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# 1951 ANNUAL REPORT

# VETERANS

# FARM MANAGEMENT SERVICE

# NORTHERN MINNESOTA

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UNIVERSITY OF MINNESOTA

Department of Agriculture

and

Vocational Division

MINNESOTA DEPARTMENT OF EDUCATION

Cooperating

- - - - - - O - - - - - -

Report No. 201

Division of Agricultural Economics

University Farm

St. Paul 1, Minnesota

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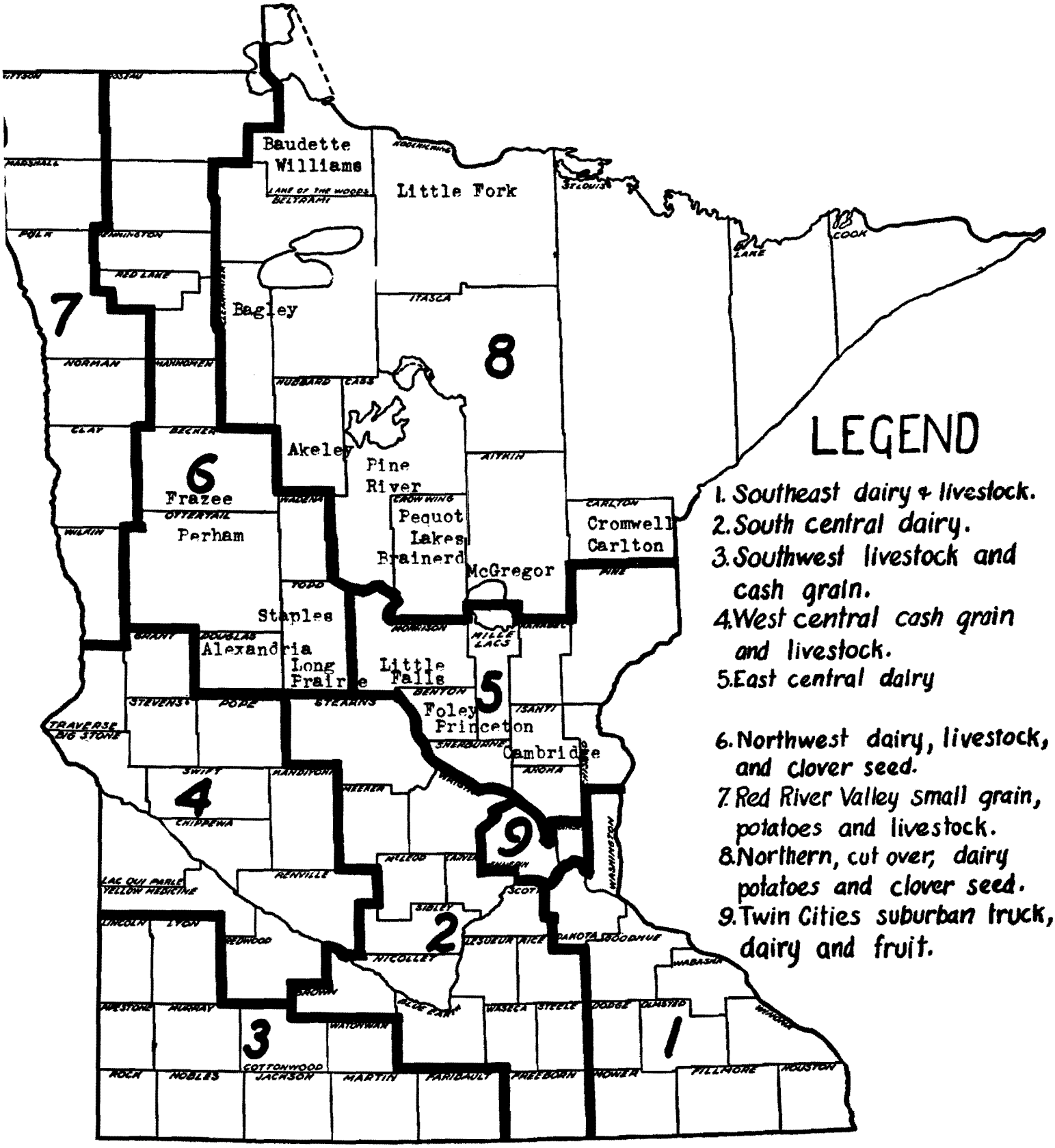


Fig. 1. Type-of-Farming Areas in Minnesota and Location of Schools Submitting Farm Records for this Report.

# REPORT OF THE FARM MANAGEMENT SERVICE FOR VETERANS TAKING ON-THE-FARM TRAINING IN NORTHERN MINNESOTA, 1951

T.R. Nodland, H.W. Swanson and G.A. Pond

## INDEX


| | Page |
|---|---|
| Introduction | 1 |
| Farm Inventories | 2 |
| Farm Earnings | 2 |
| Household and Personal Expenses and Receipts | 6 |
| Family Living From the Farm | 6 |
| Net Worth | 7 |
| Returns to Capital and Family Labor | 10 |
| Management Factors and Their Relation to Earnings | 10 |
| Cumulative Effect of Excelling in a Number of Management Factors | 12 |
| Explanation of "Work Units" | 13 |
| Measures of Farm Organization and Management Efficiency | 14 |
| Thermometer Chart | 15 |
| Distribution of Acres in Farm | 16 |
| Crop Yields Per Acre | 17 |
| Power and Machinery Expenses | 17 |
| Amount of Livestock | 18 |
| Total Feed Costs and Returns from Livestock Enterprises | 18 |
| Dairy and Dual Purpose Cattle | 19 |
| Chickens | 22 |
| Hogs | 23 |
| Sheep | 24 |
| Summary of Farm Inventories by Years 1947 - 1951 | 24 |
| Summary of Farm Earnings by Years 1947 - 1951 | 25 |
| Summary of Acres and Crop Yields per Farm by Years 1947 - 1951 | 26 |
| Summary of Miscellaneous Items by Years 1947 - 1951 | 27 |


## INTRODUCTION

In the fall of 1946, the Vocational Divison of the Minnesota Department of Education asked the University of Minnesota to set up a farm management service for veterans taking on-the-farm training in the public schools throughout the state. The service was initiated on January 1, 1947. The cooperating agencies are the Division of Agricultural Economics, University of Minnesota, and the Vocational Division, Minnesota Department of Education representing the public schools.

The purpose of the project as far as the schools are concerned is (1) to give assistance to the instructors in the mechanics of keeping farm records and (2) to aid in the analysis of the farm business through the use of records as a basis for vocational guidance. Schools with an on-the-farm training program can enroll their students in the farm management service. The enrollment is on a voluntary basis insofar as the number of schools participating and the numbers of veterans enrolled in the service are concerned.

The analysis of the records and the preparation of the reports are handled by the Division of Agricultural Economics under the direction of G.A. Pond and T.R. Nodland. The State Department of Education was represented by G.R. Cochran. At the end of the year, B.F. Stanton, R.M. Dennistoun and H.G. Routhe of the Division of Agricultural Economics aided in closing the records.

This report deals with the veterans enrolled by twenty schools located in northern Minnesota (Type-of-Farming Areas 5, 6 and 8)[1]. The map on the inside front cover shows the location of the schools. The following tabulation shows by schools the number of farm records submitted in 1951:

| Type-of-Farming Area 5 | | Type-of-Farming Area 6 | | Type-of-Farming Area 8 | | | |
|---|---|---|---|---|---|---|---|
| Cambridge | 6 | Alexandria | 9 | Akeley | 4 | Cromwell | 3 |
| Foley | 5 | Frazee | 3 | Bagley | 6 | Little Fork | 2 |
| Little Falls | 11 | Long Prairie | 5 | Baudette | 3 | McGregor | 1 |
| Princeton | 4 | Perham | 6 | Brainerd | 4 | Pequot Lakes | 3 |
| | | Staples | 10 | Carlton | 3 | Pine River | 6 |
| | | | | | | Williams | 4 |
| Total | 26 | Total | 33 | | | Total | 39 |

The subsequent pages in this report show the data for 95 farms. Three farms were omitted from all the averages in the tables because the records did not include a full year or they were otherwise too incomplete for a full analysis.

The records kept by the enrollees included farm inventories at the beginning and at the end of the year, cash farm receipts and expenses, feed consumed by the various classes of livestock, family living received from the farm, liabilities and assets other than the farm capital and household and personal cash expenses and receipts.

Only records from actual farm operators are included in this report. All types of tenure arrangements from full owners to partnerships in which the operator furnishes little or no capital are represented.

## FARM INVENTORIES

The capital investment per farm varied from $3136 to $45872. The average investment for all farms included in this report and for the one-fifth high and the one-fifth low in operator's labor earnings is shown in Table 1.

Landlords or partners supplied some capital in 47 out of the 95 cases included in this report. The landlord's investment has been included in Table 1 in order to show the total amount used per farm.

## FARM EARNINGS

Operator's labor earnings is a measure of relative financial success of a farmer as compared with other farmers and represents the returns above all farm expenses and a charge for the use of farm capital. For purposes of comparison, the earnings are presented on a full-owner basis.

There are two methods of computing operator's labor earnings. Table 2 shows the earnings statement on a cash basis and Table 3 shows the earnings on an enterprise or accrual basis. The principal difference in the two statements is in the method of handling the net increase or decrease in the value of farm capital. In the cash statement the net increase or decrease in farm capital is entered as one item. In the enterprise statement the net change in the inventory has been included in each enterprise in order to compute "total returns and net increases," or "total expenses and net decreases" by enterprises.

[1] For a description of the area, see "Agricultural Production and Types of Farming in Minnesota". Minn. Agri. Expt. Sta. Bul. 347, May 1940.

Table 1. Summary of Farm Inventories, 1951*

| Items | Your farm Jan. 1 | Your farm Dec. 31 | Average of 95 farms Jan. 1 | Average of 95 farms Dec. 31 |
|---|---|---|---|---|
| Size of farm (acres) | | | 178 | |
| Size of business (work units)** | | | 258 | |
| Dairy and dual purpose cows | | | $ 1383 | $ 1642 |
| Other dairy & dual purpose cattle | | | 596 | 837 |
| Beef cattle | | | 74 | 137 |
| Hogs | | | 200 | 264 |
| Sheep | | | 32 | 45 |
| Poultry | | | 80 | 72 |
| Productive livestock (total) | | | 2365 | 2997 |
| Horses | | | 52 | 41 |
| Crop, seed, and feed | | | 853 | 1061 |
| Power mach. (farm share) | | | 1382 | 1558 |
| Crop & general mach. (farm share) | | | 889 | 1164 |
| Livestock equipment & supplies | | | 204 | 247 |
| Mach. & equipment (total) | | | 2475 | 2969 |
| Misc. | | | 2 | 2 |
| Buildings, fences, etc. | | | 3844 | 3864 |
| Land | | | 3726 | 3726 |
| Total farm capital | | | 13317 | 14660 |

| Items | 19 most profitable farms Jan. 1 | 19 most profitable farms Dec. 31 | 19 least profitable farms Jan. 1 | 19 least profitable farms Dec. 31 |
|---|---|---|---|---|
| Size of farm (acres | 186 | | 149 | |
| Size of business (work units)** | 316 | | 206 | |
| Dairy & dual purpose cows | $ 1727 | $ 2135 | $ 1245 | $ 1600 |
| Other dairy & dual purpose cattle | 730 | 1302 | 594 | 674 |
| Beef cattle | 18 | 86 | - | 10 |
| Hogs | 220 | 345 | 127 | 134 |
| Sheep | 4 | 9 | 35 | 56 |
| Poultry | 119 | 109 | 46 | 41 |
| Productive livestock (total) | 2818 | 3986 | 2047 | 2515 |
| Horses | 64 | 68 | 53 | 38 |
| Crop, seed, and feed | 1151 | 1331 | 571 | 688 |
| Power mach. (farm share) | 1789 | 1885 | 1258 | 1530 |
| Crop & general mach. | 1123 | 1460 | 759 | 869 |
| Livestock equipment & supplies | 271 | 291 | 156 | 177 |
| Mach. & equipment (total) | 3183 | 3636 | 2173 | 2576 |
| Misc. | - | - | - | - |
| Buildings, fences, etc. | 5057 | 4916 | 3480 | 3503 |
| Land | 5677 | 5677 | 2346 | 2346 |
| Total farm capital | 17950 | 19614 | 10670 | 11666 |

* For the purpose of comparison, all the data shown in this report with the exception of Tables 6 and 7 are presented on a full-owner basis. The assets, expenses and receipts of the landlord were included in the records from rented farms.

**See page 13 for an explanation of "work units".

Table 2. Summary of Farm Earnings (Cash Statement), 1951

| Items | Your farm | Average of 95 farms | 19 most profitable farms | 19 least profitable farms |
|---|---|---|---|---|
| **FARM RECEIPTS** | | | | |
| Dairy and dual-purpose cows | _____ | $ 352 | $ 466 | $ 202 |
| Dairy products | _____ | 1745 | 2269 | 1546 |
| Other dairy & dual-purpose cattle | _____ | 394 | 494 | 394 |
| Beef cattle | _____ | 56 | 16 | - |
| Hogs | _____ | 647 | 1044 | 285 |
| Sheep and wool | _____ | 37 | 3 | 50 |
| Poultry (including turkeys) | _____ | 125 | 83 | 31 |
| Eggs | _____ | 343 | 476 | 149 |
| Horses | _____ | 12 | 5 | 10 |
| Corn | _____ | 63 | 174 | - |
| Small grain | _____ | 252 | 601 | 23 |
| Other crops | _____ | 200 | 383 | 90 |
| Machinery & equip. sold | _____ | 167 | 191 | 147 |
| Agricultural adjustment payments | _____ | 29 | 26 | 21 |
| Income from work off the farm | _____ | 159 | 168 | 68 |
| Miscellaneous | _____ | 14 | 5 | 37 |
| (1) Total farm sales | _____ | 4595 | 6404 | 3053 |
| (2) Increase in farm capital | _____ | 1343 | 1664 | 996 |
| (3) Family living from the farm | _____ | 468 | 492 | 380 |
| (4) Total farm receipts (1)+(2)+(3) | _____ | 6406 | 8560 | 4429 |
| **FARM EXPENSES** | | | | |
| Dairy and dual-purpose cows bought | $_____ | $ 242 | $ 224 | $ 327 |
| Other dairy and dual-pur. cattle bot. | _____ | 98 | 179 | 62 |
| Beef cattle bought | _____ | 22 | 1 | - |
| Hogs bought | _____ | 52 | 106 | 26 |
| Sheep bought | _____ | 3 | 2 | 7 |
| Poultry bought (including turkeys) | _____ | 41 | 58 | 21 |
| Horses bought | _____ | 8 | 14 | - |
| Misc. livestock expense | _____ | 47 | 63 | 34 |
| Misc. crop expenses | _____ | 219 | 278 | 174 |
| Feed bought | _____ | 678 | 792 | 487 |
| Custom work hired | _____ | 236 | 321 | 162 |
| Mech. power mach.(farm share)(new) | _____ | 535 | 440 | 642 |
| Mech. power mach.(farm share)(upkp.) | _____ | 107 | 114 | 123 |
| Mech. power (f. share)(gas,oil,etc.) | _____ | 390 | 459 | 353 |
| Crop and general mach. (new) | _____ | 447 | 597 | 233 |
| Crop and general mach. (upkeep) | _____ | 65 | 95 | 54 |
| Livestock equipment (new) | _____ | 77 | 55 | 50 |
| Livestock equipment (upkeep) | _____ | 17 | 22 | 16 |
| Buildings and fencing (new) | _____ | 221 | 69 | 175 |
| Buildings and fencing (upkeep) | _____ | 66 | 73 | 94 |
| Hired labor | _____ | 53 | 80 | 37 |
| Taxes | _____ | 176 | 255 | 110 |
| General farm and insurance | _____ | 48 | 47 | 41 |
| (5) Total farm purchases | _____ | 3848 | 4344 | 3228 |
| (6) Decrease in farm capital | _____ | - | - | - |
| (7) Interest on farm capital | _____ | 699 | 939 | 558 |
| (8) Unpaid family labor | _____ | 351 | 365 | 473 |
| (9) Board furnished hired labor | _____ | 12 | 31 | 6 |
| (10) Total farm exp. (sum of (5) to (9) | _____ | 4910 | 5679 | 4265 |
| (11) Oper. labor earnings (4) - (10) | _____ | 1496 | 2881 | 164 |

Table 3. Summary of Farm Earnings (Enterprise Statement) 1951*

| Items | Your farm | Average of 95 farms | 19 most profitable farms | 19 least profitable farms |
|---|---|---|---|---|
| RETURNS AND NET INCREASES | | | | |
| Dairy and dual purpose cows | _____ | $ 2077 | $ 2714 | $ 1736 |
| Other dairy & dual pur. cattle | _____ | 896 | 1463 | 725 |
| Beef cattle | _____ | 90 | 42 | - |
| Hogs | _____ | 719 | 1148 | 327 |
| Sheep | _____ | 47 | 7 | 64 |
| Poultry | _____ | 464 | 535 | 178 |
| All productive livestock | _____ | 4293 | 5909 | 3030 |
| Crops, seed, and feed | _____ | -259 | 122 | -512 |
| Agricultural conservation payments | _____ | 29 | 26 | 21 |
| Income from labor off the farm | _____ | 104 | 84 | 42 |
| Miscellaneous | _____ | 117 | 140 | 127 |
| (1) Total returns & net increases | _____ | 4284 | 6281 | 2708 |
| EXPENSES AND NET DECREASES | | | | |
| Horses | _____ | $ 32 | $ 31 | $ 32 |
| Tractor | _____ | 330 | 386 | 307 |
| Truck | _____ | 89 | 129 | 137 |
| Auto (farm share) | _____ | 220 | 195 | 195 |
| Gas engine and elect. exp. (f. share) | _____ | 54 | 59 | 60 |
| Hired power | _____ | 101 | 145 | 69 |
| Total power | _____ | 826 | 945 | 800 |
| Crop and general machinery | _____ | 241 | 304 | 198 |
| Livestock equipment | _____ | 48 | 54 | 40 |
| Buildings, fencing, and tiling | _____ | 213 | 213 | 197 |
| Misc. productive livestock exp. | _____ | 47 | 63 | 34 |
| Labor | _____ | 490 | 580 | 566 |
| Real estate taxes | _____ | 135 | 206 | 78 |
| Personal property tax | _____ | 41 | 49 | 32 |
| Insurance | _____ | 26 | 18 | 25 |
| General farm | _____ | 22 | 29 | 16 |
| Interest on farm capital | _____ | 699 | 939 | 558 |
| (2) Total exp. & net decreases | _____ | 2788 | 3400 | 2544 |
| (3) Oper. labor earnings (1) - (2) | _____ | 1496 | 2881 | 164 |

*Cash receipts and expenses are adjusted for changes in inventory for each enterprise and for each item of expense in order to show total receipts and net increases, and total expenses and net decreases. The operator's labor earnings are the same as those on page 4.

## FAMILY LIVING FROM THE FARM

The family living from the farm is the estimated value of the farm produce used in the house and shelter furnished the farmer and his family by the farm. It is a part of the income of the farm and a part of the expenses of operating the household even though cash transactions are not involved. The omission of the farm produce used in the home results in an incomplete record of both farm income and personal expense.

The value of the family living as shown in Table 4 amounts to 7 per cent of the total farm receipts on these farms. The values assigned are a conservative market price on the farm. If these products had been purchased, the amount paid out would have been considerably higher.

The rental value of the dwelling is calculated by taking 10 per cent of the average inventory value of the dwelling.

Table 4. Family Living From the Farm, 1951

| Items | Your farm | Average of 95 farms | Your farm | Average of 95 farms |
|---|---|---|---|---|
| Adult equiv. - family | ____ | 2.5 | | |
| - others | ____ | .2 | | |
| Whole milk | ____ | 695 qts. | ____ | $ 63.54 |
| Skim milk | ____ | 70 qts. | ____ | 1.76 |
| Cream | ____ | 91 pts. | ____ | 23.20 |
| Farm made butter | ____ | 3 lbs. | ____ | 1.90 |
| Beef | ____ | 200 lbs. | ____ | 41.95 |
| Hogs | ____ | 260 lbs. | ____ | 55.24 |
| Poultry | ____ | 78 lbs. | ____ | 18.98 |
| Eggs | ____ | 70 doz. | ____ | 27.26 |
| Potatoes | ____ | 9 bu. | ____ | 11.83 |
| Vegetables & fruits | ____ | | ____ | 26.51 |
| Farm fuel | ____ | 8 cds. | ____ | 39.17 |
| Rental value of house | | | ____ | 156.21 |
| Total | | | ____ | 467.55 |

## HOUSEHOLD AND PERSONAL EXPENSES AND RECEIPTS

Household and personal accounts are important if the family is to manage its financial affairs wisely. The household and personal expenses and receipts are presented in Table 5. These farmers spent an average of $123 per month for family living in addition to the food, fuel and housing furnished by the farm.

Table 5. Household and Personal Expenses and Receipts for Those Farmers Who Kept Complete Accounts of These Items, 1951

| Items | Your farm | Average of 77 farms | 15 most profitable farms | 15 least profitable farms |
|---|---|---|---|---|
| Number of persons in family | _____ | 3.4 | 3.6 | 2.6 |
| Number of adult equivalents in family | _____ | 2.5 | 2.5 | 2.1 |
| Number of other adult equivalents* | _____ | .2 | .2 | .5 |
| **EXPENSES** | | | | |
| Food and meals bought | $_____ | $ 516 | $ 529 | $ 416 |
| Operating and supplies | _____ | 142 | 211 | 86 |
| Clothing and clothing materials | _____ | 147 | 181 | 71 |
| Personal care, personal spending | _____ | 76 | 84 | 41 |
| Furnishings and equipment | _____ | 138 | 130 | 145 |
| Education, recreation and development | _____ | 56 | 54 | 25 |
| Medical care and health insurance | _____ | 135 | 155 | 126 |
| Church, welfare, gifts | _____ | 71 | 103 | 48 |
| Personal share of auto expense | _____ | 75 | 66 | 71 |
| Household share of elec. & gas eng. exp. | _____ | 34 | 40 | 31 |
| H.H. & per. shr. of new auto & motors bot. | _____ | 88 | 98 | 116 |
| Total cash living expense | _____ | 1478 | 1651 | 1176 |
| State and federal income tax | _____ | 4 | 1 | 1 |
| Insurance | _____ | 42 | 66 | 52 |
| Total household and pers. cash exp. | _____ | 1524 | 1718 | 1229 |
| Food furnished by the farm | _____ | 283 | 263 | 202 |
| Fuel furnished by the farm | _____ | 41 | 23 | 22 |
| House rental | _____ | 154 | 191 | 119 |
| Total cash expenses and perquisites | _____ | 2002 | 2195 | 1572 |
| Purchase of stocks, bonds, and other invest. | _____ | 7 | 23 | - |
| **RECEIPTS** | | | | |
| Sale of investments | _____ | 16 | - | 83 |
| Income from outside investments | _____ | 18 | 34 | 9 |
| Veterans compensation | _____ | 1112 | 1149 | 992 |
| Misc. income | _____ | 52 | 57 | 29 |

*Hired help or others boarded

## NET WORTH

A net worth statement includes a listing of all the assets and liabilities as of a given date. The difference between the farmer's total assets and his liabilities is his net worth. A net worth statement for owners, part-owners and renters is presented in Table 6. Both the farm and personal assets and liabilities are included.

The difference between the operator's net worth at the beginning and at the end of the year shows the gain in net worth. It represents the financial progress that has been made during the year.

Table 6. Net Worth Statement for Those Farmers Who Kept a Complete Record of All Assets and Liabilities, 1951 (Operator's Share)

| | Your farm | | 49 owners | |
|---|---|---|---|---|
| | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| Total acres in farm | ——— | | 152 | |
| Owned | ——— | | 152 | |
| Rented | ——— | | - | |
| Total farm capital | ——— | ——— | $11310 | $12429 |
| Accounts Receivable | ——— | ——— | 59 | 29 |
| Stocks and bonds | ——— | ——— | 39 | 46 |
| Life insurance | ——— | ——— | 118 | 112 |
| Outside real estate | ——— | ——— | 6 | 25 |
| Other outside investments | ——— | ——— | 13 | 20 |
| Total outside investments | ——— | ——— | 176 | 203 |
| Cash on hand and in bank | ——— | ——— | 129 | 166 |
| Other household & personal assets | ——— | ——— | 1238 | 1368 |
| Total cash, household & personal assets | ——— | ——— | 1367 | 1534 |
| TOTAL ASSETS | ——— | ——— | 12912 | 14195 |
| Federal Land Bank Mortgage | ——— | ——— | 50 | 50 |
| Other mortgages on land operated | ——— | ——— | 2599 | 2515 |
| Crop loans | ——— | ——— | 23 | 20 |
| Other Chattel Mortgages | ——— | ——— | 609 | 600 |
| Notes payable | ——— | ——— | 632 | 700 |
| Accounts payable | ——— | ——— | 181 | 114 |
| TOTAL LIABILITIES | ——— | ——— | 4094 | 3999 |
| Farmer's net worth | ——— | ——— | 8818 | 10196 |
| Gain in net worth | | ——— | | +1378 |

| | 21 part owners | | 19 renters* | |
|---|---|---|---|---|
| | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| Total acres in farm | 215 | | 217 | |
| Owned | 129 | | - | |
| Partner's share or rented | 86 | | 217 | |
| Total farm capital | $10008 | $11380 | $6232 | $7397 |
| Accounts receivable | 13 | - | - | 13 |
| Stocks and bonds | 6 | 2 | 203 | 125 |
| Life insurance | 34 | 57 | 48 | 55 |
| Other outside investments | 1 | 1 | 17 | 18 |
| Total outside investments | 41 | 60 | 268 | 198 |
| Cash on hand and in bank | 102 | 120 | 118 | 174 |
| Other household and personal assets | 943 | 1087 | 937 | 1108 |
| Total cash, household & personal assets | 1045 | 1207 | 1055 | 1282 |
| TOTAL ASSETS | 11107 | 12647 | 7555 | 8890 |
| Federal Land Bank Mortgage | - | 105 | - | - |
| Other mortgages on land operated | 2216 | 2279 | - | - |
| Crop loans | - | 67 | - | - |
| Other Chattel mortgages | 833 | 741 | 1087 | 867 |
| Notes payable | 475 | 411 | 642 | 560 |
| Accounts payable | 286 | 327 | 147 | 135 |
| TOTAL LIABILITIES | 3810 | 3930 | 1876 | 1562 |
| Farmer's net worth | 7297 | 8717 | 5679 | 7328 |
| Gain in net worth | | +1420 | | +1649 |

* Six rented for cash, five cash and crop share and five livestock and crop share and three crop share.

Table 7. Summary of Farm Earnings by Tenure, 1951 (Operator's Share)

| | Your farm | 49 owners | 21 part-owners | 19 renters |
|---|---|---|---|---|
| **FARM RECEIPTS** | | | | |
| Dairy and dual purpose cows | | $ 285 | $ 232 | $ 406 |
| Dairy products | | 1556 | 1442 | 1751 |
| Other dairy and dual purpose cattle | | 417 | 289 | 368 |
| Beef cattle | | 6 | 14 | 54 |
| Hogs | | 575 | 429 | 956 |
| Sheep and wool | | 37 | 35 | 42 |
| Poultry (including turkeys) | | 55 | 329 | 73 |
| Eggs | | 327 | 244 | 330 |
| Horses | | 12 | 15 | 5 |
| Corn | | 38 | 49 | 12 |
| Small grain | | 181 | 305 | 129 |
| Other crops | | 149 | 166 | 65 |
| Machinery & equipment sold | | 176 | 125 | 170 |
| Agricultural adjustment payments | | 32 | 27 | 17 |
| Income from work off the farm | | 157 | 236 | 103 |
| Misc. | | 11 | 26 | 13 |
| (1) Total farm sales | | 4014 | 3963 | 4494 |
| (2) Increase in farm capital | | 1119 | 1372 | 1165 |
| (3) Family living from the farm | | 478 | 410 | 461 |
| (4) Total farm rec. (1)+(2)+(3) | | 5611 | 5745 | 6120 |
| **FARM EXPENSES** | | | | |
| Dairy and dual purpose cows bot | | $ 246 | $ 278 | $ 230 |
| Other dairy & dual pur. cattle bot | | 68 | 107 | 152 |
| Beef cattle bot. (including feeders) | | - | 12 | 3 |
| Hogs bot | | 34 | 72 | 80 |
| Sheep bot (including feeders) | | 2 | 2 | 7 |
| Poultry bot (including turkeys) | | 35 | 62 | 22 |
| Horses bot | | 9 | 12 | 6 |
| Misc. livestock expenses | | 50 | 37 | 44 |
| Misc. crop expenses | | 206 | 236 | 186 |
| Feed bot | | 648 | 621 | 660 |
| Custom work hired | | 197 | 216 | 261 |
| Mech. power mach. (farm share)(new) | | 509 | 470 | 580 |
| Mech. power mach. (farm share)(upkp.) | | 134 | 102 | 137 |
| Mech. power (farm share)(gas, oil, etc.) | | 336 | 408 | 394 |
| Crop and general mach. (new) | | 326 | 443 | 329 |
| Crop and general mach. (upkeep) | | 54 | 64 | 79 |
| Livestock equipment (new) | | 102 | 63 | 66 |
| Livestock equipment (upkeep) | | 16 | 5 | 22 |
| Land, buildings & fencing (new) | | 231 | 79 | 24 |
| Buildings and fencing (upkp.) | | 75 | 52 | 44 |
| Hired labor | | 53 | 38 | 70 |
| Taxes (real estate & pers. property) | | 129 | 124 | 54 |
| General farm and insurance | | 58 | 33 | 40 |
| Cash rent | | - | 25 | 280 |
| Interest paid | | 122 | 127 | 58 |
| (5) Total farm purchases | | 3640 | 3688 | 3828 |
| (6) Decrease in farm capital | | - | - | - |
| (7) Interest on farm capital | | 471 | 408 | 283 |
| (8) Unpaid family labor | | 177 | 144 | 311 |
| (9) Board furnished hired labor | | 8 | 8 | 30 |
| (10) Total farm exp. (Sum of (5) to (9) | | 4296 | 4248 | 4452 |
| (11) Operator's labor earn.(4) - (10) | | 1315 | 1497 | 1668 |
| (12) Ret. cap. & family lab.(7)+(8)+(11) | | 1963 | 2049 | 2262 |

## RETURNS TO CAPITAL AND FAMILY LABOR

The return to capital and family labor represents the amount available to the operator for living expenses, payment on indebtedness, and savings. The landlord's expenses and receipts are not included.

The average return to capital and family labor for 49 owners, 21 part-owners and 19 renters is shown in Table 7. The statements include only the veterans share of the earnings in each case. The earnings as shown in Table 7 are on an actual basis as compared to the full-owner basis in Tables 2 and 3.

## MANAGEMENT FACTORS AND THEIR RELATION TO EARNINGS

Every study of farm earnings shows a wide variation in earnings among farmers in a given year. The average labor earnings of those farmers ranking in the upper 20 per cent of the range according to earnings was $2881 and of those in the lower 20 per cent was $164. This is a range of $2717 between the average earnings of these two groups. Some of the causes for these differences in earnings, such as weather, may be beyond the control of the individual farmer. Other factors are within his control. The more important management factors affecting earnings and their relationships with earnings are presented in the following tables. These factors vary from year to year in their relative influence on earnings.(1)

Crop Yields. The measure of crop yields used is the crop yield index. It is a comparison of the yield per acre of all crops on a given farm with the average yields for all farms in each of the three type-of-farming areas included in the study. High crop yields make their maximum contribution to earnings if they are the result of good crop selection, the use of adapted varieties, skill and timeliness in performing the operations.

Table 8. Relation of Crop Yields to Farm Earnings

| Index of crop yields Range | Average | No. of farms* | Average operator's labor earnings |
|---|---|---|---|
| Below 77 | 65 | 20 | $1319 |
| 77 - 109 | 94 | 37 | 1596 |
| 110 and above | 131 | 22 | 1762 |

* The records from 16 farms with less than 20 per cent of the work units on crops were omitted from this table.

Choice of Crops. Over a period of years certain crops have a definite advantage over others. The crops are classified on page 16 as A, B, C or D crops on the basis of their average net returns per acre. The relation of choice of crops to earnings is shown in Table 9.

Table 9. Relation of Choice of Crops to Farm Earnings

| Percent of tillable land in high return crops Range | Average | No. of farms | Average operator's labor earnings |
|---|---|---|---|
| Below 24.0 | 13.8 | 17 | $ 1016 |
| 24.0 - 49.9 | 35.1 | 59 | 1563 |
| 50.0 and above | 60.3 | 19 | 1716 |

(1) See Pond, G.A. "Why Farm Earnings Vary." Minn. Agri. Expt. Sta. Bul. 386, June, 1945.

Return from Livestock. This is a measure of feeding efficiency. All of these farmers maintain dairy cattle. In addition to the dairy herd some farmers maintain a few hogs, chickens and sheep. Most of the crops raised and some additional purchased feed are fed to livestock. Since feed is the major item of cash in livestock production improvements in feeding efficiency results in a higher earnings.

Table 10. Relation of Returns From Productive Livestock to Farm Earnings

| Index of returns for $100 feed consumed by productive livestock* Range | Average | No. of farms | Average operator's labor earnings |
|---|---|---|---|
| Below 83 | 73 | 18 | $1238 |
| 83 - 119 | 99 | 60 | 1533 |
| 120 and above | 136 | 17 | 1636 |

*The index is weighted by the number of animal units of each class of livestock.

Amount of Livestock. This factor measures the importance of livestock in the farm business. It is the amount of livestock units per 100 acres in the farm other than land in timber, roads, waste and farmstead. Livestock are important in this area where hay and pasture are the predominant crops. They provide employment throughout the year and aid in maintaining or building up the fertility of the land.

Table 11. Relation of Amount of Livestock to Farm Earnings

| Livestock units per 100 acres Range | Average | No. of farms* | Average operator's labor earnings |
|---|---|---|---|
| Below 10.0 | 7.8 | 19 | $1458 |
| 10.0 - 19.9 | 13.9 | 58 | 1488 |
| 20.0 and above | 24.2 | 18 | 1561 |

*The records from 4 farms with more than 45 per cent of the work units on work off the farm were omitted from the table.

Size of Business. Productive man work units are a measure of size of business. The relationship of size of business to farm earnings is shown in Table 12. Average farm earnings tend to increase with an increase in size of business if size is accompanied by good management. For farmers operating their farms at a loss, the larger the volume of business, the larger will be the loss. Normally a large business has an advantage over a small business because they utilize more efficiently and to better advantage available labor, power, machinery, equipment and buildings.

Table 12. Relation of Size of Business to Farm Earnings

| Work units Range | Average | No. of farms | Average operator's labor earnings |
|---|---|---|---|
| Below 170 | 137 | 20 | $ 833 |
| 170 - 325 | 245 | 53 | 1565 |
| 325 and above | 399 | 22 | 1932 |

Work Accomplished Per Worker. The work accomplished per worker is determined by dividing the total man work units by the number of workers on the farm during the year. An increase in the productive work accomplished

per worker reduced the labor charge per unit of business. Planning of the farm work and economical use of labor-saving machinery help to increase the output of work per worker.

Table 13. Relation of Work Accomplished Per Worker to Farm Earnings

| Work units per worker | | No. of | Average operator's |
|---|---|---|---|
| Range | Average | farms | labor earnings |
| Below 145 | 122 | 18 | $ 849 |
| 145 - 255 | 198 | 59 | 1508 |
| 255 & above | 307 | 18 | 2101 |

Control Over Expenses. The depreciation and cash cost of upkeep for power, machinery, equipment and buildings per unit of work is used as a measure of the efficiency of their use on a farm. Some farmers lack power, machinery and buildings for satisfactory operation. In case of others, an excessive investment in these items may constitute an important factor limiting earnings.

Table 14. Relation of Expenses to Farm Earnings

| Expenses per work unit | | No. of | Average operator's |
|---|---|---|---|
| Range | Average | farms | labor earnings |
| $6.50 & above | $8.19 | 19 | $ 863 |
| $4.00 - 6.49 | 5.17 | 57 | 1595 |
| Below $4.00 | 3.42 | 19 | 1831 |

## CUMULATIVE EFFECT OF EXCELLING IN A NUMBER OF MANAGEMENT FACTORS

The relation of several management factors to operator's labor earnings has been shown in the preceding section. Because of the large number of inter-relationships between these factors on earnings is shown in Figure 2. Insofar as these factors are within the farmer's control, he may be well paid for his efforts to improve his efficiency as measured by them.

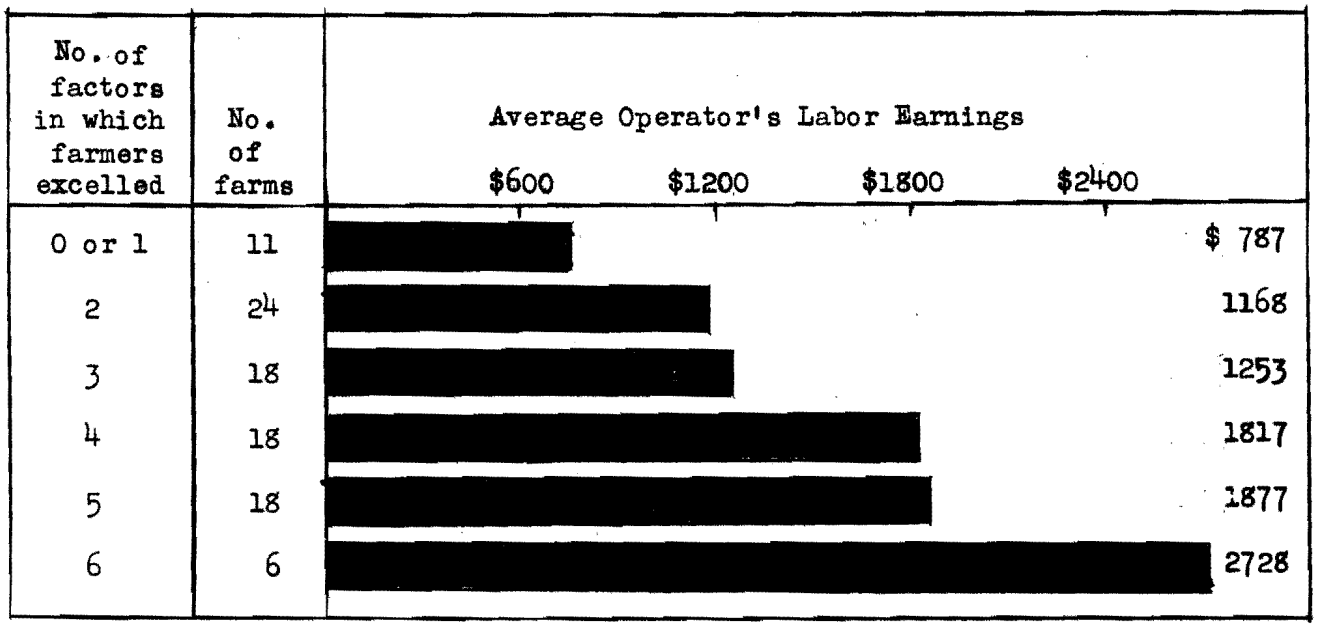


Fig. 2. Average operator's labor earnings on farms grouped according to number of management factors in which the farmer was above average.

The array in Figure 2 suggests that it may be well worth while for each cooperator to study carefully his ranking on pages 14 and 15, and learn his standing in respect to each of the seven factors as indicators of elements of strength and weakness in his farm business.

## EXPLANATION OF "WORK UNITS"

The total "work units" for any one farm is a measure of the size of that farm business. A work unit as used in this report is the average accomplishment of a farm worker in a ten hour day, working on crops and productive livestock at average efficiency or ten hours of work off the farm for pay. The number of work units for each class of livestock and each acre of crop are presented in Table 15.

Table 15. Number of Work Units for Each Class of Livestock and Each Acre of Crop

| Item | No. of work units | Item | No. of work units |
|---|---|---|---|
| Dairy and dual pur. cows | 14.0 per cow | Small grain | .7 per acre |
| Other dairy & du. pur. cattle | 4.0 per an. unit* | Corn, husked | 1.1 per acre |
| Beef breeding herd | 5.0 per an. unit* | Corn, hogged | .7 per acre |
| Feeder cattle | .35 per 100 lbs. | Corn, shredded | 2.2 per acre |
| Sheep - farm flock | 1.8 per an. unit* | Corn silage | 1.7 per acre |
| Hogs | .3 per 100 lbs. | Corn fodder | 1.0 per acre |
| Turkeys | .7 per 100 lbs. | Alfalfa hay | .9 per acre |
| Hens | 22.0 per 100 hens | Soybean hay | 1.4 per acre |
| Soybeans for grain | .7 per acre | Other hay crops | .6 per acre |

* An animal unit represents one dairy cow or bull, 2 head of other dairy cattle, 1½ beef cows or bull, 1 feeder steer or heifer, 3 1/3 other beef cattle, 7 sheep, 14 lambs, 2½ hogs, 5 pigs, 50 hens or 1100 pounds of turkeys produced.

Table 16. Measures of Farm Organization and Management Efficiency, 1951

| Measures used in chart on page 15 | Your farm | Average of 95 farms | 19 most profitable farms | 19 least profitable farms |
|---|---|---|---|---|
| Operator's labor earnings | $____ | $1496 | $2881 | $ 164 |
| (1) Crop yields* | ____ | 100 | 105 | 90 |
| (2) % of tillable land in high ret. crops** | ____ | 36.3 | 42.5 | 36.5 |
| (3) Ret. for $100 feed to prod. livestock*** | ____ | 100 | 105 | 97 |
| (4) Prod. livestock units per 100 acres**** | ____ | 15.2 | 15.6 | 16.3 |
| (5) Size of business - work units | ____ | 258 | 316 | 206 |
| (6) Work units per worker | ____ | 215 | 243 | 158 |
| (7) Pow., mach., equip., & bldg. exp. per work unit | ____ | $5.42 | $4.87 | $6.48 |
| **Items related to some of the above measures:** | | | | |
| (2) % of tillable land in high ret. crops | | | | |
| Type-of-farming area 5 | ____ | 30.1 | 36.2 | 26.9 |
| Type-of-farming area 6 | ____ | 40.8 | 45.8 | 32.8 |
| Type-of-farming area 8 | ____ | 36.8 | 53.0 | 42.5 |
| (3) Index of return for $100 feed from | | | | |
| Dairy cattle (See pages 20 and 21) | ____ | 100 | 107 | 91 |
| Beef cattle (See pages 20 and 21) | ____ | 100 | - | - |
| Beef cattle - breeding herd | ____ | 100 | - | - |
| Hogs (See page 23) | ____ | 100 | 92 | 132 |
| Sheep - farm flock (See page 24) | ____ | 100 | - | - |
| Chickens (See page 22) | ____ | 100 | 100 | 84 |
| (4) Number of animal units | ____ | 19.1 | 22.7 | 15.9 |
| (5) Work units on crops | ____ | 75 | 100 | 51 |
| Work units on productive livestock | ____ | 168 | 204 | 149 |
| Other work units | ____ | 15 | 12 | 6 |
| (6) Number of family workers | ____ | 1.2 | 1.2 | 1.3 |
| Number of hired workers | ____ | - | .1 | - |
| Total number of workers | ____ | 1.2 | 1.3 | 1.3 |
| (7) Power expense per work unit | $____ | $3.39 | $3.01 | $4.30 |
| Crop machinery expense per work unit | ____ | .97 | 1.00 | 1.01 |
| Livestock equip. expense per work unit | ____ | .19 | .18 | .19 |
| Bldgs. & fencing exp. per work unit | | .87 | .68 | .98 |

*Given as a percentage of the average

**Crops are marked in Table 17 as (A), (B), (C), and (D). All of acres in (A) crops, one half of acres in (B) crops, and one fourth of acres in (C) crops are used in calculating per cent of tillable land in high return crops.

***An index weighted by the animal units of livestock.

****Acres in timber not pastured, roads, waste and farmstead were not included.

## Thermometer Chart

Using your figures from page 14, locate your standing with respect to the various measures of farm organization and management efficiency. The averages for the 95 farms included in this summary are located between the dotted lines across the center of this page.

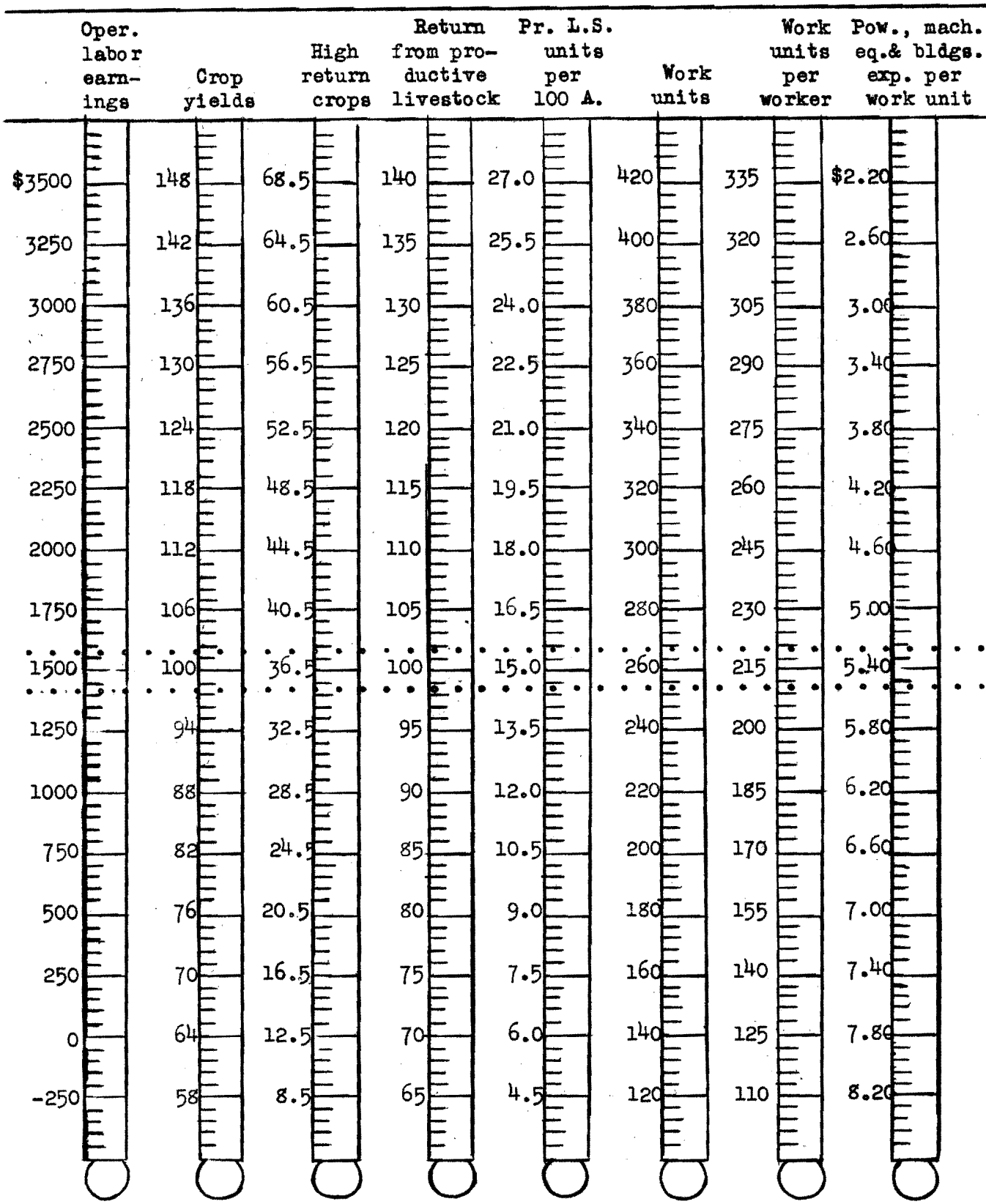

Table 17. Distribution of Acres in Farm, 1951

| Crop | Crop ratings for type-of-farming area* | | | Your farm | Average of farms in type-of-farming area | | |
|---|---|---|---|---|---|---|---|
| | 5 | 6 | 8 | | 5 | 6 | 8 |
| Flax | C | B | B | | .6 | .6 | 5.2 |
| Barley | D | B | C | | .4 | 3.2 | 3.8 |
| Oats | C | C | C | | 24.7 | 29.2 | 14.0 |
| Wheat | D | C | D | | .4 | 3.8 | 1.6 |
| Rye | C | D | D | | 4.2 | .7 | .2 |
| Misc. | D | D | D | | - | 1.5 | .3 |
| Total small grain | | | | | 30.3 | 39.0 | 25.1 |
| Garden and seed potatoes | A | A | A | | - | - | .2 |
| Potatoes | B | B | B | | .1 | .1 | .1 |
| Corn silage | C | C | C | | 9.1 | 6.8 | 3.2 |
| Corn grain | C | C | D | | 13.8 | 11.8 | 2.3 |
| Corn fodder | D | D | D | | 2.0 | 2.2 | .2 |
| Soybeans for grain | D | D | D | | .5 | .4 | - |
| Total cultivated crops | | | | | 25.5 | 21.3 | 6.0 |
| Alfalfa hay | A | A | A | | 7.8 | 19.7 | 11.4 |
| Alfalfa seed | B | B | B | | - | 1.0 | - |
| Red or alsike clover hay | B | B | B | | 2.8 | 3.4 | 5.2 |
| Red or alsike clover seed | B | B | B | | .2 | .6 | 3.1 |
| Mixed legumes & non-legumes | C | C | C | | 2.3 | 1.8 | 7.1 |
| Timothy and/or brome hay | D | D | D | | 1.0 | 1.6 | 3.4 |
| Wild hay on tillable land | D | D | D | | 2.5 | 1.7 | 1.4 |
| Annual hay and misc. | D | D | D | | .4 | .1 | 1.9 |
| Total tillable land in hay | | | | | 17.0 | 29.9 | 33.5 |
| Legumes and mixtures | ** | ** | ** | | .9 | .8 | .9 |
| Other tillable pasture | D | D | D | | 4.5 | 1.4 | 4.6 |
| Total tillable land in pasture | | | | | 5.4 | 2.2 | 5.5 |
| Tillable land not cropped | D | D | D | | 1.1 | 3.8 | 5.1 |
| Total tillable land | | | | | 79.3 | 96.2 | 75.2 |
| Wild hay (non-tillable) | | | | | 13.7 | 11.0 | 4.0 |
| Non-tillable pasture | | | | | 37.8 | 51.4 | 45.9 |
| Timber (not pastured) | | | | | 12.3 | 15.2 | 27.7 |
| Roads and waste | | | | | 7.0 | 17.0 | 24.5 |
| Farmstead | | | | | 3.4 | 4.2 | 4.3 |
| Total acres in farm | | | | | 153.5 | 195.0 | 181.6 |
| Per cent land tillable | | | | | 51.7 | 49.3 | 41.4 |
| Per cent tillable land in high ret. crops | | | | | 30.1 | 40.8 | 36.8 |

* A, B, C, and D refer to ranking used in calculating per cent of tillable land in high return crops, see page 10.

** Alfalfa pasture was rated as an A crop and other legumes and mixtures for pasture a C crop.

Table 18. Crop Yields Per Acre, 1951

| Crop | Your farm | Average of farms growing each crop in type-of-farming area 5 | 6 | 8 |
|---|---|---|---|---|
| Flax, bu. | ____ | - | - | 8.9 |
| Barley, bu. | ____ | - | 25.4 | 15.9 |
| Oats, bu. | ____ | 44.1 | 44.6 | 29.9 |
| Wheat, bu. | ____ | - | 16.5 | 12.8 |
| Buckwheat, bu. | ____ | - | 10.7 | - |
| Rye, bu. | ____ | 13.7 | - | - |
| Potatoes, bu. | ____ | - | 65 | 64 |
| Corn silage, tons | ____ | 5.4 | 5.7 | 4.8 |
| Corn, grain, bu. | ____ | 35.7 | 35.9 | 35.7 |
| Corn fodder, tons | ____ | 2.1 | 3.2 | - |
| Alfalfa hay, tons | ____ | 1.7 | 1.9 | 1.7 |
| Red or alsike clover hay, tons | ____ | 1.1 | 1.3 | 1.2 |
| Red or alsike clover seed, lbs. | ____ | - | - | 120 |
| Other leg. & leg. mix. for hay, tons | ____ | 1.6 | 1.6 | 1.2 |
| Brome or timothy hay, tons | ____ | 1.2 | 1.0 | .9 |
| Wild hay on tillable land, tons | ____ | .7 | 1.2 | 1.0 |
| Annual hay, tons | ____ | .3 | - | 1.0 |
| Wild hay on non-tillable land, tons | ____ | .5 | .5 | .7 |

## POWER AND MACHINERY EXPENSE

Power and machinery expense per crop acre is an indication of the economy with which capital is invested in these items. The crop acres per farm ranged from 14 to 210 with an average of 84 (Table 19). The expenses are high on the farms with a small acreage. In some cases, low expenses for labor might be offset by high power and equipment costs. The farmer is interested in operating at the lowest cost for power, machinery and labor combined.

Table 19. Power and Machinery Expenses Per Crop Acre, 1951

| Items | Your farm | Average of 95 farms | 19 most profitable farms | 19 least profitable farms |
|---|---|---|---|---|
| Crop acres per farm | ____ | 84.5 | 110.6 | 58.2 |
| Tractor and horse exp. per crop acre | ____ | $5.20 | $4.08 | $7.37 |
| Crop & gen. mach. exp. per crop acre | ____ | 3.20 | 3.06 | 4.05 |

The feed cost for horses is a part of the cost of power on those farms maintaining horses. The annual feed cost per horse is shown in Table 20. Fifty farmers did not maintain horses.

Table 20. Feed Costs for Horses, 1951

| Items | Your farm | Average of 45 farms |
|---|---|---|
| Feed per horse, lbs.: | | |
| Grain | _____ | 129 |
| Hay | _____ | 3010 |
| Fodder and stover | _____ | 207 |
| Feed cost per horse: | | |
| Grain | _____ | $ 3.29 |
| Roughage | _____ | 15.44 |
| Pasture | _____ | 6.79 |
| Total feed cost | _____ | 25.52 |
| Number of work horses | _____ | 2.0 |
| Number of colts | _____ | .8 |

## AMOUNT OF LIVESTOCK

Nearly all the farmers maintained some dairy cattle. The average number of dairy cows per farm was approximately nine head (Table 21). Sixty-three per cent of the farmers kept some hogs and forty-five percent kept a few hens.

Table 21. Amount of Livestock, 1951

| | Your farm | Average of 95 farms | 19 most profitable farms | 19 least profitable farms |
|---|---|---|---|---|
| Number of milk cows | _____ | 8.7 | 10.2 | 8.5 |
| Number of other dairy cattle | _____ | 9.5 | 12.3 | 9.2 |
| Number of beef cattle | _____ | 1.0 | .3 | - |
| Number of sheep* | _____ | 2.1 | .3 | 2.3 |
| Number of hens | _____ | 66 | 82 | 31 |
| Number of litters of pigs raised | _____ | 4.1 | 5.2 | 2.2 |
| Pounds of hogs produced | _____ | 3567 | 5886 | 1493 |
| Number of horses | _____ | 1.0 | 1.2 | 1.2 |

*Two lambs under six months of age considered as one head.

## TOTAL FEED COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES

The total "return over feed costs" for each class of livestock is shown in Table 22. This differs from the return over feed shown in the enterprise statement in that it is the total for each class of livestock instead of a return "per head" "per unit" or "per 100 pounds". These data indicate the relative importance of different classes of livestock as a source of income and as a market for feed. The total return is the same as the returns and net increases shown on page 5. The value of milk consumed by calves is included in the total returns from dairy or dual purpose cows and in the total feed cost for other dairy or dual purpose cattle. The value of milk consumed by calves is not included in either the total returns or the feed cost of "all dairy" or "all dual purpose" cattle. The return over feed is not a net return,

but rather the amount available from the gross income, after paying the feed bill, to cover the outlay for hired labor, power, equipment, taxes, insurance, interest and veterinary bills and to provide a return for the use of family labor and capital.

Table 22. Total Feed Costs and Returns From Your Livestock Enterprises, 1951

| | Dairy or dual purpose cattle | | | Beef breeding herd | Feeder cattle |
|---|---|---|---|---|---|
| | Cows | Other | All | | |
| Total returns | | | | | |
| Total feed cost | | | | | |
| Total return over feed | | | | | |

| | Hogs | Farm flock of sheep | Turkeys | Chickens |
|---|---|---|---|---|
| Total returns | | | | |
| Total feed costs | | | | |
| Total return over feed | | | | |

Feed is the largest single item of cost for all classes of livestock. However, the proportion of the total cost represented by feed varies considerably between classes of livestock. Feed makes up approximately 45 per cent of the total costs of maintaining dairy cattle and poultry, 50 per cent in the case of a farm flock of sheep and 75 to 90 per cent for hogs, feeder cattle and feeder lambs. Consequently, it is necessary to secure a relatively higher return over feed from dairy cattle and poultry than from the other livestock enterprises in order to be able to cover all the costs other than feed.

## DAIRY AND DUAL PURPOSE CATTLE

The quantity of feed consumed, value of feeds and returns from dairy cattle are presented in Tables 23, 24, and 25. Eighty-nine herds were classified as dairy cattle and 3 herds were classified as dual purpose cattle. The return over feed cost per cow varied from $-15.37 to $292.34 among the 92 herds covered by this study. Some of the important factors that affected the return over feed were:

1. Rate of production (pounds butterfat per cow).
2. Price received for butterfat.
3. Feeding efficiency (pounds T.D.N. fed per pound butterfat produced).
4. Quality of ration (percentage of protein in T.D.N.).
5. Economy of ration (feed cost per pound butterfat).

The herds which ranked low in these factors had low returns over feed. As indicated in Figure 3, the 12 herds which ranked below the average of the whole group in all of these factors showed a return over feed of $81 per cow. On the other hand, the 7 herds which ranked above the average of the whole group in five factors had a return over feed per cow of $225.

Table 23. Factors of Cost and Returns from Dairy and Dual Purpose Cows, 1951

| Items | Your farm | Average of 92 herds | 18 farms highest in butterfat per cow | 18 farms lowest in butterfat per cow |
|---|---|---|---|---|
| Pounds of butterfat per cow | _____ | 252 | 333 | 176 |
| Per cent of butterfat in milk | _____ | 3.8 | 3.8 | 4.0 |
| Price rec. per lb. B.F. sold(cents) | _____ | 85.1 | 89.1 | 80.6 |
| As cream (cents) | _____ | 78.0 | 78.5 | 77.6 |
| Other (cents) | _____ | 95.5 | 96.4 | 95.2 |
| Feed per cow, lb. | | | | |
| Corn | _____ | 276 | 336 | 42 |
| Small grain | _____ | 605 | 896 | 242 |
| Commercial feeds | _____ | 497 | 674 | 337 |
| Legume hay | _____ | 3778 | 4629 | 2970 |
| Other hay | _____ | 2108 | 1661 | 2909 |
| Fodder and stover | _____ | 565 | 625 | 1246 |
| Total concentrates | _____ | 1378 | 1906 | 621 |
| Total hay and fodder | _____ | 6451 | 6915 | 7125 |
| Silage | _____ | 3991 | 4275 | 1740 |
| Total digestible nutrients* | _____ | 4891 | 5540 | 4282 |
| T.D.N. per lb. B.F. | _____ | 19.4 | 16.6 | 24.3 |
| % T.D.N. that is protein | _____ | 13.9 | 14.6 | 12.5 |
| Feed cost per cow: | | | | |
| Concentrates | $_____ | $38.56 | $ 54.27 | $ 18.42 |
| Roughages | _____ | 51.72 | 59.35 | 48.33 |
| Pasture | _____ | 6.61 | 6.41 | 6.71 |
| TOTAL FEED COSTS | $_____ | 96.89 | 120.03 | 73.46 |
| Value of produce per cow: | | | | |
| Dairy product sales | $_____ | $195.04 | $268.03 | $123.69 |
| Dairy produce used in home | _____ | 12.98 | 10.78 | 14.62 |
| Milk to livestock | _____ | 22.16 | 26.34 | 18.41 |
| Net increase in value of cows | _____ | 4.17 | 13.34 | 6.49 |
| TOTAL VALUE PRODUCED | $_____ | $234.35 | $318.49 | $163.21 |
| RETURNS ABOVE FEED COST PER COW | $_____ | $137.46 | $198.46 | $ 89.75 |
| RETURNS FOR $100 OF FEED | $_____ | $ 257 | $ 276 | $ 252 |
| Feed cost per lb. B.F. (cents) | _____ | 38.4 | 36.0 | 41.7 |
| Number of cows** | _____ | 9.0 | 8.9 | 8.3 |

*Not including nutrients received from pasture.

**All dairy cows which have at some time in the past freshened are included in the dairy herd, and affect the average number of cows used in computing this table. There is some variation in the number of months of dry period per cow; however, this variation is small for the majority of farms.

Table 24. Feed Costs and Returns from Other Dairy and Dual Purpose Cattle, 1951

| Items | Your farm | Average of 91 herds | 18 herds highest in butterfat per cow | 17 herds lowest in butterfat per cow |
|---|---|---|---|---|
| Feeds per head, lbs.: | | | | |
| Concentrates | _____ | 221 | 312 | 187 |
| Hay and fodder | _____ | 2048 | 2142 | 2515 |
| Silage | _____ | 1093 | 1088 | 498 |
| Skim milk | _____ | 1089 | 994 | 1110 |
| Whole milk | _____ | 324 | 543 | 320 |
| Feed cost per head: | | | | |
| Concentrates | $_____ | $ 6.98 | $ 8.96 | $ 5.57 |
| Roughages | _____ | 15.66 | 16.68 | 16.46 |
| Milk | _____ | 15.44 | 20.72 | 15.53 |
| Pasture | _____ | 2.83 | 2.68 | 2.92 |
| TOTAL FEED COSTS PER HEAD | $_____ | $ 40.91 | $ 49.04 | $ 40.48 |
| Net inc. in value of other dairy cattle | _____ | $102.97 | $107.61 | $ 96.87 |
| RETURNS ABOVE FEED COST PER HEAD | _____ | $ 62.06 | $ 58.87 | $ 56.39 |
| RETURNS FOR $100 OF FEED | _____ | $ 284 | $ 264 | $ 270 |
| Number of head of other dairy cattle | _____ | 9.9 | 9.3 | 9.1 |

*One record which included only a small number of veal calves was omitted from the averages.

Table 25. Feed Costs and Returns from All Dairy and Dual Purpose Cattle, 1951

| Items | Your farm | Average of 92 herds | 18 herds highest in butterfat per cow | 18 herds lowest in butterfat per cow |
|---|---|---|---|---|
| Feeds per animal unit, lbs.: | | | | |
| Concentrates | _____ | 1045 | 1458 | 539 |
| Hay and fodder | _____ | 5523 | 5895 | 6333 |
| Silage | _____ | 3301 | 3500 | 1445 |
| Feed cost per animal unit: | | | | |
| Concentrates | $_____ | $ 29.84 | $ 41.58 | $ 16.05 |
| Roughages | _____ | 43.87 | 49.65 | 42.45 |
| Pasture | _____ | 6.25 | 6.00 | 6.42 |
| TOTAL FEED COST | $_____ | $ 79.96 | $ 97.23 | $ 64.92 |
| Value of produce per animal unit: | | | | |
| Dairy products | $_____ | $140.43 | $186.62 | $ 97.67 |
| Net increase in val. of dairy cattle | _____ | 69.20 | 78.19 | 63.26 |
| TOTAL VALUE | $_____ | $209.63 | $264.81 | $160.93 |
| RETURNS ABOVE FEED PER ANIMAL UNIT | $_____ | $129.67 | $167.58 | $ 96.01 |
| RETURNS PER $100 OF FEED | $_____ | $ 276 | $ 282 | $ 275 |
| Animal units of dairy cattle | _____ | 14.1 | 13.7 | 12.8 |

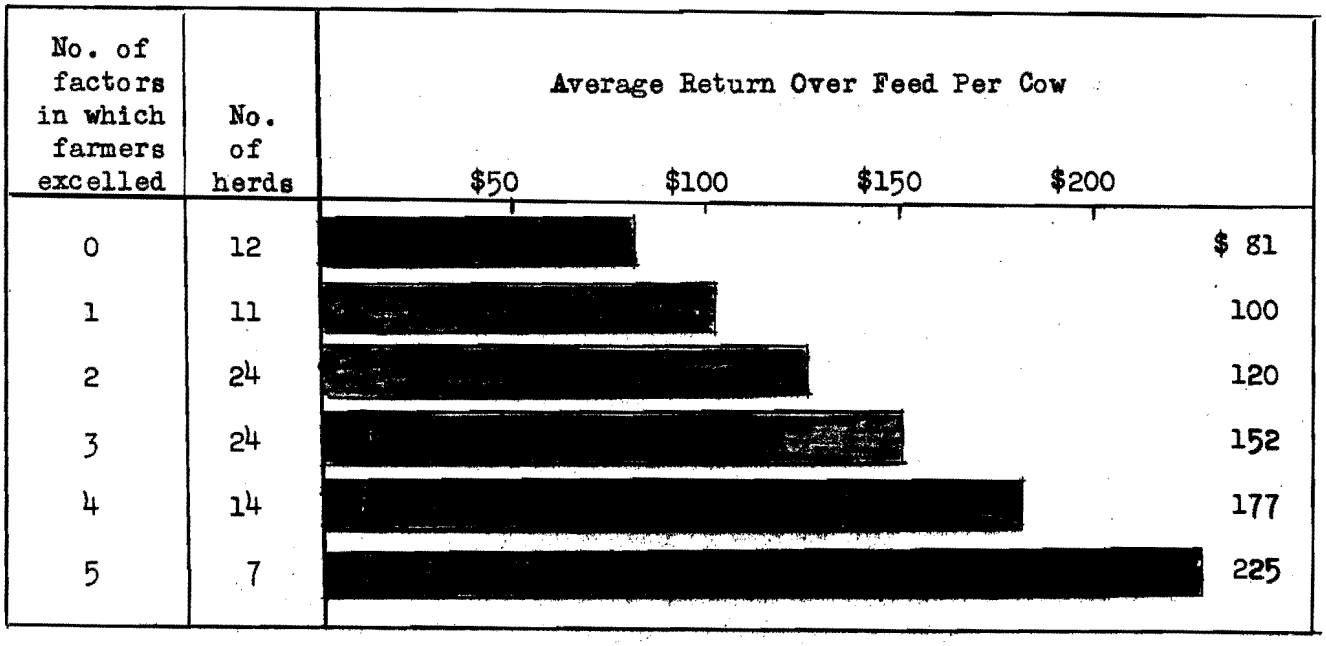


Fig. 3. Average Return over Feed Cost per Dairy Cow Grouped According to Number of Selected Factors in which Farmers Excelled.

Table 26. Feed Costs and Returns from Chickens, 1951

| Items | Your farm | Average of 43 farms | 14 farms highest in returns above feed | 14 farms lowest in returns above feed |
|---|---|---|---|---|
| Feed per hen, lbs.: | | | | |
| Grain | | 75 | 76 | 85 |
| Commercial feeds | | 56 | 53 | 58 |
| Total concentrates | | 131 | 129 | 143 |
| Skim milk and buttermilk | | 7 | 11 | 9 |
| TOTAL FEED COST PER HEN | $ | $4.24 | $4.02 | $4.57 |
| Value of produce per hen: | | | | |
| Eggs sold and used in house | $ | $5.85 | $6.78 | $4.86 |
| Net increase in value of chickens | | .49 | .89 | .45 |
| TOTAL VALUE PRODUCED | $ | $6.34 | $7.67 | $5.31 |
| RETURNS ABOVE FEED COST PER HEN | $ | $2.10 | $3.65 | $ .74 |
| RETURNS FOR $100 OF FEED | $ | $159 | $204 | $120 |
| Price rec'd per doz. eggs sold (cents) | | 42.6 | 44.1 | 41.0 |
| Eggs laid per hen | | 165 | 187 | 143 |
| Ave. no. of hens on farm during the year | | 134 | 143 | 137 |
| % of hens that are pullets | | 68 | 66 | 64 |
| % of death loss of hens | | 14 | 13 | 16 |
| Numbers of chicks started: | | | | |
| Straight run | | 24 | 50 | - |
| Pullets | | 113 | 137 | 105 |
| Cockerels | | 17 | 8 | 39 |
| Pounds of poultry produced | | 413 | 544 | 263 |

Table 27. Feed Costs and Returns from Hogs, 1951

| Items | Your farm | Average of 60 farms | 15 farms highest in returns above feed | 15 farms lowest in returns above feed |
|---|---|---|---|---|
| Feed per cwt. hogs produced, lbs.: | | | | |
| Corn | ____ | 208 | 111 | 281 |
| Small grain | ____ | 248 | 210 | 291 |
| Commercial feeds | ____ | 59 | 81 | 37 |
| Total concentrates | ____ | 514 | 402 | 609 |
| Skim milk and buttermilk | ____ | 333 | 202 | 499 |
| Feed cost per cwt. hogs produced: | | | | |
| Concentrates | $ ____ | $12.51 | $10.68 | $14.79 |
| Skim milk and buttermilk | ____ | 1.55 | .76 | 2.45 |
| Pasture | ____ | .15 | .13 | .16 |
| TOTAL FEED COSTS | $ ____ | 14.21 | 11.57 | 17.40 |
| Net increase in val. per cwt. hogs prod. | $ ____ | $20.87 | $25.35 | $18.36 |
| RETURNS ABOVE FEED COST PER CWT. HOGS PROD. | ____ | $ 6.66 | $13.78 | $ .96 |
| RETURNS FOR $100 OF FEED | $ ____ | $ 157 | $ 232 | $ 107 |
| Ave. weight per hog sold, lbs. | ____ | $ 148 | $ 87 | $ 182 |
| Price received per cwt. hogs sold | $ ____ | $23.25 | $26.87 | $21.77 |
| No. of spring litters raised | ____ | 4.2 | 5.4 | 3.9 |
| No. of fall litters raised | ____ | 2.2 | 3.5 | 2.1 |
| Total no. of litters raised | ____ | 6.4 | 8.9 | 6.0 |
| No. of pigs born per litter | ____ | 8.6 | 9.1 | 8.1 |
| No. of pigs weaned per litter | ____ | 7.1 | 7.7 | 6.2 |
| Pounds of hogs produced | ____ | 5459 | 4521 | 6176 |

Table 28. Feed Costs and Returns from a Farm Flock of Sheep, 1951

| Items | Your farm | Average of 7 farms |
|---|---|---|
| Feeds per head, *lbs.: | | |
| Concentrates | _____ | 61 |
| Legume hay | _____ | 551 |
| Other hay | _____ | 157 |
| Fodder and stover | _____ | - |
| Silage | _____ | 137 |
| Feed cost per head: | | |
| Concentrates | $_____ | $ 1.54 |
| Roughages | _____ | 5.37 |
| Pasture | _____ | 1.17 |
| TOTAL FEED COSTS | $_____ | $ 8.08 |
| Value of produce per head: | | |
| Wool | $_____ | $ 5.07 |
| Net increase in value of sheep | _____ | 18.43 |
| TOTAL VALUE PRODUCED | $_____ | 23.50 |
| RETURNS ABOVE FEED COST PER HEAD | $_____ | 15.42 |
| RETURNS FOR $100 OF FEED | $_____ | $ 333 |
| Price per cwt. of lambs sold | $_____ | $31.01 |
| Price per lb. wool sold (cts.) | _____ | 102.5 |
| Pounds of wool per sheep sheared | _____ | 6.8 |
| Number of ewes kept for lambing | _____ | 18 |
| % lamb crop** | _____ | 123 |
| % death loss | _____ | 5.2 |
| Pounds of sheep produced | _____ | 1999 |
| No. of head of sheep* | _____ | 27.6 |

* Two lambs under six months of age considered as one head.
** Lambs which die during month of birth are not included.

Table 29. Summary of Farm Inventories by Years

| | 1947 | 1948 | 1949 | 1950 | 1951 |
|---|---|---|---|---|---|
| Number of farms | 141 | 204 | 188 | 111 | 95 |
| Dairy and dual purpose cows | $1078 | $1101 | $1176 | $1256 | $1513 |
| Other dairy & dual purpose cattle | 451 | 511 | 540 | 583 | 716 |
| Beef cattle (inc. feeders) | 57 | 30 | 72 | 87 | 106 |
| Hogs | 181 | 199 | 185 | 174 | 232 |
| Sheep | 17 | 58 | 36 | 24 | 38 |
| Poultry | 96 | 87 | 76 | 100 | 76 |
| Productive livestock (total) | 1880 | 1986 | 2085 | 2224 | 2681 |
| Horses | 82 | 77 | 67 | 59 | 46 |
| Crop, seed, & feed | 977 | 1045 | 1054 | 831 | 957 |
| Power mach. (farm share) | 917 | 1022 | 1253 | 1209 | 1470 |
| Crop & general mach. (farm share) | 673 | 741 | 821 | 811 | 1026 |
| Livestock equipment & supplies | 216 | 193 | 212 | 203 | 226 |
| Mach. & equipment (total) | 1806 | 1956 | 2286 | 2223 | 2722 |
| Miscellaneous | 2 | 1 | 1 | - | 2 |
| Buildings, fences, etc. | 3638 | 3332 | 3208 | 3452 | 3854 |
| Land | 3809 | 3386 | 3564 | 2960 | 3726 |
| Total farm capital | 12194 | 11783 | 12265 | 11749 | 13988 |

Table 30. Summary of Farm Earnings by Years

| | 1947 | 1948 | 1949 | 1950 | 1951 |
|---|---|---|---|---|---|
| Monthly charge for unpaid family labor | $87 | $119 | $112 | $110 | $123 |
| Monthly charge for board to hired labor | 33 | 38 | 33 | 32 | 32 |
| **FARM RECEIPTS** | | | | | |
| Dairy and dual-purpose cows | $282 | $335 | $263 | $328 | $352 |
| Dairy products | 1546 | 1798 | 1471 | 1439 | 1745 |
| Other dairy & dual-purpose cattle | 260 | 357 | 316 | 427 | 394 |
| Beef cattle | 45 | 33 | 55 | 83 | 56 |
| Hogs | 428 | 436 | 500 | 515 | 647 |
| Sheep and wool | 19 | 60 | 39 | 27 | 37 |
| Poultry | 71 | 97 | 43 | 109 | 125 |
| Eggs | 388 | 328 | 267 | 324 | 343 |
| Horses | 14 | 15 | 12 | 8 | 12 |
| Small grain | 501 | 326 | 270 | 138 | 252 |
| Other crops | 221 | 218 | 248 | 131 | 263 |
| Machinery & equip. sold | 119 | 174 | 211 | 183 | 167 |
| Agricultural adjustment payments | 26 | 33 | 29 | 21 | 29 |
| Income from work off the farm | 78 | 65 | 108 | 77 | 159 |
| Miscellaneous | 14 | 15 | 40 | 22 | 14 |
| (1) Total farm sales | 4012 | 4290 | 3872 | 3832 | 4595 |
| (2) Increase in farm capital | 1067 | 936 | 781 | 831 | 1343 |
| (3) Family living from the farm | 453 | 441 | 417 | 451 | 468 |
| (4) Total farm receipts (1) (2) (3) | 5532 | 5667 | 5070 | 5114 | 6406 |
| **FARM EXPENSES** | | | | | |
| Dairy and dual purpose cows bought | $175 | $205 | $166 | $165 | $242 |
| Other dairy and dual pur. cattle bot. | 57 | 100 | 79 | 91 | 98 |
| Beef cattle bought | 8 | 10 | 24 | 28 | 22 |
| Hogs bought | 60 | 49 | 51 | 39 | 52 |
| Sheep bought | 14 | 6 | 11 | 11 | 3 |
| Poultry bought | 50 | 43 | 37 | 44 | 41 |
| Horses bought | 16 | 21 | 7 | 5 | 8 |
| Misc. livestock expense | 41 | 43 | 41 | 44 | 47 |
| Misc. crop expenses | 195 | 206 | 187 | 155 | 219 |
| Feed bought | 549 | 533 | 385 | 604 | 678 |
| Custom work hired | 164 | 191 | 205 | 170 | 236 |
| Mech. power mach. (farm share) (new) | 507 | 477 | 568 | 536 | 535 |
| Mech. power mach. (farm share) (upkp) | 151 | 152 | 111 | 106 | 107 |
| Mech. power (f. share)(gas, oil, etc.) | 313 | 356 | 376 | 350 | 390 |
| Crop and general mach. (new) | 269 | 333 | 360 | 330 | 447 |
| Crop and general mach. (upkeep) | 71 | 75 | 63 | 56 | 65 |
| Livestock equipment (new) | 73 | 66 | 76 | 83 | 77 |
| Livestock equipment (upkeep) | 13 | 14 | 15 | 13 | 17 |
| Buildings and fencing (new) | 221 | 243 | 256 | 325 | 221 |
| Buildings and fencing (upkeep) | 94 | 93 | 81 | 61 | 66 |
| Hired labor | 102 | 100 | 81 | 84 | 53 |
| Taxes | 121 | 134 | 159 | 163 | 176 |
| General farm and insurance | 40 | 43 | 39 | 47 | 48 |
| (5) Total farm purchases | 3304 | 3493 | 3378 | 3510 | 3848 |
| (6) Decrease in farm capital | - | - | - | - | - |
| (7) Interest on farm capital | 610 | 589 | 613 | 587 | 699 |
| (8) Unpaid family labor | 381 | 360 | 329 | 221 | 351 |
| (9) Board furnished hired labor | 29 | 33 | 24 | 28 | 12 |
| (10) Total farm exp. (sum of 5 to 9) | 4324 | 4475 | 4344 | 4346 | 4910 |
| (11) Oper. labor earnings (4) - (10) | 1208 | 1192 | 726 | 768 | 1496 |

Table 31. Summary of Acres and Crop Yields Per Farm by Years

| | 1947 | 1948 | 1949 | 1950 | 1951 |
|---|---|---|---|---|---|
| ACRES PER FARM | | | | | |
| Flax | 4.2 | 3.5 | 5.0 | .8 | 2.4 |
| Barley | 3.0 | 1.6 | 1.4 | 1.7 | 2.7 |
| Oats | 18.3 | 20.6 | 19.2 | 19.7 | 22.0 |
| Wheat | 3.7 | 2.4 | 2.8 | 2.3 | 2.0 |
| Other small grains | 1.9 | 1.1 | 2.2 | 1.9 | 2.1 |
| Total small grains | 31.1 | 29.2 | 30.6 | 26.4 | 31.2 |
| Corn | 15.4 | 16.4 | 16.4 | 13.8 | 16.1 |
| Other cultivated crops | .6 | .4 | .7 | .5 | .4 |
| Total cultivated crops | 16.0 | 16.8 | 17.1 | 14.3 | 16.5 |
| Alfalfa for hay or seed | 5.9 | 6.6 | 10.4 | 10.5 | 13.5 |
| Clover for hay or seed | 2.2 | 2.6 | 3.1 | 3.2 | 5.8 |
| Other hay and seed crops | 17.7 | 15.9 | 11.4 | 12.3 | 8.5 |
| Total tillable land in hay | 25.8 | 25.1 | 24.9 | 26.0 | 27.8 |
| Total tillable land in pasture | 3.3 | 3.3 | 3.9 | 8.4 | 4.3 |
| Tillable land not cropped | 1.3 | 2.0 | 2.2 | 1.5 | 3.6 |
| Total tillable land | 77.5 | 76.4 | 78.7 | 76.6 | 83.4 |
| Wild hay (non-tillable) | 8.0 | 9.0 | 8.3 | 9.1 | 9.0 |
| Non-tillable pasture | 46.8 | 49.7 | 51.3 | 54.9 | 45.5 |
| Timber, roads, waste, and farmstead | 31.2 | 28.9 | 47.7 | 45.7 | 40.4 |
| Total land in farm | 163.5 | 164.0 | 186.0 | 186.3 | 178.3 |
| CROP YIELDS PER ACRE | | | | | |
| Flax, bu. | 8.5 | 11.0 | 7.8 | 5.3 | 8.9 |
| Barley, bu. | 21.1 | 26.3 | 26.5 | 19.3 | 18.0 |
| Oats, bu. | 31.5 | 32.9 | 31.5 | 23.0 | 38.8 |
| Wheat, bu. | 14.7 | 15.6 | 11.3 | 12.6 | 13.9 |
| Potatoes, bu. | 87.3 | 94.8 | 75.5 | 77.5 | 64.7 |
| Corn for grain, bu. | 28.1 | 42.9 | 42.1 | 18.1 | 35.8 |
| Corn for silage, tons | 5.0 | 6.7 | 7.2 | 4.0 | 5.4 |
| Corn fodder, tons | 2.1 | 2.7 | 2.6 | 2.0 | 2.7 |
| Alfalfa hay, tons | 1.8 | 1.9 | 1.8 | 1.3 | 1.8 |
| Red or alsike clover hay, tons | 1.5 | 1.5 | 1.2 | 1.2 | 1.2 |
| Brome or timothy hay, tons | 1.6 | 1.2 | 1.1 | .9 | 1.0 |
| Wild hay on non-tillable land, tons | 1.1 | 1.0 | 1.3 | .9 | 1.0 |

Table 32. Summary of Miscellaneous Items by Years

| | 1947 | 1948 | 1949 | 1950 | 1951 |
|---|---|---|---|---|---|
| **MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY** | | | | | |
| % high return crops | 27.3 | 27.0 | 32.7 | 30.9 | 36.3 |
| A.U. livestock per 100 A.* | 13.3 | 13.1 | 13.6 | 13.1 | 15.2 |
| No. of work units | 288 | 284 | 293 | 242 | 258 |
| Work units per worker | 201 | 213 | 223 | 186 | 215 |
| Expenses per work unit | $ 4.39 | $ 4.54 | $ 4.34 | $ 5.22 | $ 5.42 |
| **AMOUNT OF LIVESTOCK** | | | | | |
| No. of milk cows | 9.0 | 8.3 | 8.6 | 8.3 | 8.7 |
| No. of other dairy cattle | 8.7 | 8.7 | 9.3 | 9.4 | 9.5 |
| No. head of sheep | 1.7 | 4.5 | 2.5 | 1.9 | 2.1 |
| No. of hens | 85 | 72 | 60 | 82 | 66 |
| Lbs. hogs produced | 2093 | 2348 | 3132 | 2651 | 3567 |
| No. litters of hogs raised | 1.5 | 1.7 | 2.6 | 3.0 | 4.1 |
| No. of horses | 1.7 | 1.5 | 1.3 | 1.3 | 1.0 |
| **PRODUCTION PER UNIT OF LIVESTOCK** | | | | | |
| Lbs. B.F. per dairy cow | 218 | 236 | 253 | 256 | 252 |
| Pigs weaned per litter | 6.7 | 7.4 | 7.3 | 6.7 | 7.1 |
| No. eggs laid per hen | 138 | 138 | 142 | 152 | 165 |
| Lbs. wool per sheep sheared | 6.9 | 6.7 | 6.5 | 7.1 | 6.8 |
| % lamb crop | 98 | 109 | 104 | 87 | 123 |
| **PRICE RECEIVED PER** | | | | | |
| Lb. B.F. sold (cts.) | 87.1 | 97.6 | 73.4 | 73.7 | 85.1 |
| Cwt. hogs sold | $ 25.50 | $ 25.55 | $ 20.71 | $ 21.15 | $ 23.25 |
| Cwt. lambs sold | 20.50 | 22.41 | 22.54 | 26.06 | 31.01 |
| Lb. wool sold (cts.) | 38.4 | 48.4 | 48.2 | 59.3 | 102.5 |
| Doz. eggs sold (cts.) | 40.9 | 41.5 | 39.9 | 31.0 | 42.6 |
| **RETURN ABOVE FEED COST PER** | | | | | |
| Dairy cow | $102.85 | $141.61 | $100.81 | $ 94.56 | $137.46 |
| Cwt. hogs produced | 8.87 | 7.74 | 6.44 | 8.63 | 6.66 |
| Head of sheep | 8.85 | 7.85 | 7.67 | 6.03 | 15.42 |
| Hen | .76 | 1.40 | 1.81 | .63 | 2.10 |
| **FEED COST PER** | | | | | |
| Dairy cow | $ 94.89 | $103.18 | $ 93.35 | $112.88 | $ 96.89 |
| Cwt. hogs produced | 16.77 | 15.18 | 10.46 | 12.33 | 14.21 |
| Head of sheep | 3.10 | 5.55 | 5.72 | 8.29 | 8.08 |
| Hen | 4.40 | 3.85 | 3.48 | 3.44 | 4.24 |
| Horse | 35.50 | 38.08 | 34.05 | 41.12 | 25.52 |

* The animal unit equivalents were changed in 1951