-out demonstrations were conducted in various packing plants by representatives of the Producers Association and the College of Agriculture, The Ohio State University.

Price rewards of 50¢ to 75¢ per cwt. to producers of meat-type hogs caused the interest in swine improvement and the marketing of meat-type hogs on their merits to spread rapidly to all local markets of Producers Marketing Association of Indiana and the Cincinnati Live Stock Producers Association.

All meat-type hogs are uniformly graded in the markets of these three associations and sold on a uniform price differential through the centralized hog sales agency of the three associations - the Eastern Order Buying Company. Last year 29 Producers markets graded and marketed nearly 300,000 hogs on their merits - over 115,000 grading No. 1 and selling at a price differential of 50¢ per cwt.

These Producers Associations demonstrated that live meat-type hogs can be and are successfully graded on foot. This makes possible the grading and sale of live hogs rather than the consignment of hogs to the packing plants and the grading and selling on the rails. Live grading also enables great economies through the selection, sale and shipment direct to the packer of exact kinds of hogs he wants.

Only through the coordinated efforts of swine growers, Producers marketing associations, an increasing number of packers and the able assistance of the university extension and experiment station personnel could such progress have been accomplished. The services of W. H. Bruner in grading and marketing and later C. C. Bowen, H. M. Barnes and W. L. Robinson in production, L. E. Kunkle in cut-out tests, of county agents and many others in all aspects of the program all contributed to its progress.

Some cooperative and private markets are sellings hogs by private treaty and auction on their merits at varying price differentials.

During 1952-53, the agricultural colleges, experiment stations and extension services of Ohio, Indiana, Michigan and Pennsylvania in cooperation with the USDA, considered and agreed upon a series of research and extension projects in marketing and production intended to advance the program for improving the production and marketing of the meat-type hog in the eastern Corn Belt. Overall results have been beneficial. They have shown the need for further coordinated efforts between states such as you are considering in this conference.

Of the several research projects undertaken in Ohio the one of out-standing value is the swine evaluation station authorized by the Board of Trustees and the Administration of the university who recognized the trememdous potentials in the program for improving the production and marketing of swine in Ohio. About one-fourth of the farm income of the Buckeye state comes from swine.

Through the swine evaluation station and the meats laboratory of the university, we have discovered some fundamental truths of tremendous importance to the swine and pork industry and the national economy. They are truths which will help solve the so-called grain surplus problem. They are truths which will contribute to the upgrading of the human diet. These major

basic facts are:

1. Meat-type strains of hogs may be found among most of the old and new breeds of swine.
2. Meat-type hogs can be produced at the same or less cost than fat-type hogs.
3. Meat-type hogs gain as rapidly as average hogs and do so on less feed.
4. Carcasses have higher cut-out and use values.
5. The tender, lean pork of young meat-type hogs is preferred by Mrs. Homemaker and her family.

To promote and carry out the swine improvement and marketing program, swinemen set up voluntary local committees or used such committees previously in existence to function with the Extension Service and the marketing associations in production, grading, marketing, conducting demonstrations and otherwise advancing the program.

The stockyards and marketing facilities of Producers near-home markets and those of other marketing agencies afforded opportunities which would not have been possible at distant markets.

Probably one of the most significant developments in the entire meat-type hog program has been the recognition by some swine growers in Ohio and Indiana that they should and can profitably voluntarily contribute funds for research and the advancement of the improvement and marketing program for their hogs. To correlate the efforts of the 200,000 member patrons of the three Producers Associations, Producers Swine Improvement Association was organized as a subsidiary of the parent associations. Swine growers contribute or re-invest in the Swine Improvement Association 20¢ per hog out of each $1.00 extra they receive on Tend-R-Lean meat-type hogs.

Producers Swine Improvement Association secured the services of the former secretary of the American Yorkshire Association, Robert Shannon, to direct a program for seeking and identifying the best strains of well muscled hogs being marketed through the Producers Associations at their respective stockyards. Complete and available records facilitated this program greatly. He also works with swine growers committees in the advancement of various phases of their program.

To identify the uniformly graded No. 1 meat-type hogs being marketed by Producers, it was decided to select and trademark a brand name for these hogs and their pork and pork products. A contest participated in by 5,085 persons in 19 states and the District of Columbia, resulted in selection of the name Tend-R-Leen. This brand name is already receiving wide attention and acceptance throughout the packing industry of this area.

Likely the most important useage of the 20¢ per hog investment by swine growers is in the grants made or authorized for research and the dissemination of information. Among the grants made by the association are these: Evaluation of consumer acceptance of Ten-R-Leen loins, to Cornell University and P & C Stores; artificial insemination of swine and a study of the differential between 180-220 and 220-240 meat-type hogs to the Ohio State University and the Ohio Agricultural Experiment Station; and a grant to Purdue University for construction of a swine evaluation station.

Some indication of the interest of swine growers in the meat-type hog program and the marketing of hogs at lighter weights is seen in the fact that the average weight of 1,167,000 hogs marketed through the Producers central sales organization last year, exclusive of roughs, averaged 216.6 lbs. Had a similar pattern been followed throughout the Corn Belt, the results would have been less lard, more lean, tender pork, and higher prices for hogs through earlier marketing of better quality hogs.

Worthy efforts in swine improvement and marketing are being made by other cooperative and private agencies in the eastern Corn Belt. I refer here to the program and accomplishments of the Producers Livestock cooperative associations in their teamwork with state universities, experiment stations, the department of agriculture, packers and other interested groups because I am well informed and can speak factually about these efforts and accomplishments.

We are advancing our objectives and goals in the swine improvement and marketing program. We hope and expect to develop strains of meat-type hogs with better muscling than have been found. We hope to combine optimum efficiency and economy of production with optimum carcass value. We hope to increase the percentage and volume of Tend-R-Leen hogs so that they may be marketed in quantities to meet the requirements of packers for superior pork products for their retail customers. We hope to recapture ground lost by the swine and pork industry and make the meat-type hog the "mortgage lifter".

One of the major needs in the attainment of these objectives is the sharing of responsibility by research, educational and extension agencies and all segments of the swine and pork industry.

We need research for guidance to increase the muscling of hogs and to further improve economy of production. We need a flexible, useable formula for the pricing of meat-type hogs for daily use by hog salesmen at the desk in a centralized sales office or in the stockyards - a formula that will permit the pricing and sale of hogs on their actual merits rather than on weight averages, as has too long prevailed.

We need studies of marketing, slaughtering, processing and retailing costs. Research studies that will point out and help establish proper price relationships between producing, processing and retailing divisions of the industry are needed. We need information provided by research rather than

by investigations which are usually damaging to any industry.

We need research to ascertain and develop new methods and techniques in the processing, preservation and merchandising of pork. Freezing, the use of antibiotics and the use of atomic radiation need to be explored and utilized as facts warrant.

We need research that will reveal the true and total savings through efficiencies and better prices by equalized marketing of hogs throughout the year. Tremendous burdens of costs and inefficiencies are being borne by swine producers through feast and famine marketing of hogs.

Simultaneously we need to develop and make full use of a better twofold program of promotion and information. The efforts of one division should be slanted toward swine producers, processors, marketers and retailers to help inform and encourage each to do as well as he knows how in the production, marketing, processing and distribution of these superior animals and products.

The other divisions should be slanted to Mrs. Housewife and her family to acquaint them with the tastiness, nutritional value and economy of tender, delicious, nutritious, lean pork. We must regain and maintain the favor of Mrs. Homemaker and her family for our products.

It is my firm opinion that if we produce well muscled hogs and market them under 220 lbs. and if their products are well processed and merchandised, the growing American population likely can consume all the hogs we produce.

All worthy segments of the swine and pork industry will have fewer losses and more profits. We will strengthen and maintain a strong Corn Belt and national economy. We can provide better health for the ever increasing millions of Americans. In the attainment of these goals, the problem is not pigs, it's people.

A Demonstrational and Training Program

To Increase The Supply Of Meat-Type Slaughter Hogs

Project No. 2525-128 Ohio

Presented by W. H. Bruner and C. E. Calhoun

at

Ohio Swine Evaluation Station

Three pig crops, representing 311 litters at the Ohio Swine Evaluation station indicate meat-type hogs have the ability to gain rapidly and efficiently. A committee now is developing a certified litter scoring system based on production and carcass value performance. The system would score each pig on rate of gain, feed utilization, loin eye measurement and primal cut yield.

This educational project, better known as the Ohio Swine Improvement Program, was developed by breeders, commercial producers, and others associated in the industry and is carried out through facilities of the meats laboratory and the Swine Evaluation Station of the Ohio State University. It is supervised by the Agricultural Extension Service in cooperation with the Ohio Agricultural Experiment station.

It is a selection program. The main purpose is to aid in selection and recognition of foundation stock from Ohio herds that will improve the efficiency of production and the market value of the Ohio commercial hog crop. Selection of this foundation stock is made on the basis of records that indicate: (1) absence of inherited defects; (2) prolificacy; (3) nursing ability; (4) rapid growing and gaining ability; (5) efficiency of feed utilization; (6) superior meat-type carcass; and (7) soundness,

style, and balance of conformation.

The official governing body is the Swine Improvement Association of Ohio. This association was organized and incorporated under the laws of the state of Ohio in 1948. Since then the program has been on a state-wide basis.

| | 1948 Thru Spring of 1954 | Fall 1954, Spring 1955, & Fall 1955* |
|---|---|---|
| Litters Nominated | 791 | 598 |
| Litters Qualified Weight for Age | 462 | 434 |
| Litters Certified Ohio Commercial | 128 | 136 |
| Litters Certified Ohio Improved | 64 | 2 |
| Litters Certified Ohio Superior | | 121 |

* 134 different breeders representing 10 breeds had litters qualify.

243 litters of the 1956 crop have been nominated to date.

During 1954, the Ohio State University constructed the Swine Evaluation Station. Plans were developed by a committee of hog men working with university and experiment station personnel.

Objectives of the Swine Evaluation Station:

1. Provide 108-pen station where breeders may have 2 pigs per litter handled under uniform conditions of feeding and management.
2. Determine the feed efficiency, rate of gain, and carcass value of prospective breeding litters through records secured on 2 pigs per litter.

Procedure of Station Participation:

1. Breeder nominates litter within 10 days after farrowing on prescribed form and mails to secretary of the association along with a $2.00 fee.

2. Weight standards of 21, 35, or 56 days prescribed by the appropriate breed association apply.

3. Select representative pairs of pigs (barrow and gilt if possible) per litter that have met weight standards. (Breeder, county agent, vocational agriculture teacher or appointee to weigh and make selection.)

4. Pigs entering station must be treated for cholera and accompanied by health certificate. (Inspection of herd by local veterinarian)

5. Male pigs should be castrated.

6. Breeder delivers pair of pigs to station by or before they are 60 days of age.

7. Entrance fee for a pair of pigs per litter is one pig. The other pig is purchased at $1\frac{1}{2}$ times the market price times the average weight of the two pigs.

8. Pigs self-fed standard ration and started on feed at 63 days of age. Starting and finishing rations carrying approximately $13\frac{1}{2}$ and $15\frac{1}{2}$ crude protein, respectively, are used.

9. Pigs weighed individually at bi-weekly intervals.

10. Test ends as pigs reach 210 pounds in weight.

11. Both pigs are slaughtered at Ohio State University Meats Laboratory and detailed carcass data obtained.

Certification Standards (Certification of record on remaining boars and gilts in litter):

1. Feed standard is 370 pounds of feed or less per 100 pounds gain while on test.

2. Each pig of the pair must average 200 pounds at 180 days.

3. An average primal cut yield of 48 to 49% is certified Ohio Commercial with neither pig cutting less than 47%.

4. An average primal cut yield of 49% and over with neither pig cutting less than 48% is certified Ohio Superior.

5. Certificates are issued by certification committee selected from the membership.

6. Data on certified litters, released periodically, give breeders, breed, litter index number, rate of gain, feed utilization, and carcass value.

Results to Date:

Three crops of pigs representing 311 litters through the Swine Evaluation Station indicate that genuine meat-type hogs have the ability to gain rapidly and efficiently.

Besides aiding in the selection of foundation stock that is efficient in production and high in carcass value, some valuable management information will come out of the Ohio program. Here is one example: through the cooperation of the University Statistical Department in analyzing the 1954 fall data, it was found that the weight at 63 days is approximately 25% of the factors that determine slaughter age at 210 pounds.

A second portion of the Ohio program is one of field participation. The main difference in this program is that the breeder raises the entire litter on his farm. As the pigs reach 210 pounds in weight, he brings a pair from a qualified litter to the meats laboratory at the Ohio State University to secure carcass cut-out data.

At present an educational and research committee is developing a certified litter scoring system based on production and carcass value performance. This system would score each pig on rate of gain, feed utilization, loin eye measurement, and primal cut yield. A scale would be developed to score each pig on each item using A, B, C, and D. Such a system will serve as a guide to plan future breeding programs to check performance of offspring from high scoring litters.

Developing a Meat-Type Hog Educational Program with Livestock Markets

by

Dr. Clifton B. Cox, Agricultural economist, Purdue University

Markets are not fully reflecting consumer preference to producers in price differentials. Consumers want lean pork. Farmers are willing to produce it. Markets will benefit by entering into such a program. All interested groups should work together in the effort.

Before we get into developing a meat-type hog educational program for livestock markets, let us examine some of the things that we should consider and what might be done about developing this program.

1. What We Know.

(a) There still are many things to be learned about consumer preference for different meats, but I believe there is general agreement that consumers desire lean pork. Studies under experimental conditions have indicated that even with a 10 cent higher price on lean pork chops, the volume moved would be approximately 3 to 1 over regular trimmed pork chops. With some advertising, the proportion of movement is even higher. This same relationship has held true in tests by one of the leading retailers in the country.

(b) Farmers can produce Meat-Type Hogs. A few years ago many thought that a meat-type hog might be produced by accident, and some even thought that a meat-type hog was just a poor-doing hog. Today the meat-type hog is one with considerable muscularity. Some farmers produce it consistantly. We know other farmers can do the same.

2. What We Think.

(a) Meat-type hogs are more valuable than fat-type hogs. Occasionally hogs that do not grade U. S. No. 1 have more value than those that do. With the present price relationships, however, meat-type hogs usually are more valuable. We also should remember value is made up not only of grade but also of weight and dressing percentage.

(b) Markets are not fully reflecting consumers' preferences to producers in price differentials. A study of differentials being paid at Indianapolis was made in 1954. Changes probably have taken place since then. In the study an experienced grader actually graded 39,500 hogs by lots. Later prices and weights were secured for these hogs and an analysis made of differentials being received because of grade. On the average, meat-type hogs command price differentials of between 10 to 60 cents about 90 percent of the time. There were times when the differentials were negative because of certain conditions on the market, and there were times when the differentials were much greater.

A study also has been made of the local markets in Indiana. This study was made by mail, therefore, the results given are those reported by markets. No actual check was made to determine the accuracy of the reports. Of 72 markets returning questionnaires, 72 percent said they were paying more for meat-type hogs; 28 percent indicated they were still basing prices on weight only. Some of those paying differentials for meat-type hogs indicated that at times the differential was paid because of the person rather than because of the hog. Some farmers were able to get differentials of premiums regardless of the type of

hogs sold. Sixteen of the 72 markets indicated they paid more for meat-type hogs but did not discount fat hogs. These markets were paying from 10 to 50 cents differential in favor of meat-type. Nine of the markets were paying 50 cents; seven were paying less than 50.

Fourteen of the markets discounted fat hogs as well as paying a higher price for meat-type hogs. The price differential between a meat-type and a fat-type hog varied among markets. Six of the markets paid from 30 to 60 cents more for meat-type than for fat, 4 markets paid 61 to 90 cents more for meat-type than for fatter hogs, 3 markets paid between 91 and $1.20 differentials for meat-type, one market paid $1.50. Forty percent of these markets actually sorted the hogs into the different grades, while 60 percent estimated the grade for the entire lot and paid the differential without sorting. Buyers estimated that higher prices were paid for 26 percent of the hogs that were classified as No. 1's, 14 percent discounted because of excessive fat, classified as No. 3, and 60 percent of the hogs sold as No. 2's at the regular price. Of the 72 markets, 30 were packer markets, 23 independent dealer markets, 12 cooperative markets and 7 dealer markets under chain ownership.

3. What is a program needed with markets?

If we agree that consumers desire lean pork and, also, if we agree that farmers can and will produce meat-type hogs if given encouragement, then why should we have any program with markets?

Under our competitive system, we believe that it is necessary for a buyer to recognize differences in quality if he is to reflect differences in prices to producers. Therefore, one of the assumptions

that we made was that buyers cannot identify quality in hogs.

A study was made with 5 firms and 23 buyers of those firms. After selecting a pen of hogs with some variation as to grades and weights, we asked buyers to estimate the number of No. 1's, No. 2's and No. 3's as well as the dressing percentage and distribution of weights in the group. Hogs were then slaughtered and actual dressing percentages, weights and grades were determined. On the average it was found some buyers could grade and some buyers could not grade accurately. The most accurate grader misplaced less than 4 percent of the hogs. The 5 most accurate graders misplaced 15 percent or less of the hogs. The 5 least accurate graders misplaced from 25 to 35 percent. In general, it revealed that training on live grading or carcass grading did increase accuracy although there was considerable variation in this area. We feel this is principally because of the lack of standardization in training. Experience does help in certain areas, as we found that buyers with 5 to 10 years experience appeared to average grading more accurately than the averages of other groups. However, the buyer with the second highest accuracy score had only 2 year's experience while the buyer second from the bottom had 20 year's experience. Most of the time, experience over 10 years may be a liability rather than an asset.

Also, the training program on live grading must be more than just merely relating accuracy of the previous day. There was no increase in accuracy from one day to the next on live grading in our program. However, there is some indication that accuracy of estimating yields can be increased with very little training. By merely reporting to buyers the next morning the yield for the previous day, accuracy was increased during the study.

4. What We Can Do or What Needs to be Done.

(a) Buyers and sellers on markets should be able to accurately determine value of hogs. Some method should be established to keep the efficiency high by continually checking accuracy.

(b) Markets should be informed of the experience of other markets that have developed a program of reflecting consumer preference back to producers through prices. In general, markets that have gone on a meat-type hog purchasing program have increased in receipts. This generally has meant more profit. In fact, one market reports a 100 percent increase in receipts from the previous year after going to such a program. All evidence indicated that benefits will accrue to markets that enter into a meat-type hog program.

(c) Markets should know the cost of entering into such a program. Research is needed in this area to determine the exact cost of live grading or carcass grading so that markets might be able to determine better whether or not to enter into such a program.

5. How to Get the Job Done.

(a) The Extension Service should coordinate a program with markets so that intensive schools may be set up with the different marketing interests. These schools should include training to recognize value which is determined by weight, grade and dressing percentage.

(b) Establish schools for market people on production practices that must be followed to produce meat-type hogs. Extension workers and markets must tell the same story to farmers for a more effective program.

(c) Inform farmers of alternatives that might be followed in marketing hogs to the various markets. Given the information on practices at various markets, farmers generally will make a choice which will hurry the change from present day hogs to meat-type hogs.

It seems that consumers want lean pork. Farmers are willing to produce lean pork. It will benefit markets to enter into such a program. Therefore, every effort should be made for all interests to work together for a meat-type hog program.

Report of Work Group I

(Developing a Meat-Type Hog Educational Program with Farmers)

Chairman - H. G. Russell, livestock extension specialist, University of Illinois.

Secretary - William Pugh, livestock extension specialist, University of Missouri.

Asst. Sec. - Robert Jacobs, livestock extension specialist, University of Minnesota.

Background Statements

1. Some popular misconceptions
   (a) Breeds have a monoply on meat-type.
   (b) Meat-type hogs are poor doers or runts of the herd.
   (M. Paul Mitchell, Agricultural Economics, Purdue University)
2. Some persons haven't changed their opinion that the fat hog is the most efficient hog. (R. Q. Smith, executive secretary, Independent Market association.)
3. The big question asked by producers is "How do we get meat-type hogs?" (E. M. Christen, county agent, Indiana)
4. The farmer learns meat-type hog through his pocketbook. Packing plants are buying and paying on basis of quality in my state. (R. E. Jacobs, animal husbandry, University of Minnesota.)
5. Emphasize working committees in county or area around a market, including all interested parties. (Wilbur Bruner, animal science, The Ohio State University.)
6. There is a big need for seed stock. It's hard to get. (V. Y. Overturf, commercial producer, London, Ohio.)

Suggested Program (general)

1. Organize local swine committees or councils. Include if practical and feasible, commercial producers, purebred breeders, processors, market men, retailers and other interested groups. Coordinate local programs and objectives with state and national swine organizations.
2. Education and information - Carry on a continued program of education and publicity regarding need for good hogs, and correct wrong impressions regarding the meat-type hog program.
3. Activities that have been and will need to be a part of an action program:
   (a) Push testing and evaluation work on the farm and in testing stations where possible and practical.
   (b) Improve swine shows. Add carcass features and production figures.
   (c) Conduct swine clinics.
   (d) Demonstrations and exhibits - live hog and carcass.
   (e) Tours.
   (f) Build strong youth programs with emphasis on production figures.

Suggested Program for Purebred Breeders:

1. Encourage participation of breeders in breed certification program. Probe all gilts kept for replacement and boars to be sold, if they are from certified litters.
2. Encourage breeders to participate in testing and evaluation station program.
3. Get breeders to run feed efficiency tests on farms where possible (a) by litters; (b) by sire groups; (c) by feed records and weight-for-age on entire pig crop.

4. Check weight for age and probe replacement gilts and boars while on full feed.

5. Encourage breeders to sell only that breeding stock which measures up to standards set up for the program they are following.

Suggested Program for Commercial Breeders:

Choose a breeding plan.

Adopt multiple farrowing program where practical and market hogs when they are correctly finished.

Select a meat-type boar, preferably from a herd using a production testing program.

Select replacement gilts as follows:

1. Ear notch all gilt pigs from good litters.
2. Record farrowing dates.
3. Weaning weight, 21, 35 or 56 days. (optional)
4. Visually cull.
5. Visually select the meatier, better doing gilts with ample length.
6. Weigh and probe at 160-180 pounds and adjust to 180-day weight and 200-pound backfat probe basis while still on full feed. Select fastest growing gilts with least back fat.

## Report of Work Group II

## (Developing a Meat-Type Hog Educational Program With Livestock Markets)

Chairman - H. G. Zavoral, department of animal husbandry,
University of Minnesota.

Secretary - William Z. Zmolik, department of animal husbandry,
Iowa State College.

Presented by - Clifton B. Cox, department of agricultural economics,
Purdue University.

There are certain problems in marketing meat-type hogs. Quality in the hogs must be recognized by buyers and sellers in order to reflect differentials to producers and also secure differentials and prices from packers.

Market men must know something about production. They must tell the same story to farmers as production specialists in their personal contact.

There is a shortage of trained personnel in markets, both in buying and selling.

Suggested Program:

1. Markets have a stake in the meat-type hog program.
   (a) Markets that do not give consideration to a meat-type program will ultimately lose. How quick the pressure comes on the market depends on the recognition of packers in buying meat-type hogs.
   (b) Markets that purchase hogs according to value will benefit financially. This will come to the market through increased publicity which increases receipts and gets farmer acceptance as well as packer interest in buying different hogs according to value.
2. By reflecting producer returns according to value, markets will speed up the change to meat-type hogs. By entering into such a program,

our competitive system will be in operation and allow consumers' desires to be reflected to producers.

3. An educational program should be set up for markets. An intensive training program for buyers and sellers on markets should be established. Many times a training program with present personnel will be sufficient, but sometimes new personnel will need to be brought into the marketing system.

4. Schools also should be held with markets to acquaint them with production practices so that operators of markets will be relaying to farmers the same information as extension specialists on the production of meat-type hogs. Market operators are in contact with many producers. They can be a great help to such a program.

5. In each state consideration should be given to placing responsibility for educational work with markets and possible packers in one individual who will develop the program. This individual should offer the program to all interested in the market areas and not attempt to force unlike groups together. This probably will mean a separate school or training program with central public markets, with cooperatives, with packer and dealer markets and with auctions. A program to combine all interests may waste resources and time and not accomplish the purpose.

6. In sponsoring shows, markets should encourage meat-type hog production. Markets must take some responsibility in this area and, therefore, cooperate in promoting a program that will ultimately give consumers what they desire.

7. Research is needed at present to give estimates of how many meat-type hogs are currently being marketed. This will give a bench mark to evaluate the progress of such a meat-type hog program and to serve as a basis for the educational program needed.

Report of Work Group III

(Developing a Meat-Type Hog Educational Program With Processors and Packers)

Chairman - Dan E. Brady, professor, animal husbandry, University of Missouri.

Secretary - Robert Reierson, livestock and meat marketing specialist, University of Wisconsin.

Asst. Sec. - James W. Reynolds, extension economist, marketing, University of Missouri. Amos Meyer, extension livestock marketing specialist, University of Maryland.

Presentation - R. L. Coppersmith, extension economist, University of Illinois.

The objective of an extension program with packers and processors, relative to meat-type hogs, is to develop educational programs whose adoption will improve marketing practices for buying and selling hogs that will more nearly reflect differences in values of different hogs and pork products.

Following are some of the factors we must recognize in working with meat packers:

Emphasis on volume in the meat packing industry.

High fixed-cost conditions.

Variation in volume of livestock available.

Personnel problems - guaranteed work week, necessity of restraining personnel, bureaucracy.

Type of market packer sells in (a) low quality; (b) high quality.

Completeness of line of product and type of product.

Necessity for keeping sales in balance. - (a) slow moving cuts - inventory control.

Byproduct problems.

Legal considerations. (a) government scrutiny from monopoly standpoint; (b) sanitation requirements.

For greater chances of success, an extension program should:

Have a definite plan of attack.

Approach problem from dollars and cents standpoint.

Be simple to put into effect.

Not require excessive amount of time on packer's part.

Be feasible from cost standpoint.

Have element of flexibility.

Not exhibit packer in bad light.

Lend itself to evaluation in terms of concrete results.

Problems

Inability of most buyers and sellers to adequately evaluate the grade, yield and other attributes of live butcher hogs and pork, or failure to price accordingly.

Need for developing efficient methods to insure packers a greater volume of meat-type hogs.

With but few exceptions, industry does not offer to the retailer pork cuts with different degrees of acceptability.

What Can Be Done?

1. Develop demonstrations and training schools with pork packers to improve their ability to evaluate the grade yield and other attributes of live butcher hogs and pork.

2. Provide information to and assist packing plant personnel in obtaining and utilizing plant information showing differences in value between hogs of different grades. Differentials should exist between grades to reflect values of the products.

3. Cooperate with meat packers in setting up youth meat-type hog marketing projects.

4. Provide research information regarding consumer preference for pork.

How Can It Be Done?

1. Select one or two packers who are receptive to cooperate in an extension program on the production and marketing of meat-type hogs.

2. Exchange information with other markets having experience in this general area of endeavor.

3. Point out to packers the extent of the educational program that is being carried on with farmers relative to meat-type hogs.

4. Point out to packers the extent of the educational program that is being carried on with consumers relative to pork.

5. Cooperate with one or more packers in arranging for slaughter of hogs under breed certification and other swine evaluation programs.

6. Establish a 2-way flow of information between the industry and extension workers.

Conclusion

Our goal must be to influence packing industry policies and to encourage individual firms to buy meat-type hogs on grade. In this effort with the packing industry, the major emphasis must be on the monetary advantages to the individual firm making such changes.

Report of Work Group IV

(Developing a Meat-Type Hog Educational Program with Retailers and Consumers)

Chairman: R. C. Kramer, professor, agricultural economics, Michigan State University.

Secretary: M. B. Kirtley, assistant professor, agricultural economics, University of Illinois.

Presented by: G. F. Henning, professor, agricultural economics, Ohio State University.

This report is divided into 4 parts. They are: (1) research completed upon which an educational program can be started; (2) problems of conducting an educational program; (3) areas which can be covered in an educational program, and (4) research which still needs to be done.

Part I. Sound extension programs are based on research. Research in the area of meat marketing has been done and the conclusions resulting from this research provide a foundation for beginning an educational program with retailers and consumers.

1. Over 50 percent of the meat in the United States is marketed through super markets.
   (a) More and more super markets have self-service meat merchandising.
   (b) With self-service, the art of salesmanship is less important. Attractiveness and price have become more important. Lean pork cuts are more attractive to consumers.
2. Studies in Missouri, Michigan, Illinois and other states, as well as in commercial companies, have shown that consumers prefer lean pork. For example:
   (a) In studies conducted by the University of Illinois, lean pork chops priced above "regular" pork chops by an average of 10 cents per pound outsold "regular" pork chops by a ratio of 3 to 2.

(b) In Missouri it was shown that lean pork, even very lean pork, was readily accepted by homemakers.

(c) In a Michigan study most housewives preferred at least 1/8 inch of external fat on pork chops but less than 15 percent wanted as much as 1/2 inch of fat.

(d) Various retail meat outlets have run tests which have shown that the consumer wants and will pay for lean pork.

3. Other studies have provided valuable data for educational programs.

(a) A commercial study recently reported that over 60 percent of the meat-buying decisions were made in retail meat stores.

(b) Only 75 percent of retail meat purchases are made by wives. Husbands buy almost 20 percent and children buy the rest.

(c) One-half of the meat retailed in the North Central region is sold on Fridays and Saturdays.

(d) Twenty-five percent of the homemakers buy meat only once a week. Another quarter buys twice a week. The rest shop 3 or more times a week or less frequently than once a week.

Part II. Even though we have this research there are some problems that must be recognized before a full-scale educational program can be conducted with retailers and consumers.

1. Less than 15 percent of the hogs marketed in the North Central Region are "meat-type" hogs.

(a) Large retail organizations cannot get the supplies of meat-type pork they need to shift completely to meat-type pork merchandising.

2. The packing industry has adopted a close trim on regular pork cuts.

(a) Many retailers, as well as consumers, seem to favor this closer trim. With it available they may not demand meat-type pork cuts.

(b) If the retailers and consumers become satisfied with the closer trim of regular pork cuts, the incentive for producers to shift to meat-type hogs may be lessened.

3. Retailers will be interested in changing their pork merchandising procedures when they feel it will be profitable.

   (a) Retailers indicate that the added costs involved in selling two qualities of pork probably would outweigh the advantages to them. Therefore, some retailers handle no pork from meat-type hogs.

4. Retailers and consumers are not aware of the meaning of the term "meat-type pork".

5. There are no accepted consumer grades for pork.

6. Pork is more perishable than certain other red meats. Retailers attempt to sell out each week and this often means shoppers cannot buy any pork late in the week.

7. In the Ohio retail meat study almost one-third of the stores did not regularly display hams. We should check on our stores to see if they are stocking pork in general and "meat-type pork" in particular.

Part III. We are aware of the need for an industry-wide cooperative effort, but this committee was instructed to report on what could be done with retailers and consumers. Here are our suggestions:

1. Define what meat-type hogs are.

   (a) Extension agents or specialists can hold carcass demonstrations with retailers, meat packer salesmen who contact meat retailers, home economists in extension work and in business and consumers.

   (b) Extension workers can prepare TV spot films (50 second), news releases and leaflets.

2. Explain the changes that are taking place in the swine industry and the problems involved in producing meat-type hogs.

3. Acquaint retailers and consumers with the advantages of closely-trimmed pork. Even though this may be a problem, it may be a step toward meat-type pork. Consumers include husbands, who buy 1/5 of the meat.

4. Demonstrate the factors to be considered in selecting pork. Include ratio of lean to bone and fat, marbling, color, firmness, and amount of fat covering.

5. Demonstrate to retailers the different ways of merchandising pork.

6. Demonstrate to consumers and institutional food personnel the different ways and methods of preparing pork meals.

7. Acquaint retailers, consumers, farmers and marketing people with the seasonal changes in the supply of all pork and high quality pork.

8. Make use of the educational materials published by the American Meat Institute, the National Livestock and Meat Board and other associations and industry groups.

Part IV. Even with some research data available, more research is needed so that an effective educational program can be continued with retailers and consumers. Some of the information not now available is included in the following points:

1. What are the comparative costs of retail pork cuts which come from "meat-type" and "regular" hogs?

2. What characteristics do consumers look for when buying pork? These include freshness, color, marbling, etc.

3. Will lean-trimmed pork from meat-type hogs better satisfy consumers than lean-trimmed pork from "regular" hogs?

4. What are the problems and costs involved in retailing more than one quality of pork?

5. Is the cooking quality of meat-type pork different from that of "regular" pork?

6. What is the relationship of carcass grade to the consumer acceptance of retail pork cuts?

7. What is the difference in bone and fat ratio to lean in retail pork cuts from meat-type and regular hogs?

8. What factors are important in determining pork quality?

# Where Do We Go From Here?

by

Marvin A. Anderson, associate director, Iowa Agricultural Extension Service

As we develop an educational program, we must plan with people, not for them. In the meat-type hog program we should continue to emphasize the production aspects, but we would be wise to put more resources in marketing and consumer research and education. This conference has given us some time to plan so that we might perform well.

I am very pleased to have the opportunity to attend this Meat-Type Hog workshop and to accept the responsibility of reporting on the "Guideposts" that were developed at this workshop. You are all aware these "Guideposts" grew out of the 4 discussion groups under "Developing the Meat-Type Hog Program" (a) with farmers, (b) with livestock markets, (c) with processors and packers, (d) with retailers and consumers. (See Guideposts in another section.)

Charting the course for future action in a program we are talking about requires that we take bearing of our present position. At this workshop, many talked about the fact that we already have gone a long way towards the reputation of having low-quality products. Evidences of this are the lard problem, and the over-fat hogs. Supplies are up and demand for our product is down. As background information for this, I want to refer you to Gerald Engelman's excellent report at this workshop entitled, "Trends Behind the Hog Situation".

The problems we face, nationally, are especially pertinent to these 12 North Central States. Seventy-five percent of the hogs in the United

States are farrowed here. A high percentage of our gross sales come from hogs. In my own state, 40 per cent of the gross farm income is from the sale of hogs. (I would like to note also that Iowa farrowed more hogs in 1955 than the combination of the next 2 highest states.) We produce enough pork for 12 times our own population. This means that the problems we face in Iowa are indeed important to us and likewise to every state individually. The problem is complicated more because, in the 12 North Central States, we produce 58 per cent of all the meat in the United States.

One must be impressed by the many factors contributing to our overall problem. This panorama of factors might be likened to a huge parade 2 to 3 miles long. Involved are producers, breeders, swine associations, buyers, packers, wholesalers, retailers, consumers, and others. Individually we may have a street view. We can see each one of these participants separately. At this spot, our prospective is not too good. We may need to go up higher. We may need to move in closer, we may need to see them from different angles. Our point of view individually is going to be governed to a great degree by what position or positions we take in the panorama of problems involved, and contributing to, the overall program of meat-type hogs.

Where do we go from here? Director Wood challanged our thinking the first day in this area. Much of the program is education. Education involves a change in human behavior, a change in attitude, a change in knowledge, a change in skill.

Who is involved in the educational process? Certainly those of us here present must be involved. It must involve every component part of the parade that we have described.

How can we bring about change? There is one important principle that we must not forget. We are bringing about change, with and through people.

Many of us in education know a definite pattern exists in "change" and in acquiring a skill. These five stages are awareness, interest, decision making, trial and adoption. In conducting our educational program we should recognize what stage each person is in and tailor our program accordingly if we are to be effective.

If we see a host of producers, packers and consumers all viewing the meat-type problem from different angles, perhaps, and in different stages of their learning or understanding, we see this as a huge educational task.

As we develop the educational program, we must plan with people, not for them. Many of us become a little too impatient with our enthusiasm about a particular aspect of the program and feel that it is easier for us to move ahead independent of groups who have not yet come to the realization of the problem.

You might ask what are the components of an educational program. I am not sure that I am qualified to speak to this point but I shall identify a few of these. (1) Evaluating and identifying good breeding stock. Certainly this is necessary if we are to move forward in any kind of program in the meat-type hog program.

(2) Greater efficiency in the marketing and merchandizing of live hogs and pork products. This means adjustments to demand; it means training buyers to identify quality; it means understanding in educational programs with retailers and all aspects of merchandizing.

(3) Education of consumers so they might have an idea what represents quality and what is good nutrition. Thus they may have a better understanding of good buymanship. In this area, we must also recognize that our eating habits are changing with respect to the place we eat. Today, one-third of the meals are served to people away from home. One can understand the importance of contacts with restaurants, hotels, etc.

(4) Encourage self-help in all areas. Here Extension and research have responsibility to lead.

I would like to leave a word of caution with this group. There is a Chinese proverb that states "It matters not how fast one goes unless he is going in the right direction". The land-grant college through its experiment station and extension service has had increasing acceptance by farm people. Today all one needs to do is to announce a new variety or new antibiotic and folks are willing to accept it. This was not true a generation ago. The basis of present acceptance, I believe, has been built on the fact that recommendations in the past were successful. What does this mean to us today? It means to me that we must be sure that we are right before ideas are brought to the people. A reckless decision on our part could not only lose the confidence of farm people, but far worse, failure of the practice or idea would have serious consequences to the industry about which we are talking. This means that we must depend on research as we move forward; not opinions, not observations, not parreting ideas but sound objective evidence that will permit objective decisions and recommendations. This, I say, especially to representatives of Extension Services and experiment stations present. I believe that industry likewise will accept this philosophy.

The opportunities in this program are very great. An index of the economic progress of a country is reflected by the amount of resources it has in secondary and tertiary production. In the meat-type hog program, I think we should continue to emphasize the production aspects (in primary production) but it seems to me that we would be wise to put more resources in terms of research and education in secondary and tertiary aspects of production, i.e., marketing and consumer research and education.

This conference has given us some time to plan so that we might perform well. There is a saying, "If you run and jump, you can jump farther than when you stand and jump". The running stage may be compared with planning. This we have been doing in the conference. We have been gathering momentum. But if we get off the ground, we must at some time jump. I am confident that there will be some good long jumps made in the meat-type hog program ahead.

## Guideposts for the Meat-Type Hog Program

Background statement

Extension workers, representing processing agencies in livestock and meat marketing organizations from the North Central states and elsewhere attending the Meat-Type Hog workshop are aware that outlining consistent programs for improving hog production and marketing is possible because of research conducted (1) by land-grant colleges of the several states, (2) by regional research committees, and (3) the United States Department of Agriculture. Members of the workshop recognize that the development of more significant extension programs awaits further research in numerous areas and particularly in the field of consumer economics.

The development of meat-type hogs and their effective marketing also rests on (1) more effective adjustment of production to consumer demand and (2) greater efficiency in marketing live hogs and pork products. Effective adjustment of hog production to consumer demand involves consideration of consumer volume of production in leaner pork cuts.

The following guideposts are suggested:

1. We need research on how many meat-type hogs are being marketed at present in order to have a bench-mark to evaluate progress made and as a basis of educational programs and jobs to be done.

2. We recognize the relationship of the promotion of meat-type hogs to the overall extension program. It is a phase of the animal husbandry program of the County Extension program.

3. We should place responsibility for educational programs with markets and packers in one individual at the land-grant college who will develop the program.

4. We should encourage the expansion of swine evaluation stations to more adequately serve the swine industry in the selection of desirable types of breeding stock.

5. We recommend the interchange among states of up-to-the-minute research results for Extension workers.

6. We recommend consideration be given to periodic in-service training and orientation of Extension livestock production and marketing specialists where needed in areas of production and marketing, processing, distribution and utilization.

7. We recommend that each state have meetings with farmers, marketing people, retailers and consumers, in attendance to discuss the meat-type hog program and the pork industry in general.

8. We recommend in another year a regional meat-type hog workshop of Extension specialists and agents to report on the progress of meat-type hog activity since the workshop.

9. We suggest that the extension and experiment station directors get together as soon as possible to appraise the effectiveness of various testing procedures.

10. Workshop participants wish to express their appreciation to the extension directors who made initial plans and gave approval for the Meat-Type Hog workshop. We wish express appreciation to the industry, farmers, press, county personnel for their participation and contribution. We also wish to thank the Ohio State University for its generous hospitality and for facilities provided.

Report by the Committee
Adopted by the Workshop,
May 9, 1956

## North Central Meat-Type Hog Workshop

### Enrollment

| Name | State | Department | Choice of Groups | | | |
|---|---|---|---|---|---|---|
| | | | Gr.1 | Gr.2 | Gr.3 | Gr.4 |
| **Illinois** | | | | | | |
| Carlisle, G. R. | Illinois | Animal Science | | X | | |
| Coppersmith, R. L. | Illinois | L.S. Mktg. | | | X | |
| Kirtley, M. B. | Illinois | Agr. Economics | | | | X |
| Russell, H. G. | Illinois | Animal Science | X | | | |
| Walker, Don | Illinois | Animal Science | | X | | |
| **Indiana** | | | | | | |
| Christen, E. M. | Indiana | County Agent | X | | | |
| Cox, Clifton B. | Indiana | Agr. Economics | | X | | |
| Cromer, M. E. | Indiana | County Agent | X | | | |
| Garwood, Vernon A. | Indiana | An. Husbandry | X | | | |
| Hollandbeck, Richard | Indiana | Swine Ext. Spec. | | | | |
| Jones, Hobart W. | Indiana | An. Husbandry | X | | | |
| Mitchell, Paul | Indiana | Agr. Economics | X | | | |
| Smith, Norton | Indiana | Agr. Economics | | | X | |
| Spuller, C. L. | Indiana | County Agent | X | | | |
| Harper, Claude | Indiana | An. Husbandry | | | | |
| Spurrier, James F. | Indiana | Grad. Student | X | | | |
| **Iowa** | | | | | | |
| Anderson, Marvin | Iowa | Dir. of Extension | | | | |
| Durham, Ralph M. | Iowa | An. Husbandry | X | | | |
| Thompson, Sam. H. | Iowa | Agr. Economics | | | X | |
| Wickersham, Tom | Iowa | An. Husbandry | | | X | |
| Zanolek, William G. | Iowa | An. Husbandry | | X | | |
| Craft. W. A. | Iowa | Reg.Swine Br.Lab. | X | | | |
| Plager, Wilbur | Iowa | Nat. Swine Growers Council | | | | |
| **Kansas** | | | | | | |
| Holland, Lewis A. | Kansas | An. Husbandry | | X | | |
| Hoss, Raymond M. | Kansas | L. S. Mktg. | | | X | |
| Moyer, W. A. | Kansas | An. Husbandry | X | | | |
| Walker, Mildred | Kansas | Con. Food Mktg. | | | | X |
| **Maryland** | | | | | | |
| Meyer, Amos R. | Maryland | Ag. Econ. Mktg. | | | X | |
| Zeller, John H. | Maryland | Swine Research | X | | | |

| Name | State | Department | Choice of Groups | | | |
|---|---|---|---|---|---|---|
| | | | Gr.1 | Gr.2 | Gr.3 | Gr.4 |
| **Michigan** | | | | | | |
| Kramer, R. C. | Michigan | Agr. Economics | | | | X Chr. |
| Miller, E. C. | Michigan | An. Husbandry | X | | | |
| Pearson, A. M. | Michigan | An. Husbandry | | | X | |
| Ingerson, Clayton C. | Michigan | County Agent | X | | | |
| Elliott, Harvey J. | Michigan | County Agent | X | | | |
| Stark, Don H. | Michigan | Ext. Mktg. Spec. | | X | | |
| **Minnesota** | | | | | | |
| Jacobs, R. E. | Minnesota | An. Husbandry | X | | | |
| Zavoral, H. G. | Minnesota | An. Husbandry | | | X | |
| **Missouri** | | | | | | |
| Brady, Dan E. | Missouri | An. Husbandry | | | X | |
| Kiehl, Elmer R. | Missouri | Agr. Economics | | | | X |
| Pugh, William E. | Missouri | An. Husbandry | X | | | |
| Reynolds, James W. | Missouri | Marketing | | | X | |
| Rowe, Samuel S. | Missouri | An. Husbandry | | X | | |
| **Nebraska** | | | | | | |
| Fouts, K. C. | Nebraska | An. Husbandry | X | | | |
| **New York** | | | | | | |
| Lacy, M. D. | New York | An. Husbandry | | | | X |
| Pierce, E. A. | New York | An. Husbandry | X | | | |
| Moran, John L. | New York | Mktg.Cooperative | | X | | |
| **South Dakota** | | | | | | |
| Dailey, Ed | S. Dakota | L. S. Mktg. | | X | | |
| Kortan, LaVerne J. | S. Dakota | An. Husbandry | X | | | |
| Wahlston, Richard C. | S. Dakota | An. Husbandry | | | X | |
| **Texas A. & M.** | | | | | | |
| Sorensen, A. M. | Texas | An. Husbandry | X | | | |
| **Wisconsin** | | | | | | |
| Bray, Robert | Wisconsin | An. Husbandry | | | | X |
| Grummer, Robert | Wisconsin | An. Husbandry | X | | | |
| Reierson, Robert | Wisconsin | Agr. Economics | | | X | |

| Name | State | Department | Choice of Groups | | | |
|---|---|---|---|---|---|---|
| | | | Gr.1 | Gr.2 | Gr.3 | Gr.4 |
| U. S. D. A. | | | | | | |
| Bell, C. E. | USDA | An. Husbandry | | | | |
| Collins, Ed | USDA | Market News | | | | |
| Engleman, C. H. | USDA | | | | | |
| Portius, Homer | USDA | Fed. Ext. Service | | | | |
| Williams, W. F. | USDA | A. M. S. | | | | |
| Stevens, Ira M. | USDA | Agr. Economics | | X | | |
| Ohio | | | | | | |
| Barnes, Herb | Ohio | An. Science | | | | |
| Best, L. A. | Ohio | Ext. Dist. Supv. | | | | |
| Bowen, C. C. | Ohio | Agr. Economics Mkt. | | | | |
| Brown, Clarence | Ohio | County Agent | | X | | |
| Bruner, Wilbur | Ohio | An. Science | X | | | |
| Burkhart, Wayne | Ohio | County Agent | | | | X |
| Cahill, Vern R. | Ohio | An. Science | | | | |
| Calhoun, C. E. | Ohio | An. Science | | | X | |
| Chambers, Harold | Ohio | County Agent | X | | | |
| Havener, Robert D. | Ohio | Ext. Meats Spec. | | | X | |
| Grimshaw, Ralph | Ohio | An. Science | | | | |
| Haas, Charles A. | Ohio | Ext. Dist. Supv. | | | | |
| Hammans, C. W. | Ohio | Agr. Economics Mkt. | | | | |
| Hadley, Herbert H. | Ohio | Ext. Dist. Supv. | | | | |
| Henning, George F. | Ohio | Agr. Economics Mkt. | | | | X |
| Johnson, George | Ohio | An. Science | | | | |
| Kauffman, Lawrence A. | Ohio | An. Science | | | | |
| Hinkle, Elmer | Ohio | Cin. Union S. Y. | | X | | |
| Krauss, W. E. | Ohio | Assoc. Dir., AES | | | | |
| Kunkle, L. E. | Ohio | An. Science | | | | |
| Mayberry, Dean | Ohio | Asst. Ext. Editor | | | | |
| McCormick, Anita | Ohio | Con. Food Mktg. | | | | X |
| McCormick, Robert | Ohio | Ext. Dist. Supv. | | | | |
| Moore, John | Ohio | County Agent | X | | | |
| Miller, Carl | Ohio | State Dept. Mkts. | | | | |
| Parrish, Olive | Ohio | Con. Food Mktg. | | | | X |
| Overturf, V. Y. | Ohio | Farmer | X | | | |
| Robinson, D. B. | Ohio | Asst. Dir.-Programs | | | | |
| Rummell, L. L. | Ohio | Dean, College of Agr | | | | |
| Schwart, Robert B. | Ohio | Ext.Econ. Farm Mgm. | X | | | |
| Showman, Austin | Ohio | Asst. Ext. Editor | | | | |
| Steiger, Sam | Ohio | State Dept. Mkts. | | | | |
| Swank, Chester | Ohio | Con. Food Mktg. | | | | X |
| Teague, Howard S. | Ohio | O.A.E.S. | X | | | |
| Wadlington, George | Ohio | County Agent | X | | | |
| Wallace, Marion | Ohio | County Agent | | | X | |
| Warner, James H. | Ohio | Beef Cattle Ext. | X | | | |
| Wilson, Richard | Ohio | An. Science | | | | |
| Windish, Wesley | Ohio | State Dept. Mkts. | | | | |
| Wood, W. B. | Ohio | Agr'l Extension | | | | |

| Name | State | Department | Choice of Groups Gr. 1 | Gr. 2 | Gr. 3 | Gr. 4 |
|---|---|---|---|---|---|---|
| Orio, Francisco F., Jr. | British Honduras | YMCA, Agr.Office | X | | | |
| **Packers and Markets** | | | | | | |
| Ashe, A. J. | Illinois | Armour & Co. | | | X | |
| Conner, Roger | Ohio | Dept. of Infor., Producers | | | | X |
| Davidson, Howard | Ohio | Head, Swine Dept. E.O.B. | | | X | |
| Durke, Julian | Indiana | Prod. Mkt. Assn. | | | X | |
| Everhart, H. M. | Ohio | Armour & Co. | | | X | |
| Fitzgibbon, Walter E. | Ohio | Kroger Co. | | | | X |
| Goff, Allan | Illinois | Armour & Co. | | | X | |
| Greer, Eldon | Ohio | Swine Dept. | | | | |
| Jenkins, Ben W. | Ohio | Cleveland Union Stockyards | | X | | |
| Johnson, LaVerne | Illinois | National Swine Growers | X | | | |
| Juday, Paul | Indiana | Stark-Wetzel Co. | | | X | |
| Judge, Joe | Indiana | Prod.Mktg.Assn. | | | X | |
| Kahler, Karl | Ohio | Ohio Council Retail Merchants | | | | X |
| Ketner, F. G. | Ohio | Gen.Mgr.,Producers | | X | | |
| Kingsbury, L.D. | Ohio | Dir., Public Relations, Prod. | | | | |
| Owen, George | Ohio | Ohio Farm Bureau | | | | |
| McBeth, Wilbur W. | Indiana | Nat. L.S. Exchange | | | X | |
| Peggs, Lewis B. | Indiana | Kenneth-Murray Co. | | X | | |
| Ridell, A. | Illinois | | | X | | |
| Sanders, Paul J. | Indiana | Union Stock Yards | | X | | |
| Shannon, Bob | Ohio | Swine Impr. Assn. Producers | X | | | |
| Smith, R. Q. | Ohio | Executive Secretary, ILMA | X | | | |
| Spaeth, Dave | Ohio | E. Kahn's Sons | | | X | |
| Thompson, George | Ohio | Dir. of Information, Producers | X | | | |
| Williams, Keith | Ohio | E.O.B., Producers | | | | |
| Rector, R. E. | New York | Empire Livestock Coop. Assn. | | | X | |
| **Press Representatives** | | | | | | |
| Braun, Richard F. | Indiana | Farm Journal | | | | |
| Groves, Delmer | Ohio | The Ohio Farmer | | | | |
| Schneider, Vernon | Iowa | Successful Farming | X | | | |

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Marketing Research Division
Washington 25, D. C.

# TRENDS BEHIND THE HOG SITUATION

by Gerald Engelman
Head, Livestock Section

Statement to the North Central Regional Meat-Type
Hog Workshop, Columbus, Ohio, May 7, 1956

Agriculture - Washington

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
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# TRENDS BEHIND THE HOG SITUATION

by Gerald Engelman
Head, Livestock Section

Statement to the North Central Regional Meat-Type Hog Workshop Columbus, Ohio, May 7, 1956

I am happy to meet with you today and to have a part in your Meat-Type Hog Workshop. This is an important conference, for the marketing of meat-type hogs is certainly one of the most important problems in American agriculture today.

But, what of the hog situation? Its most significant elements center around the fact that the most rapid drop in hog prices ever reported in the United States for any 6-month period took place from June to December 1955. On June 21, 1955, top hogs were priced at $22.75 per 100 pounds on the Chicago market. On December 7, 1955, the price for top hogs at Chicago was $11.75. From the high in June to the low in December, less than 6 months later, the drop was $11 per 100 pounds. Comparing monthly averages, average prices of barrows and gilts at Chicago during June were $19.59, and during December $10.73. This was a drop of about $9 per 100 pounds in terms of monthly averages.

This drop in hog prices impinged on farmers even more acutely because it followed a year in which prices had been trending downward rather consistently. In April 1954 the Chicago average price of barrows and gilts was $26.75. The $16 downswing from April 1954 to December 1955 was the greatest 20-month price decline in the records of hog prices in this country. To be sure, prices have recovered somewhat since then. Nevertheless, the sharp downward trend over the last two years, and the extremely severe price drop of last year, seem to be especially significant in looking at the present hog situation.

Here is a chart which shows annual average prices and annual slaughter for the past 7 years (fig. 1). Of course, the important reason for the recent price decline was the increase in marketings during 1955. The total slaughter of hogs in 1955 was estimated at about 80.5 million head. This was about 12 percent larger than in 1954. With this increase in hog slaughter, the average price for the year dropped about 29 percent from 1954 to 1955. On the average, during periods of stability in the general price level, a 10 percent change in production from one year to another would be accompanied by

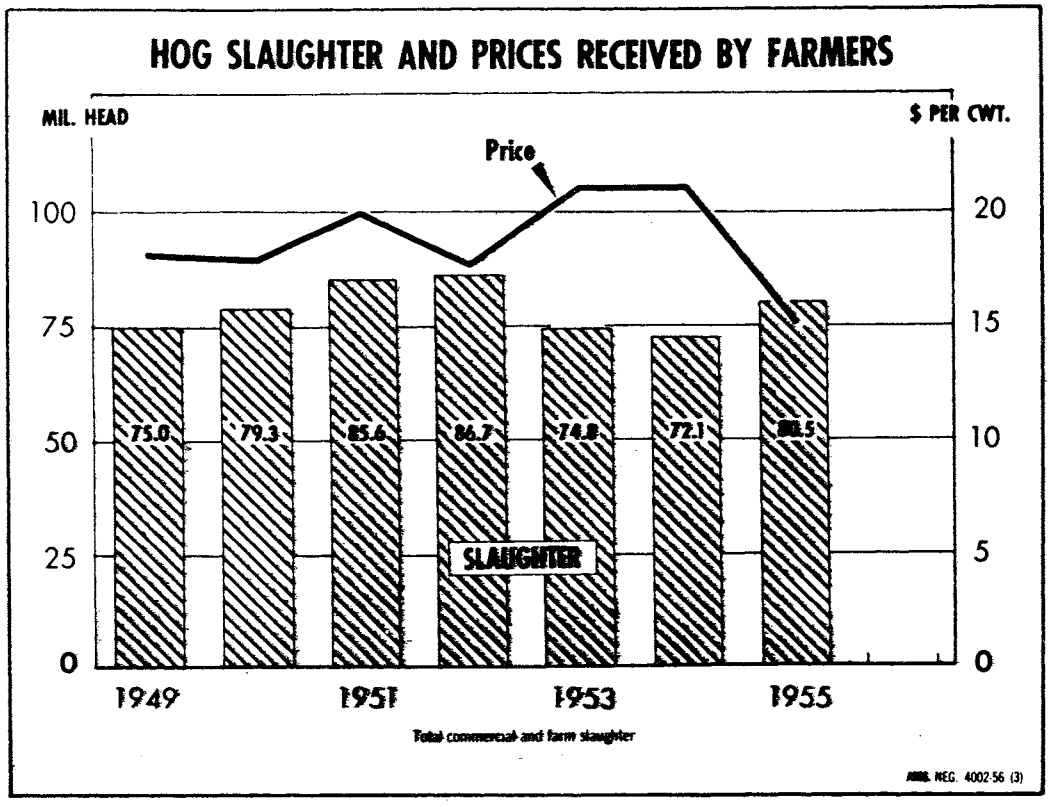


Figure 1

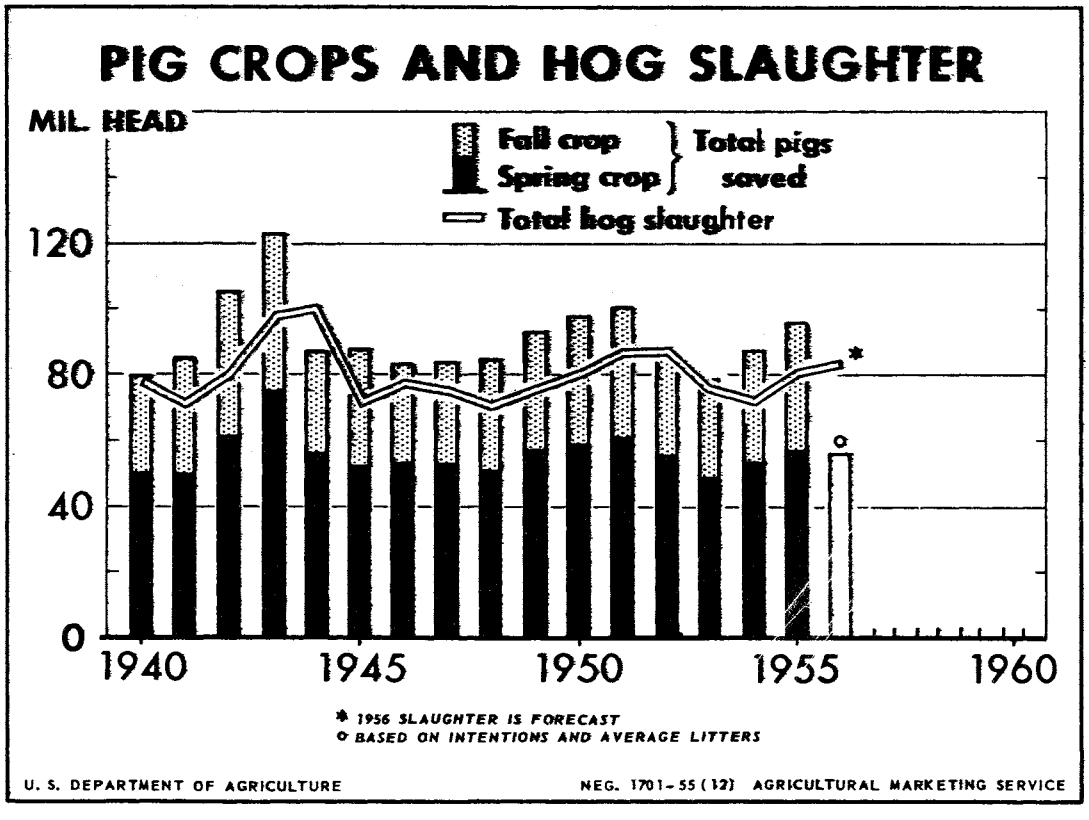


Figure 2

a 15 to 17 percent change in price in the opposite direction. The price decline from 1954 to 1955, however, was about 50 percent greater than would usually be expected with a 12 percent increase in marketings.

Here is another chart (fig. 2) showing pig crops and hog slaughter from 1940 up to the present. It indicates that the recent increases in slaughterings certainly were not extreme. Several other features about this chart would be worth a mention. One point is that after a period of several years of increasing production, slaughter usually reaches a peak the year after pig crops reach their peak. This is because fall pig crops, of course, are carried over to the next year for marketing. This year's slaughter is expected to average above last year for the entire year. Another point worth noting is that periods of increasing production tend to be more gradual and last longer than the decreases, which appear more sharply on any time series such as this one.

No talk on the hog situation would be quite in character if we didn't take a look at the hog-corn price ratio and its relation to hog slaughter (fig. 3). This chart gives us the picture since 1920. The interval between peak years in this sequence usually varies from 3 to 5 years.

Since about half of the total corn production in this country is usually fed to hogs, the production of hogs has traditionally been geared to the quantity of corn produced. With the coming of price supports and storage programs for corn the direct connection between the corn supplies may have been weakened somewhat. Nevertheless, the hog-corn price ratio--the number of bushels of corn which can be exchanged for 100 pounds of hogs--still appears to remain a controlling influence. There are several points worth noting on this chart. The hog-corn ratio has been trending upward over the past 25 years. With the larger usage of concentrate supplements and higher charges for labor and overhead, corn comprises a smaller percentage of the total production costs. The longer time span for this chart tends to confirm the previous chart in the fact that the expansion phases for hog production seem to be more gradual and require a longer period of years than the contractions in hog production, which in some cases are quite precipitous.

Here is another chart (fig. 4) which shows the influence of the hog-corn price ratio during the fall months from September to December on farrowings of spring pigs. In this chart the years are lagged so that the percentage change in sows farrowings is directly below the hog-corn price ratio of the previous fall. There is a rather striking close relationship between the fall hog-corn price ratio and the following spring changes in the number of sows farrowing. For what it may be worth, it's interesting to note that since 1924 there have been five periods of 2 or 3 years of

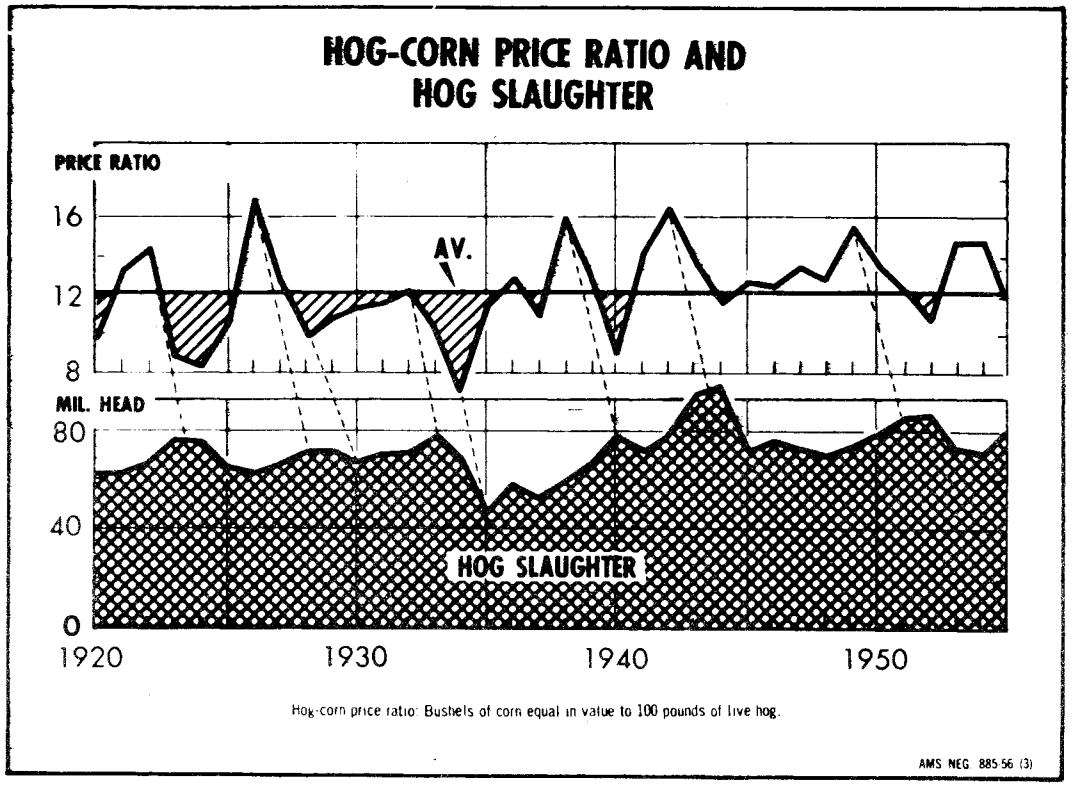


Figure 3

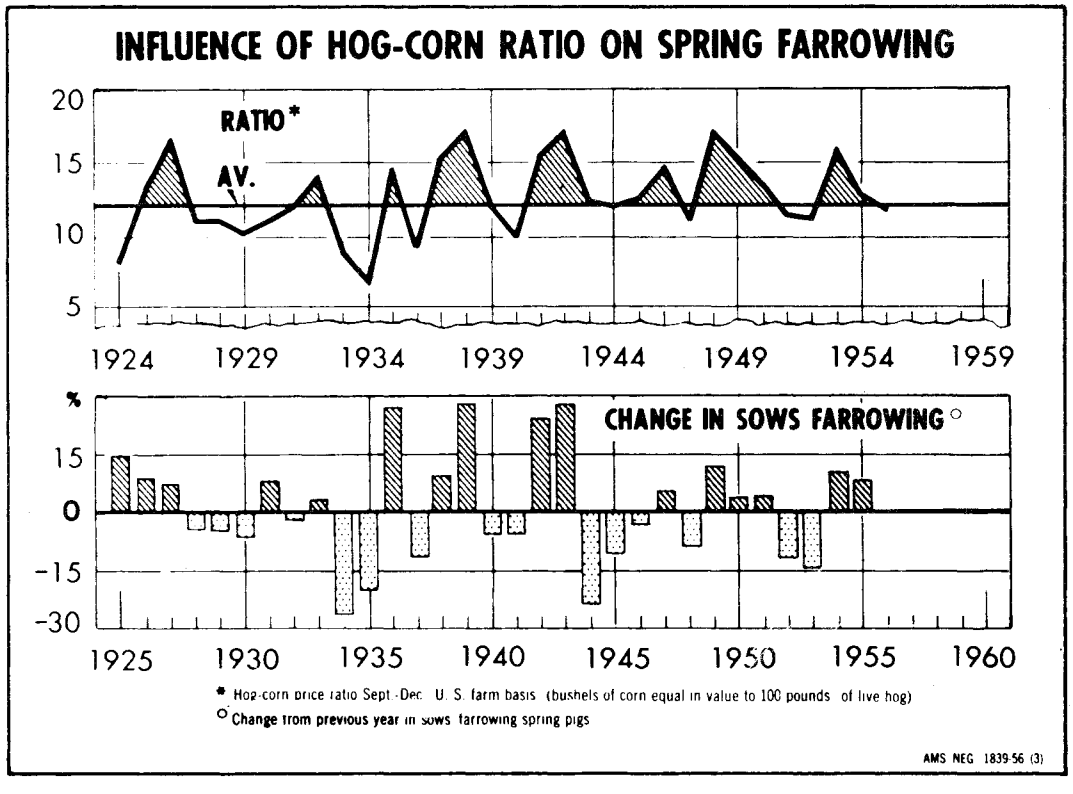


Figure 4

successively increasing numbers of sows farrowing. Following each of the first four of these periods the number of sows farrowing has decreased 2 or 3 years successively. Incidentally, hog producers have indicated this year their intention to reduce the number of spring pigs by about 2 percent.

So much for the annual data on prices and production. Here is a more detailed chart on monthly pork production and prices received by farmers since 1949 (fig. 5). The seasonal peak in marketings of the spring pig crop usually comes in either November or December. Sometimes there is a secondary seasonal peak when fall pigs are marketed in larger numbers. This is followed by a summer "trough," after which pork production again increases sharply during the fall. Seasonal highs in marketings are usually associated with seasonal lows in prices. However, the seasonal changes in prices are not as large percentagewise nor as consistent as the seasonal changes in marketings.

The average seasonal changes in commercial pork production and in prices at Chicago for the period from 1947 to 1953 are shown in another chart (fig. 6). On the basis of this chart, commercial pork production might be expected to increase about 68 percent between July and December, while average prices of barrows and gilts decrease about 20 percent during the same period. Within the usual seasonal pattern, therefore, a 10-percent increase in production from July to December is associated with a 2.9 percent drop in farm prices. During late 1955, however, the expansion phase of the hog production cycle was superimposed upon the usual seasonal increase in fall marketings. Pork production therefore increased about 93 percent from July to December. Prices dropped about 40 percent. In this case a 10-percent increase in production seasonally was associated with a 4.3-percent decrease in prices. During the fall marketing season in 1955, therefore, hog prices dropped about 50 percent more than we would have expected with the increase in marketing which took place. The rather dramatic 20-month downswing in prices at Chicago, from the April 1954 monthly average of $26.75 to the December 1955 average of $10.73, was, of course, caused primarily by increases in production. Nevertheless, the price decline was much greater than would have been indicated by the past relationship between prices and production. Hog prices have been much more sensitive to increases in marketings recently than was the case several years ago.

Such a sharp drop in prices always raises several questions about marketing margins in the minds of both consumers and farmers. Consumers wonder if retail prices for pork have fully reflected declining prices for hogs. The farmers are concerned about the extent to which lower prices for hogs on the farm may have been associated with and in part caused by a general widening of the marketing margin. Here is a chart which shows the longtime trends

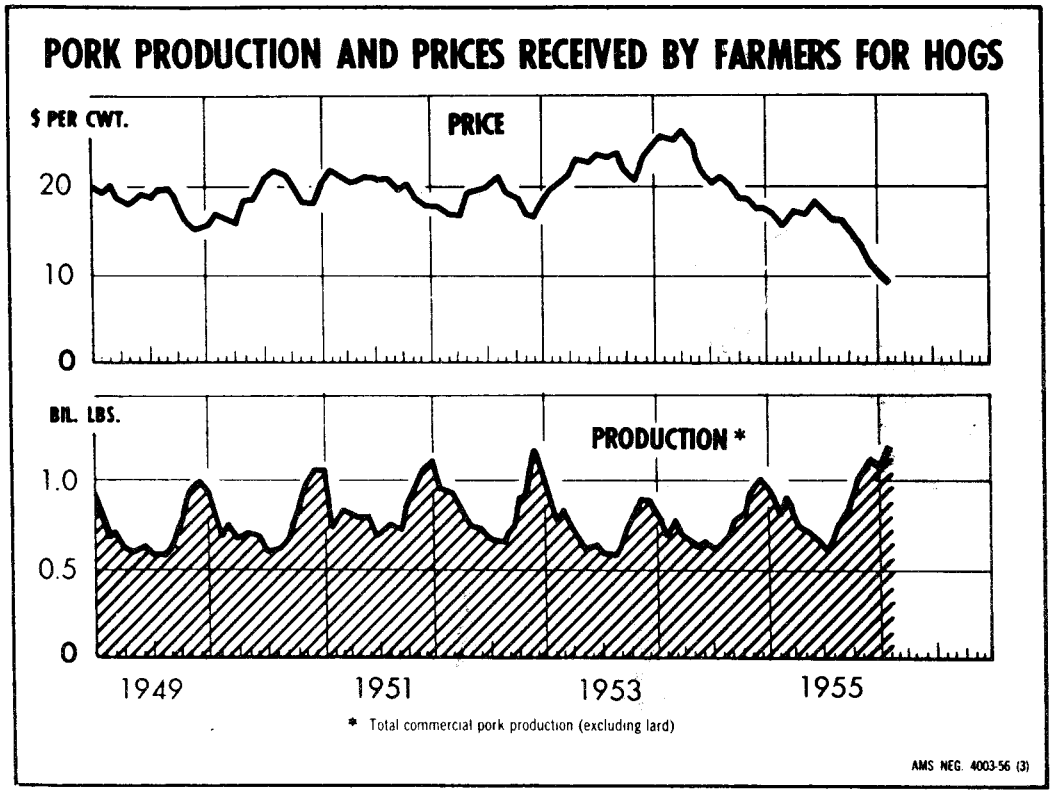


Figure 5

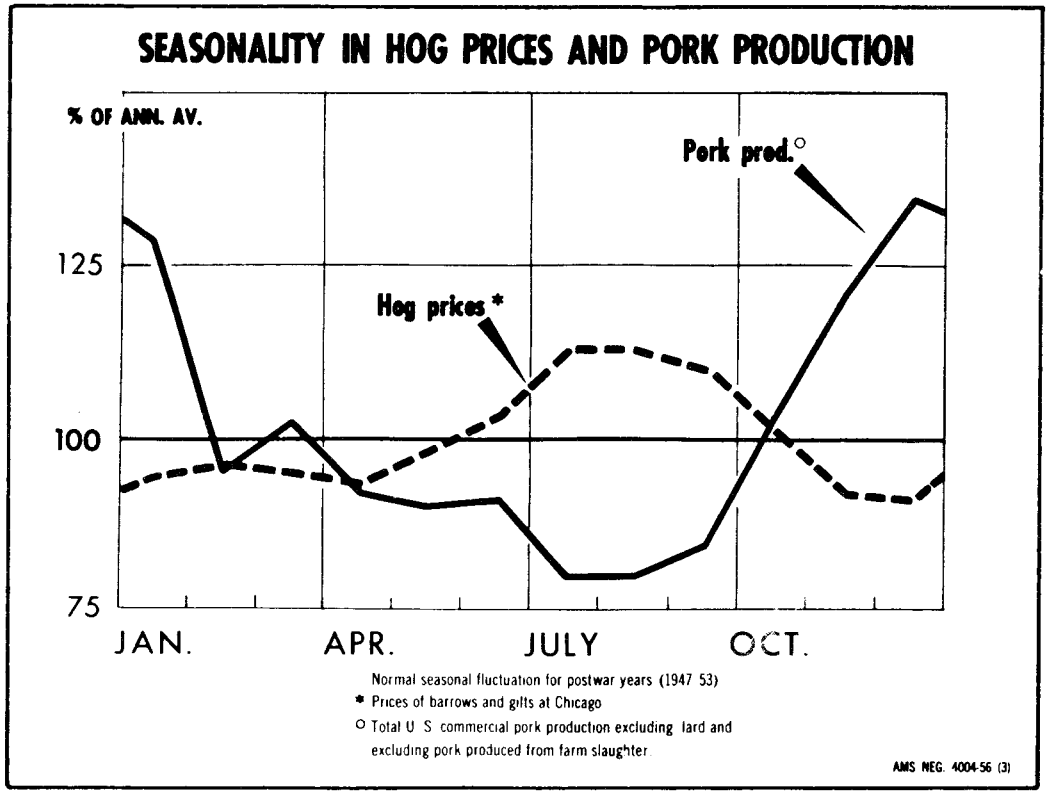


Figure 6

in marketing margins from 1919 up to the present (fig. 7). Marketing margins for pork were relatively stable from the period 1919 to the beginning of the great depression. Margins narrowed sharply during the depression years reaching an alltime low of 8.2 cents a pound per retail pound of pork in 1933. As prices tended to recover during the next two years, marketing margins widened and then tended to narrow gradually somewhat until World War II. When price ceilings were removed after World War II, retail pork prices, hog prices, and marketing margins all increased sharply. In one year, 1946 to 1947, margins widened from 12.7 cents per pound retail weight to 17.5 cents. This was the greatest annual increase in pork marketing margins we have ever experienced. The retail marketing margins for pork then tended to widen gradually to 23.7 cents per pound in 1955, which was a record high. The broad trends in marketing margins shown in this chart probably reflect the changing costs of providing marketing services which include labor, rent, transportation, equipment and supplies that are involved in moving and converting the hogs on the farm to pork in the customer's grocery carts. Changes in marketing margins during the year, however, do not bear such a close relationship to changes in the costs of providing marketing services.

Here is a chart which gives us a more detailed look at marketing changes over a shorter period (fig. 8). It shows that the changes in the farm value of 1.82 pounds of live hogs, equivalent to a pound of pork at retail, tended to parallel roughly at least the movements of retail pork prices. Nevertheless, there were some rather substantial fluctuations in marketing margins within the year during this period.

Three other important characteristics of prices in margins during this period are shown in this chart. One of these is (1) the gradual widening of farm-to-retail margins during this period. Since 1947 margins have widened 6.2 cents a pound, or at an average annual rate of about .8 of a cent a year.

Another tendency is (2) the seasonal pattern of wider marketing margins in the latter half of the year than in the first half. On the average, the margin for converting 1.82 pounds of live hog on the farm to 1 pound of pork at retail store was about 1.8 cents more during the latter half of the year. This is equivalent to an increase of about $1 per 100 pounds live weight in the marketing bill in the late summer and fall. A part of this seasonal increase in marketing margins may be due to the changing number of hogs marketed, which actually represents changing demands for marketing services. With increased marketings, packers, of course, have to expand their hog kill. This requires more hours of work per week. This in most cases results in overtime pay. In this situation packers have no problem at all in obtaining the supply of hogs they need. But they do often have a problem in handling all the hogs

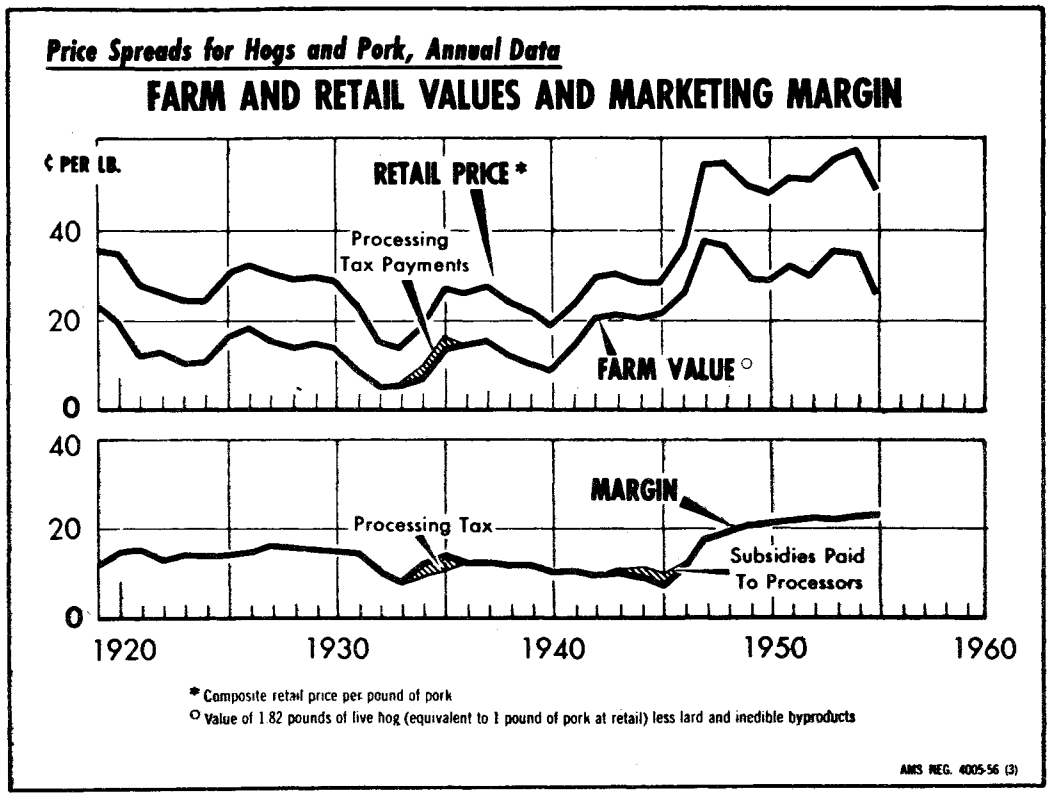


Figure 7

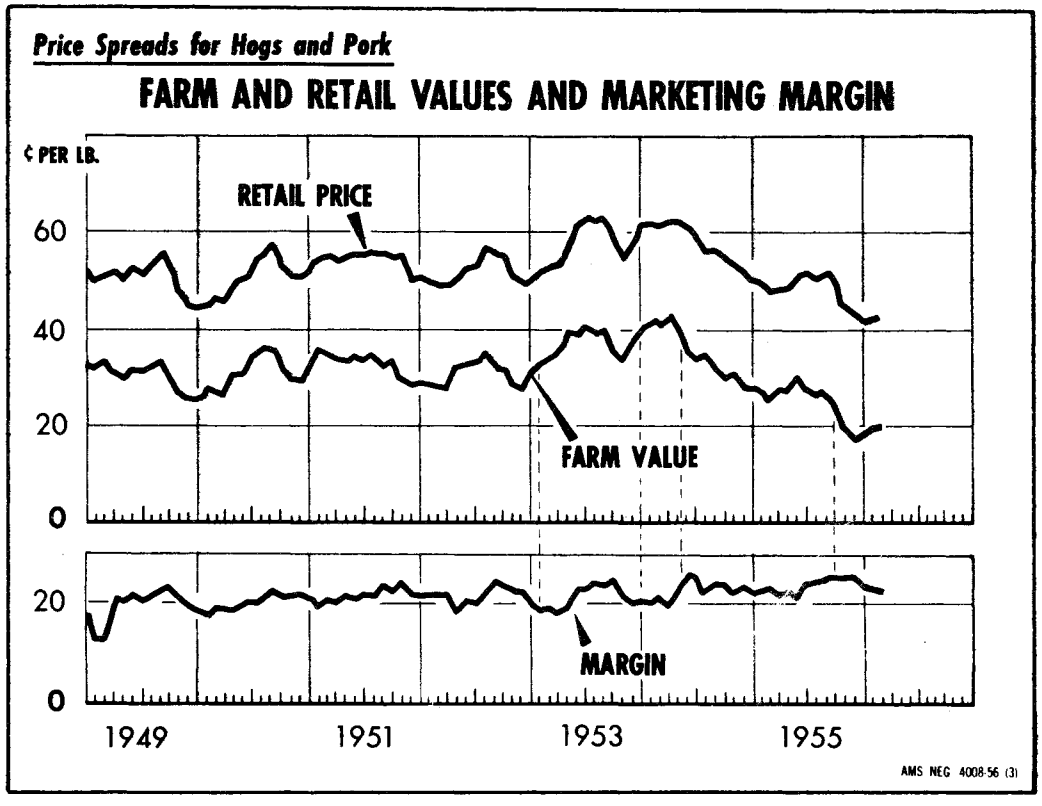


Figure 8

that are delivered to them. The live hog market then has a weaker undertone. Packer-wholesaler spreads become wider during the fall when farmers begin selling their spring pigs in sizable numbers and when there is said to be a buyer's market. Large hog marketings represent a high demand for marketing services. The supply of marketing services, however, is rather inflexible in the short run in terms of plant facilities and even in terms of the labor supply. With the high demand for marketing services and a restricted supply of plants, equipment and labor in the short run, the marketing margin--or the price for marketing services--tends to be rather high. The reverse is true when hog marketings are light. Then the demand for marketing services is low and packers often must take a lower margin--or price--for the processing and wholesaling services they provide.

Another factor influencing the seasonal pattern of the overall marketing margin is (3) the tendency for lags in price adjustments between farm and wholesale prices and between wholesale and retail prices. Some of the effects of the lags in the adjustment of retail prices behind changes in farm prices are shown in the chart. For example, in early 1953 farm prices rose much more rapidly than retail prices and margins appeared to be squeezed for a time. This also happened in late 1953 and early 1954. In mid 1954, however, margins widened sharply when retail prices lagged behind the sharply dropping prices of live hogs. In the latter half of 1955 the lag of retail prices behind the rapidly declining hog prices brought the overall marketing margins to a record high figure. From the second quarter to the fourth quarter during 1955, retail prices for pork dropped 3.7 cents a pound while the equivalent quantity of live hogs dropped about 8.0 cents in value. The marketing margin, therefore, increased by 4.3 cents a pound of retail pork.

Why do changes in retail prices usually follow behind changes in wholesale prices, and wholesale prices behind live animal prices? Within any year pork supplies fluctuate more than does the consumer demand for pork. For this reason the focal point in pricing pork and live hogs appears to be the packer buying level. This is because changes in pork supplies are first felt at the packer buying level rather than at the retail level. Hog prices usually respond rather rapidly to pronounced changes in hog marketings. The changes in wholesale and retail prices usually follow behind the changes in live hog prices but not always by a corresponding amount. The first impact of changes of pork supplies is on packers' inventories. With small changes in hog marketings, inventories may be adjusted without a corresponding change in wholesale prices. With substantial increases in hog marketings, however, packers must lower wholesale pork prices in order to move the increased volume of pork. They raise wholesale prices in order to ration the smaller supplies among their customers if marketings have decreased.

Retailers often ignore small wholesale price changes and wait until definite trends in wholesale prices become established before changing retail prices. Retailers are often rather reluctant to change prices because of possible adverse reaction of consumers to the rapidly changing prices. They generally believe that consumers prefer a relatively stable price situation rather than one in which prices are constantly changing by small amounts. In periods of rising pork prices, retailers appear to be especially fearful of an adverse consumer reaction to the full force of the increasing price level. This is one important reason why retail prices lag behind wholesale during upward price trends. When pork supplies increase and wholesale prices decline there is little immediate direct economic incentive for retailers to lower their retail pork prices to move the larger quantity of pork. Retailers buy only that quantity of pork they believe they can sell. If the period of lower wholesale prices follows a period in which retail margins were "squeezed," the retailers may look at the drop in wholesale prices as a favorable market development, permitting them to regain what they believe to be a proper margin. Immediate pricing decisions of retailers are not compelled, nor are they persuaded, by the increasing packers' inventories of wholesale pork which have to be moved. Lags in price adjustments and successive widenings and narrowings in marketing margins appear to be characteristic of our marketing system.

The tendency for retail prices to lag behind changes in wholesale and farm prices results in alternate squeezes and widenings of marketing margins over the short run. This tends to accentuate the instability of farm prices of hogs during the year. It widens the seasonal variations in hog prices and creates special problems for producers.

A moment ago we spoke of the fact that monthly average prices for barrows and gilts in Chicago dropped about $9 per 100 pounds between June and December of last year. It appears that about $2.50 of this $9 price decline from June to December was caused by the failure of wholesale and retail prices of pork to fall as fast as farm prices for hogs, or, in other words, by the widening of the farm-to-retail marketing margins. About $1 of this increase is the usually expected seasonal change. The margins, therefore, widened about $1.50 per 100 pounds live weight more from the second to the fourth quarter than would usually be expected on the basis of the past seasonal patterns for marketing margins.

Let's direct our attention to another factor which has certainly contributed to a decline in hog prices. This is the increasing production and consumption of competing meats which is shown in the next chart (fig. 9). Per capita consumption of beef increased from 55.3 pounds (carcass weight) in 1951 to an alltime high of 81.2 pounds in 1955. Beef and veal consumption combined increased from 61.9 pounds per capita in 1951 to 90.6 pounds in 1955. That's

almost a 50 percent increase in four years. As a matter of fact consumption of all red meats was at a 10-year low of 136 pounds per capita in 1951. But it is estimated at about 161 pounds for 1955, the high point since 1908, and forecast at 162-1/2 for 1956. The chart shows that, while pork consumption per capita appears to be about equal to the prewar average, beef consumption is about one-third higher.

Per capita consumption of poultry meat also has increased substantially in the last 15 years. During the 1930's poultry meat consumption averaged somewhat more than 15 pounds on the ready-to-cook basis. In 1940 poultry consumption stood near 17 pounds per capita. By 1950 it had risen to 24 pounds, and by 1955 to about 27 pounds per capita.

With most competing meats, especially beef, at already high levels of consumption during the past few years, it appears that the economy may have had less capacity than usual to accept the extra supply of pork which came on the market during the fall of 1955. With consumption of meat already high, demand may be less resilient. Added supplies probably cannot be absorbed without a greater than normal reduction in price.

Now let's take a look at some of the trends behind the demand side of this pork business. The next chart shows the relationship between the value of meat consumed and disposable income (fig. 10). One very important factor underlying recent trends in hog prices is that for the last three years consumer expenditures for meat have not kept pace with consumer income. Consumers spent very close to 6 percent of their income on meats during the 1920's and through most of the 1930's. During World War II, when incomes expanded rapidly but expenditures and prices were restrained, the percentage expenditures for meat dropped sharply. At the end of the war, with the removal of controls, expenditures for meat climbed sharply to about 6.6 percent of consumer income in 1947. This was the period in which the so-called "hard goods"--cars, household appliances, and even housing--were in critically short supply and more consumer income was diverted to the purchase of food. Thereafter, expenditures for meat appeared to resume the prewar relationship adding up to a little less than 6 percent of consumer income. In 1952 the figure was 5.7 percent. Since 1952, however, consumer expenditures for meat have not kept pace with increases in income. By 1955 the percentage of consumer income spent for meat had dropped to 5.1 percent.

For pork producers an even more critical situation stems from the indications that pork has been gradually losing ground in relation to beef in the consumer's favor. This shift shows up in the next chart (fig. 11). Expenditures for both beef and pork have fluctuated considerably over the past 40 years. The percentage of

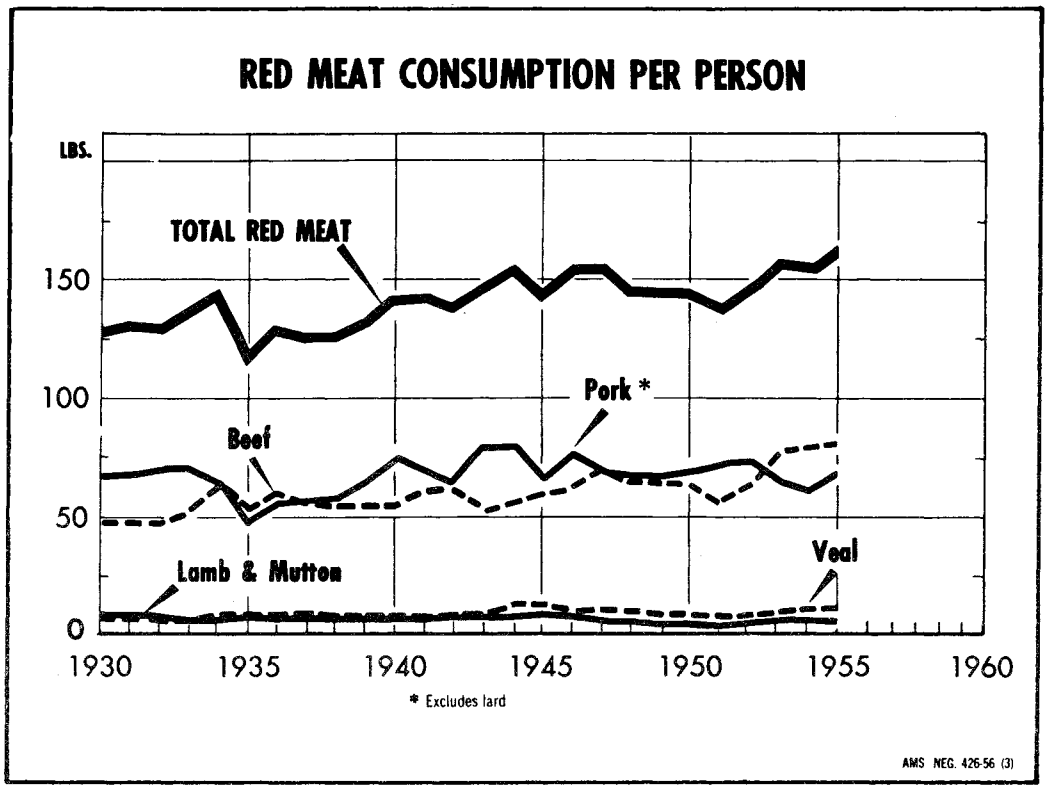


Figure 9

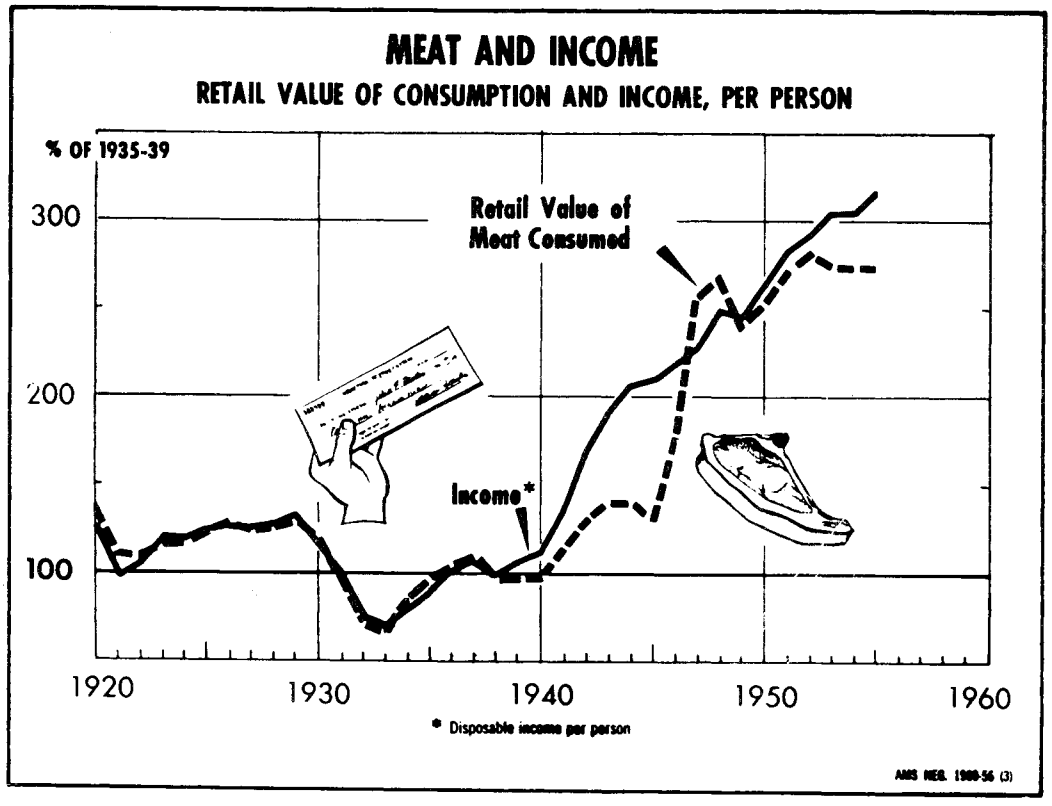


Figure 10

income spent for beef, however, has maintained a relatively stable trend, while the proportion spent for pork has trended downward. Consumers spent more of their budget for pork than beef up to 1933, with the exception of two years during World War I. Consumer expenditures for pork and for beef were about equal from 1933 to 1947. Since 1947, however, expenditures for pork have dropped sharply while the percentage of expenditures for beef have remained rather stable. During the 1920's consumers spent about 3 percent of income on pork and about 2-1/4 percent on beef. In 1955 consumers spent about 2-3/4 percent of income on beef and only 1.9 percent on pork.

This change in consumer purchase of pork also is reflected in the declining trend of pork prices at retail as compared to beef. The next chart shows that the path of the pork-beef price ratio (pork prices expressed as a percentage of choice beef prices) is somewhat irregular, but over the long sweep of the last forty years this ratio has been trending downward all the way (fig. 12).

Several factors may have a bearing on this shift in consumer purchases. Urban people on the average eat more beef and less pork than farm people, and the population has become more urbanized. Even rural people have developed more urbanized tastes with increased use of frozen food lockers and home freezers. Also beef has a greater income elasticity than pork. By that we mean that beef purchases tend to increase more with rising income than pork purchases, which are less affected by increases in income. Rising income since the war may account for part of the apparently worsened position of pork since 1947. Still another point we should not overlook, however, is the growing dislike that consumers have for pork that carries excess fat.

This has been a gradual change in consumer preferences over a long period of time. In our Meat-Type Hog Workshop today it will be well to take a more detailed look at some of the indicators which illustrate the increasing distaste that consumers have for fat in pork cuts and for pork fat generally. Here is a chart that shows the wholesale prices at Chicago for certain selected pork items for 50 years back (fig. 13). In the early years of the current century loins, bellies, lard, and plates and jowls were all selling relatively close to the same figure. In the later years loins, one of the four major lean cuts, have been in greater demand and their prices have generally trended upward. Prices for hams, butts, and picnics and the remaining lean cuts have followed trends for loin. Before 1920 prices for lard and for the fat cuts which are readily converted into lard were held up by relatively strong export demand, as well as a rather strong domestic demand. Actually in the early part of this period lard was higher priced than any other pork item; today it is the cheapest major pork product. It's worth only about one-third the price of most of the lean cuts. Bellies, which are sold primarily

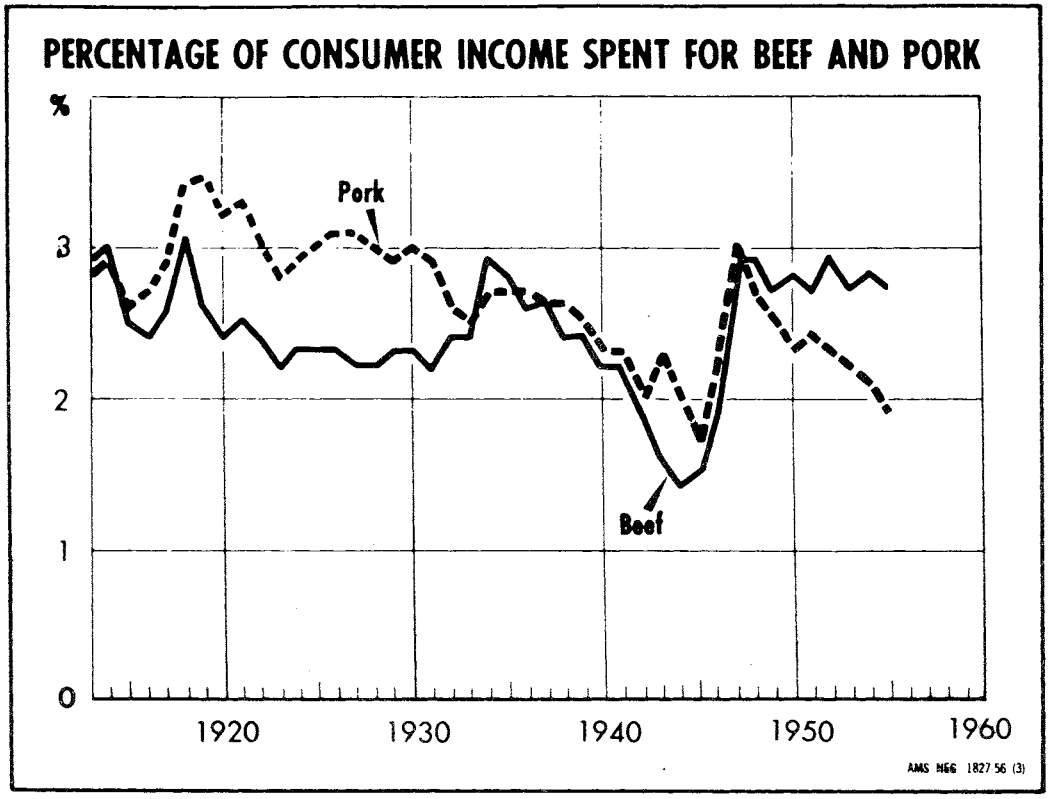


Figure 11

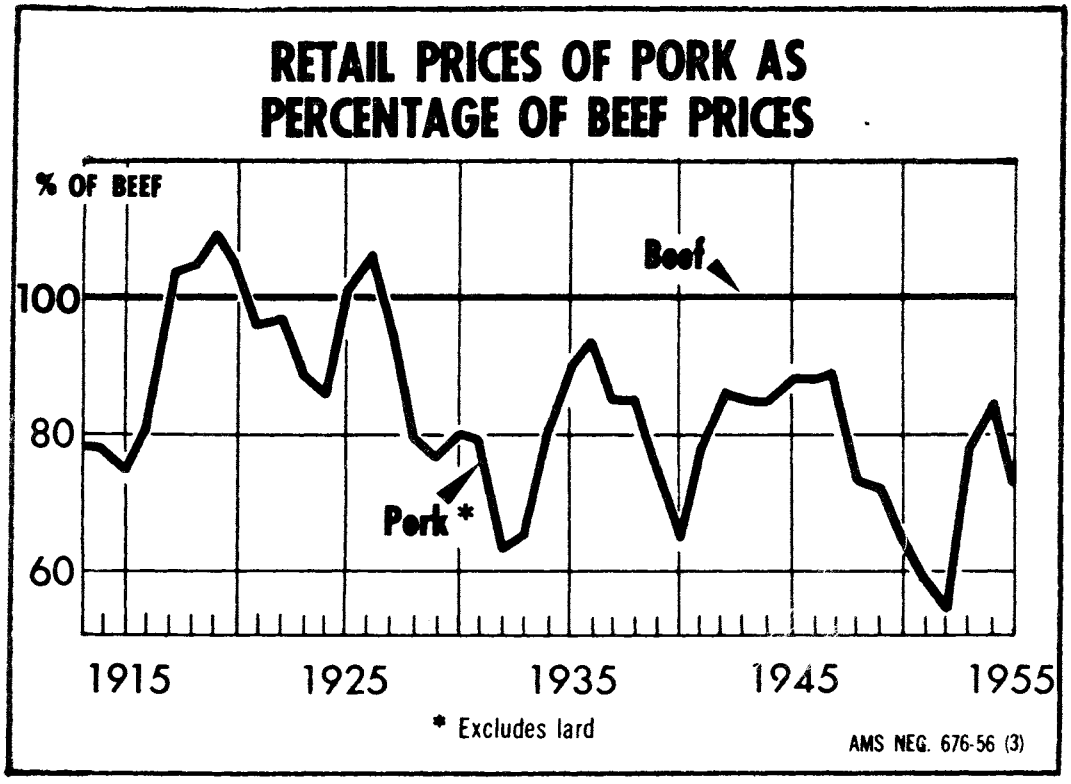


Figure 12

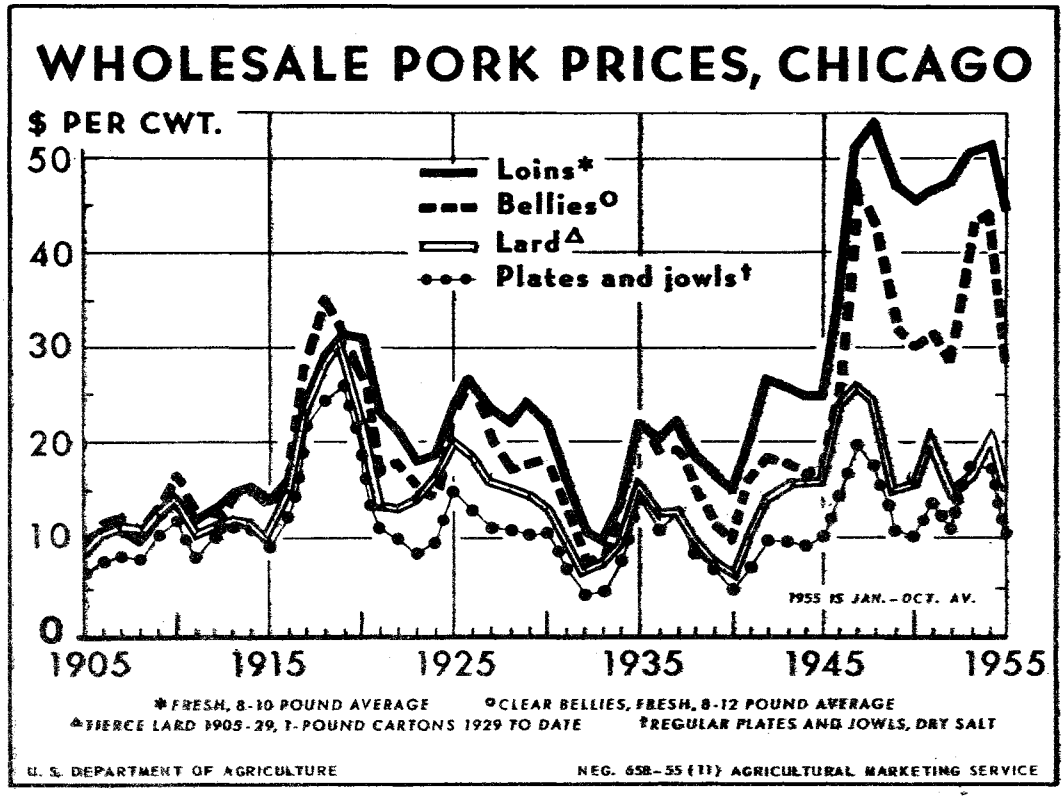


Figure 13

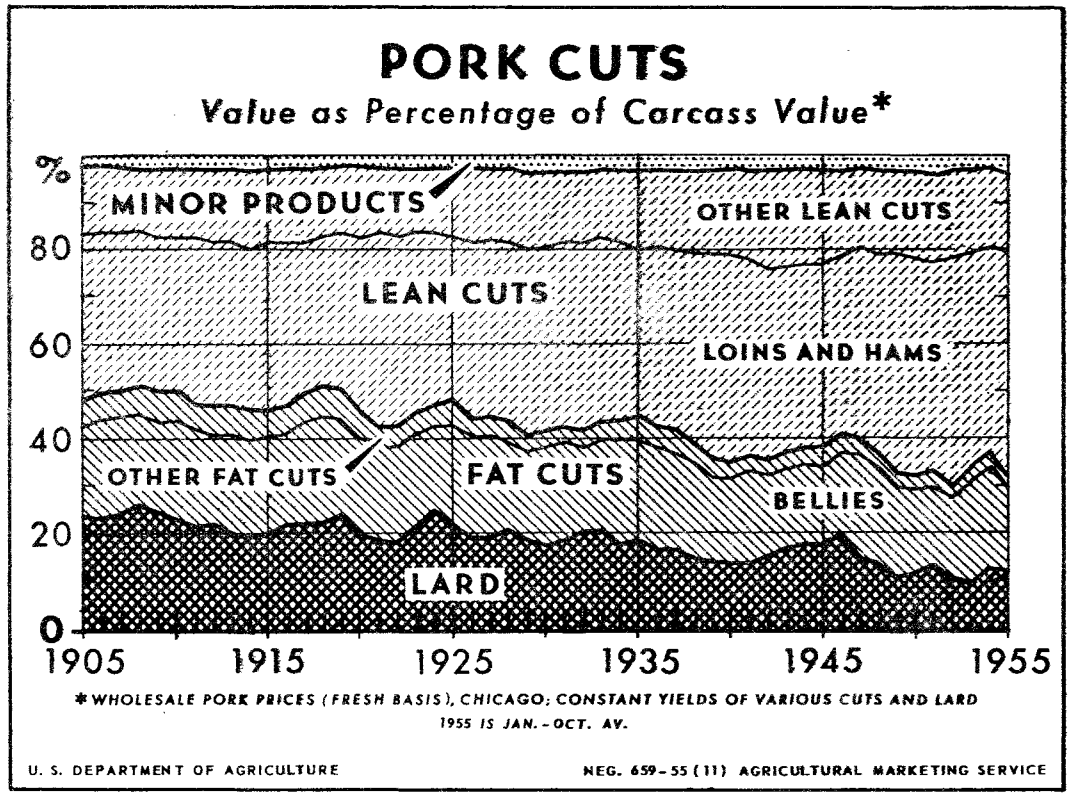


Figure 14

as bacon, are in an intermediate position. Bacon prices have not increased as much as prices of the lean cuts over the years, but much more than the price of lard.

The declining prices of lard relative to prices of lean cuts mean that more and more of the total value returned for each hog has had to come from the lean cuts. The next chart (fig. 14) shows that the lean cuts contributed about half of the total value of the hog in 1905, but about two-thirds of the value in 1955. On the other hand, lard contributed about 24 percent of the total value in 1905, but only about 12 percent in 1955. Constant yields for the different pork items were assumed for this comparison of prices and the values.

The diverging trends of prices of fat and lean cuts are shown more dramatically in another chart (fig. 15). Here we have the prices of lean cuts and the prices of the fat portion of the hog carcass, which is normally rendered into lard, pictured in their relation to live hog values. For this chart, fat was priced at 80 percent of the lard price. That's about the average yield of lard from fatbacks, plates, and fat trimmings that are rendered into lard. The fat portions of the carcass were worth more than lean cuts during the early part of the century. As a matter of fact, lard prices compared rather favorably with lean cuts up until about 1920. However, there has been a rather consistent widening of the gap between prices of lean cuts and fat from the beginning of the century up to the present time. Last year lean cuts were worth 84 percent more than live hogs. Fat, on the other hand, was worth about 37 percent less than live hogs pound for pound.

A moment ago we mentioned exports as being a factor in the strong position of lard before 1920. The next chart (fig. 16) gives the lard production and export picture since 1900. During the first 20 years of the century we exported about one-third of the lard we produced. After 1920, however, exports and production began to pull away from each other, although we still had a relatively strong export demand through most of the 1920's. In 1955 lard exports were about 21% of our total domestic production. Aside from the decline in foreign demand, the lard price situation has also been substantially weaker on the domestic side since the 1920's.

Lard is only one of the rather sizable complex of fats and oils which are to varying degrees competitive with each other. Expansion in the U. S. production of vegetable oils during the last several decades is dramatized by a chart on soybean production and exports in this country (fig. 17). This chart is especially interesting because soybean production is concentrated in the Corn Belt where most of the hogs also are produced. Soybean production has expanded about 25 times since 1930. A bushel of soybeans will yield about 10 pounds of soybean oil. In the last few years this country has been processing more soybean oil than lard. Soybean oil is a

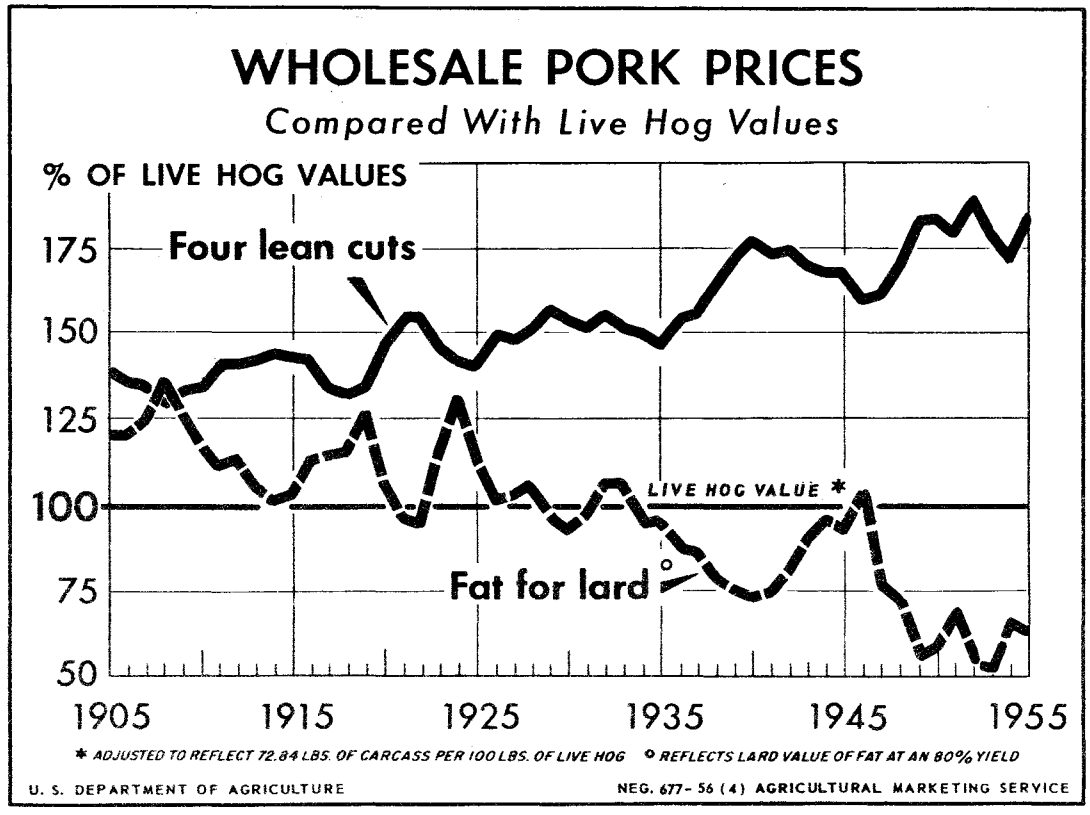


Figure 15

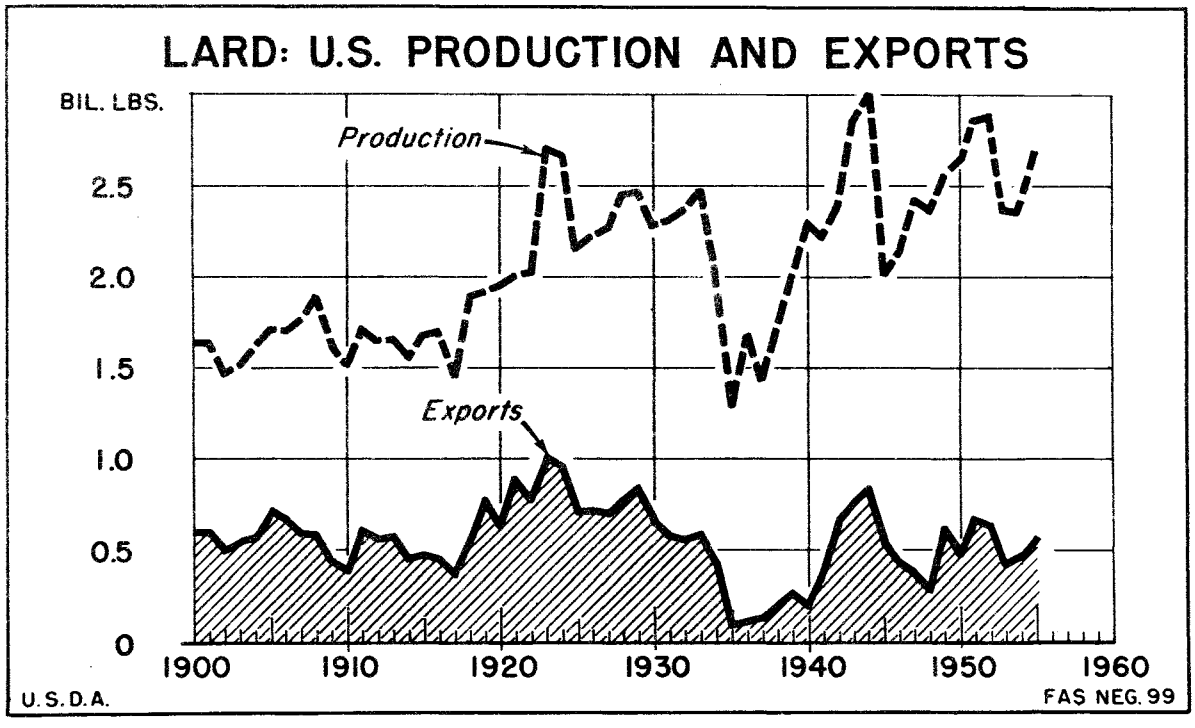


Figure 16

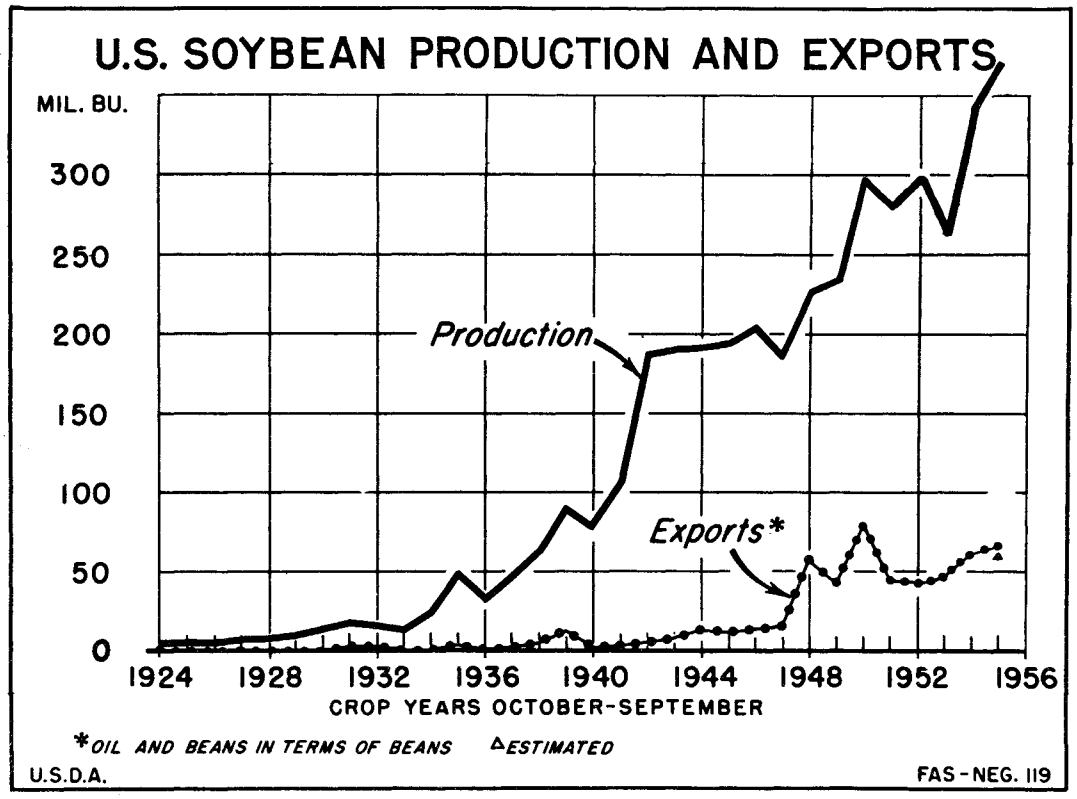


Figure 17

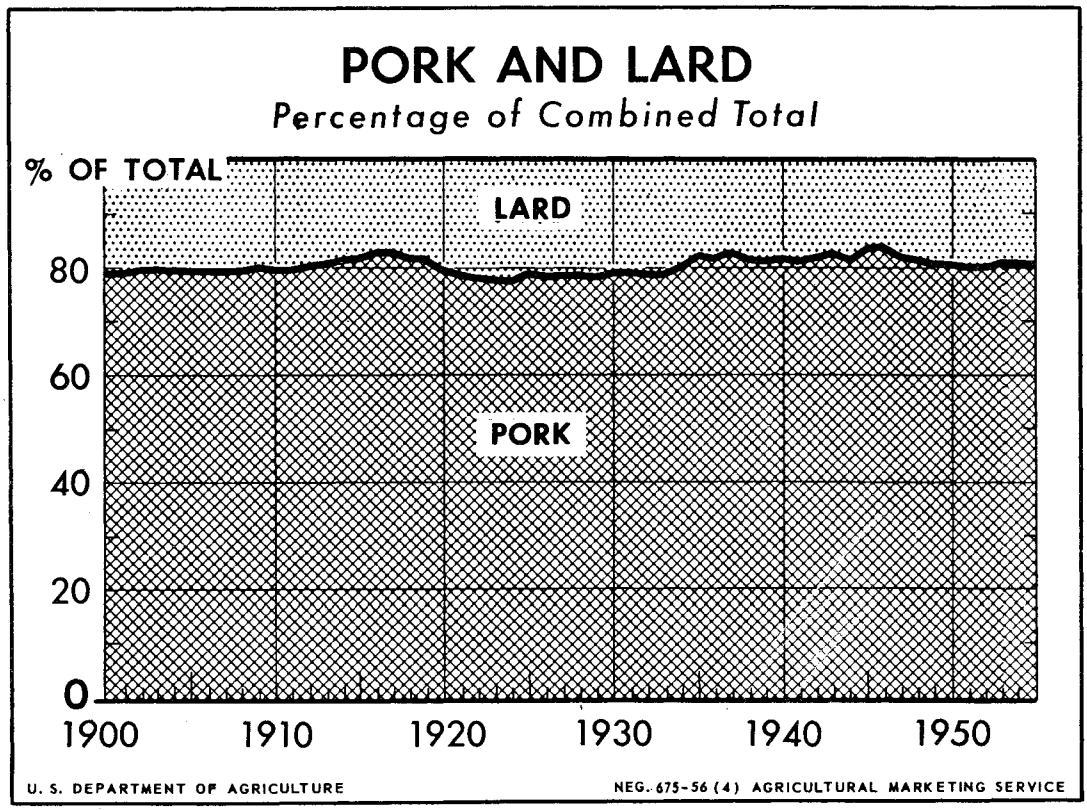


Figure 18

most important ingredient both of vegetable oil substitutes for lard and of margarine.

With the changing price relationships for lard and lean cuts which have taken place during the first half of the century, it is rather interesting to note what has taken place in the production response to these changing price trends. The next chart (fig. 18) shows that we are producing almost the same proportion of lard, about one pound of lard to four pounds of pork as we did at the beginning of the century. Now this does not mean that we haven't changed the type of our hogs during this period. Over the last 50 years we have had several swings back and forth from the chunky to the meatier kind. The average market weights have changed too. Weights of hogs slaughtered under Federal inspection, which averaged 225 pounds from 1921 to 1925, were up to 249 pounds from 1947 to 1951 and have averaged around 242 pounds in recent years. These heavier marketing weights probably offset to a certain extent, at least, the effects of the trend toward the newer meat-type strains and breeds which have been developed lately. The new closer trim on pork cuts adopted by packers last fall also would increase the yields of lard if it were carried on throughout the entire industry.

Lard is, of course, a byproduct. Moreover, it's a joint product. But we know it isn't produced in a fixed relationship to the yield of lean meat.

Our pricing system for pork and for hogs may be a little weak in carrying the necessary price incentives all the way back to the farmer to encourage a change in the type of hogs produced. In the first place consumers are not given an adequate opportunity to discriminate in terms of price against the fatter pork chops and pork roasts and other cuts they see in the display case. And second, there is still not enough grade sorting in marketing. Not enough hogs are sold by grades or by quality differentiation.

During the past few minutes we have looked at a lot of the trends that lie behind the present hog situation. But what of the future? On the production side hog slaughter is expected to be somewhat larger for the entire year this year than it was last year. During the earlier portion of the year it has been running higher than the corresponding months of last year because of the larger fall pig crop. If farmers actually reduce their spring pig crop, as they have said they intended to, slaughter during the latter part of the year may well be somewhat lower than for the corresponding months last year. If hog production follows previous patterns, pig crops may be somewhat smaller for the next year or two. If so, hog slaughter will be correspondingly reduced.

On the margins side we have noted an increasing tendency for widening margins during the period of heavier marketings. There are some developments that indicate that this may be a continuing feature of our marketing system. The margin for marketing hogs and pork might be expected to continue to behave as a price charged in response to the changing demands for marketing services. And the demands for marketing services are high seasonally when large numbers of hogs are rushed to market.

Now for the demand side. Even though the demand for meat may not rise correspondingly with consumer income, the demand for all meats is expected to rise substantially to the extent that it will support an expanding meat production. The demand for beef may increase more than that for pork, thus continuing the longtime trend. One of the important jobs of this Workshop is that of finding ways and means to slow down, and perhaps even arrest, the tendency for pork to become a second class meat in relation to beef. For insofar as the type of hogs produced and the methods of merchandising pork in future years can be transformed or changed to better fit consumer tastes, the relative loss in demand for pork may well be halted.

# PROGRAM
## Meat-Type Hog Workshop
## Fort Hayes Hotel, Columbus, Ohio
## May 7, 8, 9

### Monday—
A.M.

Presiding: R. L. Coppersmith

8:00

9:00 Registration—Fort Hayes Hotel, Columbus, Ohio

9:00 Welcome to Conference—Dean L. L. Rummell

9:20 Situation and Trends in the Hog Industry—
Gerald Engelman

10:15 Recess

10:30 Objectives and Procedures of Conference—C. C. Bowen

10:50 What Is A Meat-Type Hog?—Richard Hollenback

11:20 Announcements

11:30 Adjourn for Luncheon and Field Trips
Presiding and in charge of arrangements—
Herbert Barnes, C. C. Bowen, Wilbur Bruner

P.M.

12:30 Board Bus for Evaluation Station, Ohio State University

1:00 Swine Evaluation Station, 3485 Case Road—
Wilbur Bruner, Charles Calhoun

3:00 Live Hog Grading Demonstration at Columbus Producers Livestock Association, 1561 Leonard Avenue, Columbus, Ohio—Herbert Barnes, C. C. Bowen, Ralph Durham, LaVerne J. Kortan

4:30 Adjourn

6:00 Evening Session (Dinner Meeting)
Gold Room, Fort Hayes Hotel
Chairman: W. E. Krauss—Introduction of Guests
Music: Freshman Girls Home Economics Chorus, Directed by Naomi Albanese
Illustrated Lecture: "Ohio State University and India"
Dean L. L. Rummell
Displays of Educational Material
In charge of Dean H. Mayberry

9:00 Meeting of Chairmen and Secretaries

### Tuesday—
A.M.

Presiding: C. E. Bell

8:30 Extension Responsibilities and Opportunities With the Meat-Type Program—W. B. Wood

9:00 Work Group Sessions—Developing a Meat-Type Hog Educational Program

**I. With Farmers**
Chairman: Harry Russell
Presentation: Paul Mitchell
Secretary: To be selected
Technical Advisors: R. Q. Smith, Robert Grummer

### Tuesday—
A.M.

9:00

**II. With Livestock Markets**
Chairman: H. G. Zavoral
Presentation: Clifton B. Cox
Secretary: To be selected
Technical Advisors: LaVerne Johnson, A. Ridell, Forest G. Ketner, Ben Jenkins

**III. With Processors and Packers**
Chairman: Dan E. Brady
Presentation: Robert Coppersmith
Secretary: To be selected
Technical Advisors: H. M. Everhart, Howard Davison

**IV. With Retailers and Consumers**
Chairman: R. C. Kramer
Presentation: G. F. Henning
Secretary: To be selected
Technical Advisors: Karl Kahler, Walter E. Fitzgibbon

P.M.

3:45 General Sessions—Preliminary Work Group Reports

5:00 Adjourn

### Wednesday—
A.M.

Presiding: Wendell A. Moyer

8:30 Essentials and Potentials of Team Work in the Production and Marketing of Meat-Type Hogs—F. G. Ketner

9:00 Work Group Sessions

10:30 Final Work Group Reports

12:00 Lunch

P.M.

1:00 Cut-out Evaluation—L. E. Kunkle

1:30 Resolutions Committee Report—Marvin Anderson

1:40 Where Do We Go From Here?—Leroy Hoffman

2:00 Adjourn

## Who's Who

Albanese, Naomi, Assistant Professor, School of Home Economics, Ohio State University, Columbus, Ohio

Anderson, Marvin, Director, Agricultural Extension Service, Iowa State College, Ames, Iowa

Barnes, Herbert, Extension Specialist in Animal Science, Ohio State University, Columbus, Ohio

Bell, C. E., Chief, Animal Husbandry Branch, Federal Extension Service, USDA, Washington, D. C.

Bowen, C. C., Extension Specialist in Agricultural Economics, Marketing, Ohio State University, Columbus, Ohio

Brady, Dan E., Professor, Animal Husbandry, University of Missouri, Columbia, Missouri

Bruner, Wilbur, Extension Specialist in Animal Science and Agricultural Economics, Marketing, Ohio State University, Columbus, Ohio

Calhoun, Charles, Extension Specialist in Animal Science, Ohio State University, Columbus, Ohio