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UNIVERSITY OF MINNESOTA
Department of Agriculture
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
Cooperating

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# A Preliminary Report of Data Secured in 1940 on the FARM ACCOUNTING ROUTE in WINONA COUNTY, MINNESOTA

By
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Mimeographed Report No. 125
Division of Agricultural Economics
University Farm
St. Paul, Minnesota
June, 1941

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## SOURCE OF DATA

### Method of Study

A study of the organization and management of a selected group of farms in Winona County was started on March 1, 1935. This study is being conducted under the supervision of the Division of Agricultural Economics of the University of Minnesota in cooperation with the Bureau of Agricultural Economics of the United States Department of Agriculture.* Farms which were representative of the better

*The Economics of Soil Conservation, Division of Research, United States Department of Agriculture, also cooperated in 1937-41.

Note: Completion of this project was made possible by workers supplied on Federal Students' Work Project, 1940-41, Project No. 53-100. Sponsor: University of Minnesota.

managed farms in the area were chosen with the aid of the county agricultural agent, Mr. H. C. Pederson. The farmers cooperating in this study keep a complete record of cash receipts and expenses, a daily record of the labor used on each crop and class of livestock, and a record of farm produce used in the house. These records are checked at least twice per month by a fieldman and supplemented with inventories, feed records, reports of cropping practices and yields, and other significant facts about the farm business. The data collected are sent to the central office at University Farm, St. Paul, where a detailed set of records for each farm is kept. This report on farmers' earnings and crop and livestock returns for 1940 was prepared from these farmers' records.

## Description of the Area

Winona County lies in the southeastern part of the state. The topography varies from gently rolling to very hilly. Much of the country is covered with a deposit of very productive loessal material. The surface soil is deficient in lime, but lime deposits underlie it at a relatively shallow depth. The soil washes easily, with the steeper slopes subject to considerable erosion. The growing season varies from 140 to 160 days. The average rainfall is approximately 29 inches, 70 per cent of which is received during the months of April to September, inclusive. Livestock and livestock products constitute the major source of income.

## Description of the Farms

Soil erosion control is a definite problem on most of the farms studied. In fact, this area was selected because it offered an opportunity to study the effect of erosion control methods on farm organization and the cost of farm operation. A few fairly level farms were included for purposes of comparison. Most of the operators of the farms subject to erosion are cooperating with the Federal Soil Conservation Service in an erosion control program. The changes in field arrangements and cropping practices specified by that program were begun in 1936 and were almost completed in 1937. Difficulties in obtaining satisfactory stands of grass seedings has hindered the completion of the changes. The possible effects of these changes should be considered in comparing the crop statements for the five years.

## Description of the Crop Seasons

Heavy precipitation, plus the moisture from the winter snows on unfrozen ground, provided moisture for good yields in 1935. Heavy summer rains, however, interfered with the curing of hay and drying of grain in the shock. Rainfall was satisfactory during the spring of 1936, but scant rains and high temperatures during July reduced the yields of all crops. Rainfall was again satisfactory in the spring of 1937, but scant rains and high temperatures during the early part of July reduced the yield of the second cutting of hay. Precipitation was extremely heavy during 1938 -- fifty-eight per cent above normal, and ten inches above the previous high reported by the Weather Bureau. Precipitation during the six months of April through September was seventy-four per cent above normal. Frequent rains falling after cutting reduced the quality of a large proportion of the hay, and caused a complete loss of part of it. Severe lodging and poor drying conditions caused heavy losses in both the quantity and quality of small grains harvested. Lower than normal temperatures and heavy rainfall through June and July gave the corn crop a slow start, but higher than normal temperatures and a late frost permitted the maturing of a high yield of corn. Light precipitation during the spring of 1939 and heavy rains during the haying season resulted in low hay yields. Light precipitation in July limited the growth of second crop hay. Temperatures above normal and rains falling at critical times resulted in corn yields considerably above those of the preceding four years. Conditions for hay production were about average in 1940. Precipitation and temperature were favorable for the production of small grains, but very frequent rains in August interfered with threshing and growth in the shock occurred in many cases. Conditions for corn production were not as favorable as in the previous two years. Heavy precipitation and low temperatures in August delayed maturing, causing a very high moisture content at husking time.

Facts About the Organization and Production of the Farms

| | 1940 | | | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. |
|---|---|---|---|---|---|---|---|---|---|
| | Five high earn. | Five low earn. | All farms | All farms | All farms | All farms | All farms | All farms | six years |
| Acres per Farm: | | | | | | | | | |
| Barley | 23 | 22 | 18 | 25 | 28 | 27 | 38 | 51 | 31 |
| Oats | 28 | 26 | 28 | 18 | 29 | 26 | 26 | 35 | 27 |
| Mixed oats and barley | 8 | 13 | 9 | 10 | 4 | 5 | 5 | 3 | 6 |
| Mixed oats and wheat | - | - | 1 | 4 | 2 | 8 | 2 | 7 | 4 |
| Wheat | 8 | 7 | 6 | 7 | 10 | 11 | 8 | 11 | 9 |
| Corn | 26 | 23 | 25 | 28 | 28 | 28 | 32 | 26 | 28 |
| Flax | 9 | 9 | 5 | 4 | - | - | 4 | 1 | 2 |
| Other grain | 9 | 4 | 5 | 3 | 4 | 3 | 7 | 11 | 6 |
| Alfalfa | 12 | 8 | 10 | 10 | 19 | 20 | 14 | 18 | 15 |
| Clover and timothy | 20 | 20 | 19 | 18 | 14 | 17 | 23 | 11 | 17 |
| Wild hay | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 3 | 2 |
| Other hay | 7 | 11 | 8 | 17 | 5 | 3 | 3 | 5 | 7 |
| Other crops | 7 | 17 | 10 | 4 | 11 | 6 | 15 | 3 | 8 |
| All crops | 160 | 163 | 146 | 150 | 156 | 157 | 179 | 185 | 162 |
| Woods and pasture | 109 | 133 | 114 | 112 | 111 | 105 | 109 | 135 | 114 |
| Farmstead, road & waste | 12 | 8 | 10 | 12 | 11 | 11 | 13 | 14 | 12 |
| All land | 281 | 304 | 270 | 274 | 278 | 273 | 301 | 334 | 288 |
| Livestock per Farm: | | | | | | | | | |
| Cows, no. | 26 | 21 | 21 | 20 | 20 | 20 | 20 | 19 | 20 |
| Other cattle, no. | 25 | 25 | 23 | 22 | 24 | 23 | 26 | 25 | 24 |
| Sheep, no. | 26 | 38 | 16 | 20 | 15 | 19 | 18 | 21 | 18 |
| Hogs, lbs. produced | 19127 | 18613 | 16470 | 15266 | 17715 | 11888 | 13124 | 9459 | 13987 |
| Laying hens, no. | 117 | 112 | 118 | 125 | 152 | 142 | 204 | 187 | 155 |
| Other chickens, no. | 46 | 63 | 61 | 64 | 83 | 66 | 130 | 117 | 87 |
| Hours of Man Labor per Farm: | | | | | | | | | |
| Total | 9030 | 7441 | 8105 | 8299 | 9074 | 8885 | 9319 | 8829 | 8752 |
| Livestock | 5003 | 3468 | 4136 | 4124 | 4572 | 4330 | 4544 | 3802 | 4251 |
| Crops | 2184 | 2230 | 1926 | 2056 | 2278 | 2267 | 2469 | 2559 | 2259 |
| Other | 1843 | 1743 | 2043 | 2119 | 2224 | 2288 | 2306 | 2468 | 2242 |
| Operator | 3546 | 2918 | 3160 | 3281 | 3191 | 3298 | 3290 | 3200 | 3237 |
| Unpaid family labor | 587 | 931 | 2143 | 2132 | 2343 | 2109 | 2373 | 1688 | 2131 |
| Hired | 4532 | 3397 | 2561 | 2665 | 3245 | 3188 | 3410 | 3617 | 3114 |
| Exchange received | 365 | 195 | 241 | 221 | 295 | 290 | 246 | 324 | 270 |
| Hours worked per day: | | | | | | | | | |
| Work days | 11.3 | 10.8 | 10.3 | 10.3 | 10.5 | 10.5 | 10.5 | 9.5 | 10.3 |
| Sundays | 5.4 | 4.3 | 4.4 | 4.2 | 4.5 | 4.2 | 4.3 | 3.2 | 4.1 |
| Work horses per farm | 5 | 5 | 4 | 5 | 5 | 5 | 6 | 6 | 5 |
| Hours worked per horse | 632 | 671 | 599 | 698 | 717 | 745 | 848 | 887 | 748 |
| Crop acres per horse | 33 | 34 | 35 | 34 | 31 | 30 | 33 | 34 | 33 |

## FINANCIAL STATEMENTS

### Methods of Computing and Presenting Data

Average earnings, inventories, and household and personal expenses for 1940 are presented for all farmers, for the five farmers with the highest labor earnings and for the five farmers with the lowest earnings. Averages for 1939, 1938, 1937, 1936, 1935, and for the six years combined are also given.

Some of the farms studied were either partly or entirely rented, with the rental contracts varying among them. In order to have the data for these farms comparable with the owned farms, they were adjusted to a full-ownership basis. All farm property, regardless of ownership, was included in the inventory. Cash rent and interest paid was excluded from the expenses. The landlord's expenses were included, and the landlord's share of the crops was included with the receipts.

The total value of all sales and purchases made during the year, whether paid during the year or not, were included with the sales and purchases. Receipts or payments pertaining to previous years were omitted. Board for hired labor was charged against the farm at $18 per month for 1938, 1939 and 1940, and at $15 per month for the previous years. Wages for unpaid family labor were calculated at 20 cents per hour.

The returns to capital and family labor is the amount left as pay for the use of the farm capital and for the labor of the farm operator and his family. This is the return from which the farmer must pay interest on debts, pay for his living expenses, and make his savings. Family labor earnings is what is left as pay for the labor of the operator and his family, after deducting an allowance for interest on the investment from the returns to capital and family labor. The operator's labor earnings is the amount left to the farm operator as pay for his labor and management after all farm expenses, interest on the investment and an allownace for the unpaid family labor have been paid. A minus (-) operator's labor earnings indicates the extent to which the receipts were insufficient to cover the expense.

Average Farm Inventories

| | 1940 | | | 1939 | 1938 | 1937 | 1936 | 1935 | Average |
|---|---|---|---|---|---|---|---|---|---|
| | 5 high earnings | 5 low earnings | All farms | All farms | All farms | All farms | All farms | All farms | six years |
| Land | $5935 | $7738 | $6092 | $6092 | $6404 | $5629 | $5911 | $5844 | $5985 |
| Farm buildings | 5353 | 3648 | 4318 | 4332 | 4726 | 4622 | 5304 | 5228 | 4755 |
| Horses | 440 | 510 | 495 | 537 | 757 | 778 | 793 | 750 | 685 |
| Cattle | 2356 | 1955 | 1864 | 1748 | 1809 | 1697 | 1763 | 1446 | 1721 |
| Sheep | 170 | 269 | 112 | 120 | 80 | 99 | 91 | 110 | 102 |
| Swine | 480 | 376 | 375 | 367 | 471 | 395 | 370 | 294 | 379 |
| Poultry | 342 | 200 | 202 | 172 | 235 | 215 | 135 | 80 | 173 |
| Feeds, seeds, and misc. | 2027 | 1385 | 1411 | 1248 | 1271 | 1402 | 1447 | 1358 | 1356 |
| Auto (f. share) | 200 | 106 | 133 | 134 | 109 | 149 | 72 | 70 | 111 |
| Truck (f. share) | 248 | 143 | 150 | 99 | 135 | 140 | 149 | 115 | 131 |
| Tractor | 516 | 578 | 608 | 501 | 546 | 459 | 366 | 315 | 466 |
| Mach. & Equip. | 2050 | 1904 | 1904 | 1763 | 1847 | 1743 | 1637 | 1633 | 1755 |
| Total | 20117 | 18812 | 17664 | 17050 | 18390 | 17328 | 18038 | 17243 | 17619 |

Receipts, Expenses, and Earnings per Farm

| | 1940 | | | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. |
|---|---|---|---|---|---|---|---|---|---|
| | 5 high earnings | 5 low earnings | All farms | All farms | All farms | All farms | All farms | All farms | six years |
| Receipts: | | | | | | | | | |
| Dairy Products | $2575 | $1365 | $1665 | $1356 | $1309 | $1458 | $1360 | $1049 | $1366 |
| Cattle | 1030 | 820 | 724 | 860 | 894 | 721 | 671 | 771 | 774 |
| Hogs | 1138 | 977 | 885 | 933 | 1254 | 1056 | 1169 | 725 | 1004 |
| Sheep and wool | 186 | 186 | 94 | 92 | 60 | 102 | 102 | 93 | 91 |
| Poultry and eggs | 293 | 252 | 290 | 276 | 420 | 366 | 318 | 294 | 327 |
| Turkeys | 1104 | 417 | 664 | 704 | 951 | 669 | 210 | 16 | 536 |
| Horses | 52 | 5 | 45 | 33 | 37 | 108 | 111 | 110 | 74 |
| Barley | 65 | 2 | 18 | 65 | 72 | 278 | 560 | 344 | 223 |
| Wheat | 14 | - | 9 | 38 | 33 | 111 | 96 | 147 | 72 |
| Other crops | 236 | 317 | 293 | 236 | 191 | 197 | 294 | 135 | 224 |
| Work off farm | 24 | 13 | 95 | 143 | 101 | 195 | 151 | 252 | 156 |
| Miscellaneous | 378 | 86 | 349 | 251 | 342 | 329 | 536 | 143 | 325 |
| A.A.A. payments | 176 | 257 | 192 | 273 | 207 | 192 | 231 | 105 | 200 |
| Total cash farm rec. | 7271 | 4697 | 5323 | 5260 | 5871 | 5782 | 5809 | 4184 | 5372 |
| Farm produce used | 353 | 281 | 326 | 305 | 340 | 352 | 384 | 363 | 345 |
| Increase in inventory | 926 | 120 | 568 | 431 | 357 | 59 | 1009 | 14 | 406 |
| TOTAL FARM RECEIPTS | 8550 | 5098 | 6217 | 5996 | 6568 | 6193 | 7202 | 4561 | 6123 |
| Expenses: | | | | | | | | | |
| Cattle bought | 272 | 202 | 208 | 169 | 320 | 71 | 334 | 153 | 209 |
| Hogs bought | 42 | 39 | 32 | 107 | 122 | 54 | 95 | 45 | 76 |
| Sheep bought | 126 | 5 | 34 | 12 | 1 | 6 | 16 | 7 | 13 |
| Poultry bought | 23 | 31 | 31 | 28 | 33 | 33 | 38 | 26 | 31 |
| Turkeys bought | 455 | 81 | 175 | 142 | 85 | 17 | 50 | 3 | 79 |
| Horses bought | 15 | 3 | 12 | 26 | 26 | 32 | 65 | 64 | 37 |
| Feed for livestock | 1108 | 855 | 838 | 781 | 912 | 917 | 698 | 292 | 740 |
| Other livestock exp. | 91 | 72 | 65 | 77 | 79 | 100 | 48 | 37 | 68 |
| Crop expense | 310 | 356 | 264 | 240 | 238 | 227 | 215 | 199 | 230 |
| Hired labor | 500 | 359 | 285 | 299 | 384 | 356 | 360 | 366 | 341 |
| Buildings, fencing | 197 | 219 | 176 | 197 | 393 | 143 | 425 | 213 | 258 |
| Machinery | 357 | 374 | 433 | 401 | 427 | 419 | 384 | 358 | 404 |
| Tractor | 411 | 425 | 470 | 355 | 313 | 329 | 313 | 207 | 331 |
| Truck | 221 | 70 | 136 | 94 | 184 | 135 | 126 | 121 | 133 |
| Auto | 155 | 69 | 139 | 114 | 86 | 148 | 95 | 83 | 111 |
| Electricity | 56 | 52 | 46 | 39 | 35 | 39 | 39 | 40 | 40 |
| Taxes | 294 | 286 | 249 | 276 | 320 | 285 | 268 | 244 | 274 |
| Insurance | 42 | 35 | 37 | 36 | 59 | 50 | 55 | 39 | 46 |
| Miscellaneous | 65 | 46 | 44 | 27 | 30 | 30 | 29 | 29 | 31 |
| Total cash farm exp. | 4740 | 3579 | 3674 | 3420 | 4047 | 3391 | 3653 | 2526 | 3452 |
| Board for hired labor | 190 | 141 | 118 | 131 | 183 | 143 | 156 | 167 | 150 |
| TOTAL FARM EXPENSES | 4930 | 3720 | 3792 | 3551 | 4230 | 3534 | 3809 | 2693 | 3602 |
| Returns to capital & family labor | 3620 | 1378 | 2425 | 2445 | 2338 | 2659 | 3393 | 1868 | 2521 |
| Int. on avg. inventory | 1006 | 941 | 883 | 853 | 920 | 866 | 900 | 862 | 880 |
| Family labor earnings | 2614 | 437 | 1542 | 1592 | 1418 | 1793 | 2493 | 1006 | 1641 |
| Wages unpaid family labor | 121 | 164 | 424 | 426 | 469 | 422 | 453 | 338 | 422 |
| OPERATOR'S LABOR EARNINGS | 2493 | 273 | 1118 | 1166 | 949 | 1371 | 2040 | 668 | 1219 |

Farm Produce Used in the House

| Product | 1940 5 high earnings | 1940 5 low earnings | 1940 All farms | 1939 All farms | 1938 All farms | 1937 All farms | 1936 All farms | 1935 All farms | Avg. six years |
|---|---|---|---|---|---|---|---|---|---|
| **Quantities** | | | | | | | | | |
| Whole milk, qts. | $2403 | $1052 | $1564 | $1435 | $1417 | $1375 | $1536 | $1625 | $1492 |
| Skimmilk, qts. | 97 | 290 | 119 | 118 | 190 | 164 | 152 | 79 | 137 |
| Cream, pts. | 187 | 194 | 194 | 227 | 227 | 576 | 277 | 291 | 299 |
| Farm made butter, lbs. | - | - | - | - | - | - | - | 3 | 1 |
| Eggs, doz. | 174 | 174 | 210 | 212 | 217 | 213 | 214 | 205 | 212 |
| Poultry, lbs. | 179 | 203 | 197 | 247 | 165 | 165 | 209 | 159 | 190 |
| Cattle, lbs. | 25 | 222 | 159 | 295 | 400 | 194 | 393 | 247 | 281 |
| Hogs, lbs. | 926 | 1063 | 939 | 685 | 770 | 745 | 804 | 992 | 823 |
| Sheep, lbs. | - | - | - | - | - | - | - | 10 | 2 |
| Potatoes, bu. | 23 | 24 | 24 | 26 | 33 | 36 | 39 | 46 | 34 |
| Farm fuel, cds. | 17 | 9 | 13 | 12 | 15 | 12 | 13 | 14 | 13 |
| **Values** | | | | | | | | | |
| Whole milk | $74.00 | $31.90 | $46.41 | $38.64 | $37.88 | $47.18 | $50.05 | $47.55 | $44.62 |
| Skimmilk | .33 | .98 | .39 | .41 | .61 | .76 | .67 | .30 | .52 |
| Cream | 19.00 | 19.97 | 19.87 | 20.66 | 20.93 | 27.21 | 29.49 | 27.57 | 24.29 |
| Farm made butter | - | - | - | - | - | - | .04 | .84 | .14 |
| Eggs | 27.80 | 26.91 | 32.47 | 30.24 | 38.55 | 37.69 | 43.01 | 42.14 | 37.35 |
| Poultry | 19.48 | 20.16 | 21.29 | 24.13 | 19.79 | 24.46 | 24.85 | 19.94 | 22.41 |
| Cattle | 2.50 | 18.68 | 13.79 | 23.89 | 31.26 | 15.02 | 26.82 | 14.00 | 20.80 |
| Hogs | 56.12 | 62.45 | 57.20 | 38.58 | 55.55 | 59.94 | 75.24 | 92.99 | 63.25 |
| Sheep | - | - | - | - | - | - | - | .54 | .09 |
| Potatoes | 14.37 | 14.36 | 14.70 | 15.39 | 15.73 | 31.93 | 26.35 | 17.70 | 20.30 |
| Vegetables & fruits | 56.00 | 42.60 | 53.15 | 50.71 | 43.70 | 48.00 | 40.63 | 31.25 | 44.57 |
| Farm fuel | 83.00 | 43.00 | 66.75 | 62.14 | 76.30 | 59.90 | 67.08 | 68.45 | 66.77 |
| Total | 352.60 | 281.01 | 326.02 | 304.79 | 340.30 | 352.09 | 384.23 | 363.27 | 345.11 |
| Size of family (man equivalent) | 4.6 | 3.6 | 4.3 | 4.5 | 4.6 | 4.7 | 4.6 | 4.9 | 4.6 |

Household and Personal Statement*

| | 1940 | | | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. |
|---|---|---|---|---|---|---|---|---|---|
| | 5 high earnings | 5 low earnings | All farms | All farms | All farms | All farms | All farms | All farms | six years |
| Inventories: | | | | | | | | | |
| House, woodshed & smokehouse | $3161 | $1904 | $2454 | $2211 | $2680 | $2644 | $2614 | $2823 | $2571 |
| Furnishings & equip. | 438 | 538 | 468 | 494 | 563 | 476 | 415 | 451 | 478 |
| Clothing, etc. | 175 | 203 | 191 | 217 | 238 | 219 | 218 | 224 | 218 |
| Elect. plant | - | 4 | 1 | 12 | 8 | 14 | 7 | 8 | 8 |
| Gas engine+ | - | 2 | 1 | - | - | - | - | 2 | 1 |
| Auto and truck+ | 212 | 350 | 270 | 282 | 329 | 214 | 233 | 246 | 262 |
| Total | 3986 | 3001 | 3385 | 3216 | 3818 | 3567 | 3487 | 3754 | 3538 |
| Cash Expenses: | | | | | | | | | |
| Food | 306 | 293 | 305 | 278 | 311 | 326 | 312 | 292 | 304 |
| Operating & supplies | 66 | 111 | 68 | 58 | 57 | 65 | 50 | 39 | 56 |
| Furnish. & equip. | 118 | 46 | 96 | 49 | 78 | 88 | 95 | 59 | 78 |
| Additions & repairs on house | 120 | 210 | 86 | 31 | 216 | 94 | 171 | 53 | 109 |
| Hired help | 59 | 92 | 40 | 43 | 23 | 18 | 19 | 22 | 27 |
| Electricity+ | 42 | 45 | 46 | 44 | 47 | 31 | 33 | 30 | 39 |
| Clothing & materials | 156 | 109 | 134 | 105 | 112 | 143 | 134 | 141 | 128 |
| Health | 74 | 76 | 64 | 84 | 73 | 87 | 50 | 47 | 67 |
| School expenses | 3 | 12 | 18 | 18 | 22 | 15 | 17 | 21 | 19 |
| Reading materials | 4 | 10 | 7 | 4 | 6 | 5 | 5 | 6 | 5 |
| Church, charity, etc. | 40 | 44 | 57 | 41 | 36 | 37 | 47 | 39 | 43 |
| Recreation | 26 | 9 | 18 | 14 | 21 | 22 | 19 | 18 | 19 |
| Personal | 99 | 60 | 169 | 158 | 178 | 140 | 128 | 136 | 151 |
| Life ins. & savings | 130 | 133 | 112 | 94 | 137 | 191 | 126 | 144 | 134 |
| Auto and truck+ | 244 | 441 | 350 | 311 | 261 | 286 | 296 | 314 | 303 |
| Total | 1487 | 1691 | 1570 | 1332 | 1578 | 1548 | 1502 | 1361 | 1482 |
| Farm produce used | 368 | 298 | 334 | 313 | 340 | 348 | 384 | 363 | 347 |
| Decrease in inventory | - | - | - | - | - | - | - | 19 | 3 |
| Interest on inventory | 199 | 150 | 169 | 161 | 191 | 179 | 174 | 188 | 177 |
| Total expense | 2054 | 2139 | 2073 | 1806 | 2109 | 2075 | 2060 | 1931 | 2009 |
| Receipts: | | | | | | | | | |
| Cash receipts | 138 | 214 | 138 | 423‡ | 203‡ | 416‡ | 121 | 271 | 262 |
| Increase in inventory | 7 | 68 | 41 | 27 | 222 | 68 | 145 | - | 84 |
| Total | 145 | 282 | 179 | 450 | 425 | 484 | 266 | 271 | 346 |
| Net cash expense | 1909 | 1857 | 1894 | 1356 | 1684 | 1591 | 1794 | 1660 | 1663 |
| Size of family | 4.6 | 3.6 | 4.3 | 4.5 | 4.6 | 4.6 | 4.6 | 4.9 | 4.6 |

*For farms furnishing complete records of household and personal expenses.
+Household and personal share.
‡Large primarily because of inheritance of substantial sums.

## LIVESTOCK STATEMENTS

### Methods of Computing and Presenting Data

The comparative costs and returns for each of the different classes of livestock maintained are presented for each year together with an average for the six years. All data are shown on the basis of a standard unit such as one head or 100 pounds gain in weight. Both quantities - pounds of feed, days of pasture, man and horse hours, pounds produced, etc. - and money costs and returns are shown. The amounts of feed, with the exception of pasture, are given in pounds rather

than in bushels or tons. All corn has been reduced to a shelled corn basis. The man hours include both regular daily chore labor and irregular labor such as tending sick animals, marketing livestock and livestock products, and hauling feed and bedding. The horse hours likewise include both regular and irregular work.

Local prices were used, insofar as possible, in determining the costs and returns. Marketable feeds were charged at local prices and non-marketable feeds on a comparative-feeding-value basis. No charge was made for straw or for corn stalk pasture. Man labor was figured at 20 cents per hour and horse work at the rate determined for each individual farm. The shelter charge was based on the annual cost of the buildings housing livestock, prorated on the basis of the space occupied. The equipment charge was based upon the annual cost of the particular equipment used by that class of livestock. The expense for portable brooder houses and hog houses was included in the equipment charge and omitted from the shelter charge. The equipment charge also includes a charge for the use of the auto and truck in connection with the livestock work. Interest was calculated at five per cent on the average of the beginning and ending inventories. Miscellaneous cash costs include such cash expenses as veterinary fees, medicine, salt, minerals, fuel for brooders, incubators and tank heaters, horse-shoeing and sheep-shearing. The manure credit was calculated on the basis of the kind and amount of feed consumed and the proportion of the fertilizing elements returned in the manure. Credit was allowed for manure produced, regardless of whether or not it was utilized.

The value of livestock production was determined by adding the sales, the products used in the house and the ending inventory and then deducting from this total the sum of the beginning inventory and purchases. In the case of the different classes of cattle, transfers from one group to another were considered the same as purchases and sales. The weight produced was calculated in the same manner as the value produced except that weights were used instead of values.

The returns have been expressed in several ways. The gain is the amount left after deducting all the charges listed in the table. The return over feed cost is what is left after deducting the feed cost from the value of the product, excluding manure. In other words, the return over feed cost and the manure are what the farmer has to pay him for his labor, the horse work, shelter, equipment, interest and miscellaneous cash costs. In each case a minus (-) indicates a failure to meet the particular expenses involved.

In considering the returns from livestock, one should keep in mind that these are comparative figures and include some charges which do not represent actual cash outlay. The feed, man labor, horse work, use of buildings and equipment, and interest on the investment have been charged to the enterprise, although they may represent very little direct cash expense. Therefore, a minus return means that the particular class of livestock has failed to pay the usual market prices charged for the different factors. There may be no other more profitable alternative use for the buildings, much of the labor, or for the non-marketable feed. A return above the price of the marketable feeds and cash expenses may justify continued production although these figures fail to show a gain.

## Cows

The costs and returns are for cows only. They neither include any feed nor expense for the bull nor any credit for calves born. In determining the total quantity of milk fed to claves, it was assumed that the calves that were nursing received one and one-half gallons of milk per day. The value of the dairy products fed includes all milk and skimmilk fed to calves as well as to the other classes of livestock. The butterfat per cow was calculated by dividing the total butterfat utilized (sold, used in the house, and fed to livestock) by the average number of cows in the herd.

Cost and Return per Cow

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 20 | 21 | 23 | 25 | 24 | 20 | |
| Number of cows per farm | 21 | 20 | 20 | 20 | 20 | 19 | 20 |
| Butterfat per cow, lb. | 257 | 248 | 233 | 224 | 207 | 189 | 226 |
| Man labor, hours | 119 | 129 | 130 | 142 | 140 | 126 | 131 |
| Horse work, hours | 2.2 | 2.5 | 2.3 | 4.1 | 5.2 | 3.9 | 3.4 |
| Costs: | | | | | | | |
| Feed | $40.62 | $36.43 | $35.01 | $41.87 | $37.49 | $27.57 | $36.50 |
| Man labor | 23.79 | 25.78 | 26.09 | 27.53 | 28.11 | 25.23 | 26.09 |
| Horse work | .23 | .23 | .26 | .41 | .52 | .32 | .33 |
| Shelter | 6.97 | 6.95 | 6.92 | 7.16 | 7.25 | 7.83 | 7.18 |
| Equipment | 4.48 | 4.61 | 4.30 | 3.87 | 4.06 | 3.89 | 4.20 |
| Interest at 5% | 2.82 | 2.79 | 2.62 | 2.67 | 2.43 | 2.19 | 2.59 |
| Misc. cash | 1.94 | 1.73 | 1.48 | 1.22 | 1.24 | 1.04 | 1.44 |
| Total costs | 80.85 | 78.52 | 76.68 | 84.73 | 81.10 | 68.07 | 78.33 |
| Manure credit | 4.54 | 4.88 | 4.47 | 4.28 | 3.75 | 2.61 | 4.09 |
| Appreciation | 3.04 | 6.23 | .77 | 2.69 | .42 | 2.26 | 2.57 |
| Total credit | 7.58 | 11.11 | 5.24 | 6.97 | 4.17 | 4.87 | 6.66 |
| Net cost | 73.27 | 67.41 | 71.44 | 77.76 | 76.93 | 63.20 | 71.67 |
| Value of dairy products: | | | | | | | |
| Sold | 80.84 | 69.42 | 65.10 | 77.26 | 69.73 | 54.93 | 69.55 |
| Used in house | 3.69 | 3.31 | 3.01 | 4.06 | 4.17 | 4.18 | 3.74 |
| Fed to livestock | 13.85 | 14.11 | 12.64 | 16.15 | 15.22 | 11.70 | 13.94 |
| Total product | 98.38 | 86.84 | 80.75 | 97.47 | 89.12 | 70.81 | 87.23 |
| Return over all costs | 25.11 | 19.43 | 9.31 | 19.71 | 12.19 | 7.61 | 15.56 |
| Return over feed cost | 60.80 | 56.64 | 46.51 | 58.29 | 52.05 | 45.50 | 53.30 |
| Price recd. for B.F., ¢ | 34.2 | 30.2 | 30.4 | 37.3 | 36.5 | 33.1 | 33.6 |
| Feeds: | | | | | | | |
| Corn, lb. | 468 | 451 | 422 | 211 | 187 | 86 | 304 |
| Small grain, lb. | 1258 | 1158 | 771 | 693 | 677 | 323 | 813 |
| Other concentrates, lb. | 284 | 279 | 304 | 268 | 229 | 214 | 263 |
| Hay, lb. | 3259 | 3207 | 3148 | 3307 | 3266 | 2029 | 3036 |
| Fodder and stover, lb. | 357 | 484 | 439 | 359 | 260 | 230 | 355 |
| Silage, lb. | 6982 | 6522 | 5644 | 5701 | 5908 | 6311 | 6178 |
| Total concentrates, lb. | 2010 | 1888 | 1497 | 1172 | 1093 | 623 | 1380 |
| Total roughage,* lb. | 5943 | 5865 | 5468 | 5566 | 5495 | 4363 | 5450 |
| Pasture, days | 170 | 167 | 144 | 138 | 168 | 142 | 155 |
| % Protein in ration | 13.2 | 13.2 | 14.1 | 13.8 | 13.7 | 12.5 | 13.4 |
| Range for specified items, 1940: | | | | | | | |
| No. of head per farm | | | | | 5 | to | 46 |
| Butterfat per cow, lb. | | | | | 181 | to | 373 |
| Man labor, hours | | | | | 60 | to | 181 |
| Horse work, hours | | | | | 0 | to | 4.8 |
| Net cost | | | | | $50.68 | to | $105.55 |
| Value of total product | | | | | 63.76 | to | 158.18 |
| Return over all costs | | | | | -7.65+ | to | 57.90 |
| Return over feed cost | | | | | 30.64 | to | 111.12 |
| Price rec.per lb.of b.f., ¢ | | | | | 31.2 | to | 45.0 |
| Total concentrates fed, lb. | | | | | 675 | to | 3919 |
| Total roughages,* lb. | | | | | 4311 | to | 10462 |
| Pasture, days | | | | | 127 | to | 191 |
| % Protein in ration | | | | | 10.3 | to | 15.0 |

*Three pounds of silage considered as one pound of roughage.
+Costs greater than value of production.

## Other Cattle

Other cattle include all cattle except cows. The dairy herds include herds in which calves were raised only for replacement, for sale as breeding stock or for sale as veal. The milk-and-beef herds include those where some cattle, raised or purchased, were fattened for sale as beef.

Cost and Return per Head of Other Cattle
Dairy Herds

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 17 | 18 | 18 | 20 | 17 | 13 | |
| Number of head per farm | 22 | 21 | 20 | 20 | 18 | 20 | 20 |
| Man labor, hours | 21 | 19 | 20 | 22 | 23 | 18 | 21 |
| Horse work, hours | 1.3 | 1.2 | 1.2 | 1.9 | 2.1 | 1.5 | 1.5 |
| Costs: | | | | | | | |
| Feed | $22.16 | $19.92 | $20.91 | $25.07 | $22.53 | $19.47 | $21.68 |
| Man labor | 4.28 | 3.75 | 4.08 | 4.42 | 4.58 | 3.64 | 4.13 |
| Horse work | .13 | .11 | .12 | .19 | .20 | .13 | .15 |
| Shelter | 3.85 | 4.15 | 5.05 | 5.54 | 5.22 | 5.91 | 4.95 |
| Equipment | .22 | .22 | .38 | .27 | .05 | .21 | .22 |
| Interest at 5% | 1.59 | 1.53 | 1.50 | 1.54 | 1.62 | 1.34 | 1.52 |
| Misc. cash | .42 | .45 | .36 | .41 | .41 | .26 | .38 |
| Total costs | 32.65 | 30.13 | 32.40 | 37.44 | 34.61 | 30.96 | 33.03 |
| Manure credit | 2.42 | 2.29 | 2.28 | 2.09 | 1.94 | 1.50 | 2.09 |
| Net cost | 30.23 | 27.84 | 30.12 | 35.35 | 32.67 | 29.46 | 30.94 |
| Value of product | 28.07 | 32.80 | 30.50 | 32.27 | 30.02 | 28.86 | 30.42 |
| Return over all costs | -2.16* | 4.96 | .38 | -3.08* | -2.65* | -.60* | -.52* |
| Return over feed cost | 5.91 | 12.88 | 9.59 | 7.20 | 7.49 | 9.39 | 8.74 |
| Feeds: | | | | | | | |
| Grain, lb. | 468 | 478 | 387 | 338 | 295 | 228 | 366 |
| Mill feeds, lb. | 16 | 23 | 26 | 23 | 26 | 33 | 24 |
| Hay, lb. | 1985 | 1739 | 1788 | 1624 | 1440 | 825 | 1567 |
| Fodder and stover, lb. | 253 | 365 | 293 | 206 | 132 | 89 | 223 |
| Silage, lb. | 3140 | 2902 | 2323 | 2148 | 2177 | 3070 | 2626 |
| Total concentrates, lb. | 484 | 501 | 413 | 361 | 321 | 261 | 390 |
| Total roughages+ | 3285 | 3071 | 2855 | 2546 | 2298 | 1937 | 2665 |
| Whole milk, lb. | 306 | 292 | 304 | 274 | 273 | 275 | 287 |
| Skimmilk, lb. | 1950 | 1828 | 2229 | 2077 | 2152 | 1909 | 2024 |
| Pasture, days | 118 | 108 | 85 | 100 | 124 | 111 | 108 |
| Range for specified items, 1940: | | | | | | | |
| No. of head per farm | | | | | 13 | to | 54 |
| Net cost | | | | | $23.50 | to | $40.00 |
| Value of product | | | | | 12.55 | to | 58.19 |
| Return over all costs | | | | | -17.03* | to | 23.31 |
| Return over feed cost | | | | | -12.22 | to | 37.35 |
| Total concentrates, lb. | | | | | 12 | to | 1112 |
| Total roughage,+ lb. | | | | | 2250 | to | 4425 |
| Whole milk, lb. | | | | | 176 | to | 489 |
| Skimmilk, lb. | | | | | 109 | to | 3593 |
| Pasture, days | | | | | 56 | to | 162 |

*A minus indicates a cost greater than the value of production.
+Three pounds of silage considered as one pound of roughage.

Cost and Return per Head of Other Cattle
Milk-and-Beef Herds

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 3 | 3 | 5 | 5 | 7 | 7 | |
| Number of head per farm | 31 | 27 | 39 | 39 | 45 | 34 | 36 |
| Man labor, hours | 15 | 17 | 17 | 15 | 15 | 11 | 15 |
| Horse work, hours | .1 | .9 | .7 | .8 | 1.2 | .9 | .8 |
| Costs: | | | | | | | |
| Feed | $27.01 | $28.66 | $24.06 | $24.71 | $19.82 | $16.35 | $23.43 |
| Man labor | 3.03 | 3.46 | 3.33 | 2.94 | 3.08 | 2.20 | 3.01 |
| Horse work | .01 | .04 | .10 | .08 | .10 | .07 | .07 |
| Shelter | 5.60 | 6.45 | 4.95 | 3.14 | 3.95 | 4.63 | 4.79 |
| Equipment | .49 | .45 | .13 | .08 | .09 | .16 | .23 |
| Interest at 5% | 1.72 | 1.60 | 1.78 | 1.40 | 1.52 | 1.17 | 1.53 |
| Misc. cash | .52 | 1.29 | .50 | .16 | .25 | .13 | .48 |
| Total costs | 38.38 | 41.95 | 34.85 | 32.51 | 28.81 | 24.71 | 33.54 |
| Manure credit | 2.74 | 3.14 | 2.78 | 2.05 | 1.74 | 1.39 | 2.31 |
| Net cost | 35.64 | 38.81 | 32.07 | 30.46 | 27.07 | 23.32 | 31.23 |
| Value of product | 27.68 | 30.72 | 35.55 | 23.22 | 24.34 | 27.55 | 28.18 |
| Return over all costs | -7.96* | -8.09* | 3.48 | -7.24* | -2.73* | 4.23 | -3.05* |
| Return over feed cost | .67 | 2.06 | 11.49 | -1.49 | 4.52 | 11.20 | 4.75 |
| Feed: | | | | | | | |
| Grain, lb. | 1287 | 1514 | 902 | 566 | 271 | 247 | 798 |
| Mill feeds, lb. | 16 | 26 | 41 | 5 | 6 | 8 | 17 |
| Hay, lb. | 1615 | 2037 | 1833 | 1583 | 1398 | 871 | 1556 |
| Fodder and stover, lb. | 0 | 45 | 839 | 428 | 286 | 460 | 343 |
| Silage, lb. | 4658 | 4160 | 2348 | 2131 | 1989 | 2349 | 2939 |
| Total concentrates, lb. | 1303 | 1540 | 943 | 571 | 277 | 255 | 815 |
| Total roughages,+ lb. | 3168 | 3469 | 3455 | 2721 | 2347 | 2114 | 2879 |
| Whole milk, lb. | 101 | 154 | 139 | 110 | 155 | 220 | 147 |
| Skimmilk, lb. | 1319 | 1947 | 1746 | 1321 | 818 | 837 | 1331 |
| Pasture, days | 128 | 120 | 78 | 92 | 135 | 121 | 112 |
| Range for specified items, 1940: | | | | | | | |
| No. of head per farm | | | | | 21 | to | 40 |
| Net cost | | | | | $33.57 | to | $39.28 |
| Value of product | | | | | 20.71 | to | 35.02 |
| Return over all costs | | | | | -12.86* | to | -4.26* |
| Return over feed cost | | | | | - 5.97 | to | 8.00 |
| Total concentrates, lb. | | | | | 1111 | to | 1403 |
| Total roughages,+ lb. | | | | | 2178 | to | 3875 |
| Whole milk, lb. | | | | | 55 | to | 146 |
| Skimmilk, lb. | | | | | 702 | to | 1847 |
| Pasture, days | | | | | 104 | to | 147 |

*A minus indicates a cost greater than the value of production.
+Three pounds of silage considered as one pound of roughage.

## All Cattle

Expenses and returns per unit of all cattle, including cows and other cattle, are presented. One cow, one bull, one feeder steer or heifer, or two head of other cattle, are considered as one unit. In this statement for "all cattle," the milk used by the calves is included both in the feed and in the credit for dairy products fed to livestock.

Cost and Return per Unit of All Cattle
Dairy Herds

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 17 | 18 | 18 | 20 | 17 | 13 | |
| Units per farm | 34 | 32 | 32 | 31 | 27 | 39 | 32 |
| Man labor, hours | 90 | 96 | 100 | 103 | 126 | 99 | 102 |
| Horse work, hours | 2.5 | 2.6 | 2.1 | 4.4 | 5.5 | 4.1 | 3.5 |
| Costs: | | | | | | | |
| Feed | $41.11 | $37.26 | $36.17 | $43.35 | $40.78 | $31.36 | $38.34 |
| Man labor | 18.05 | 19.34 | 19.97 | 20.61 | 24.79 | 19.76 | 20.42 |
| Horse work | .26 | .23 | .23 | .43 | .56 | .34 | .34 |
| Shelter | 6.76 | 7.03 | 7.55 | 7.99 | 8.74 | 9.53 | 7.94 |
| Equipment | 2.98 | 3.07 | 3.17 | 2.66 | 2.99 | 2.49 | 2.89 |
| Interest at 5% | 2.87 | 2.83 | 2.70 | 2.80 | 2.88 | 2.43 | 2.75 |
| Miscellaneous cash | 1.51 | 1.48 | 1.18 | 1.12 | 1.21 | .83 | 1.22 |
| Total costs | 73.54 | 71.24 | 70.97 | 78.96 | 81.95 | 66.74 | 73.90 |
| Manure credit | 4.58 | 4.75 | 4.42 | 4.16 | 3.76 | 2.67 | 4.06 |
| Net cost | 68.96 | 66.49 | 66.55 | 74.80 | 78.19 | 64.07 | 69.84 |
| Value of product: | | | | | | | |
| Animal | 20.65 | 25.05 | 18.66 | 21.07 | 20.57 | 21.24 | 21.20 |
| Dairy | 65.70 | 57.42 | 55.40 | 65.76 | 65.94 | 47.54 | 59.63 |
| Total product | 86.35 | 82.47 | 74.06 | 86.83 | 86.51 | 68.78 | 80.83 |
| Return over all costs | 17.39 | 15.98 | 7.51 | 12.03 | 8.32 | 4.71 | 10.99 |
| Return over feed cost | 45.24 | 45.21 | 37.89 | 43.48 | 45.73 | 37.42 | 42.49 |
| Feeds: | | | | | | | |
| Corn, lb. | 355 | 376 | 302 | 172 | 178 | 68 | 242 |
| Small grain, lb. | 1068 | 999 | 705 | 626 | 597 | 351 | 724 |
| Mill feeds, lb. | 179 | 176 | 176 | 178 | 179 | 172 | 177 |
| Hay, lb. | 3432 | 3280 | 3224 | 3307 | 3054 | 1719 | 3003 |
| Fodder and stover, lb. | 418 | 600 | 471 | 326 | 306 | 199 | 386 |
| Silage, lb. | 6645 | 6111 | 5312 | 5549 | 5502 | 6510 | 5938 |
| Milk, lb. | 196 | 190 | 176 | 131 | 176 | 171 | 173 |
| Skimmilk, lb. | 1532 | 1451 | 1688 | 1536 | 1596 | 1450 | 1542 |
| Total concentrates,*lb. | 1891 | 1824 | 1493 | 1254 | 1249 | 861 | 1429 |
| Total roughage,+ lb. | 6065 | 5917 | 5465 | 5483 | 5194 | 4088 | 5368 |
| Pasture, days | 190 | 181 | 153 | 164 | 204 | 166 | 176 |
| Range for specified items, 1940: | | | | | | | |
| Units per farm | | | | | 16 | to | 74 |
| Man labor, hours | | | | | 46 | to | 144 |
| Net cost | | | | | $53.08 | to | $90.93 |
| Total value of product | | | | | 50.82 | to | 133.22 |
| Return over all costs | | | | | -4.65 | to | 42.29 |
| Return over feed cost | | | | | 10.19 | to | 88.86 |
| Total concentrates,* lb. | | | | | 729 | to | 2958 |
| Total roughage,+ lb. | | | | | 4647 | to | 9332 |
| Pasture, days | | | | | 151 | to | 224 |

*Six pounds of milk or skimmilk considered as one pound of concentrates.
+Three pounds of silage considered as one pound of roughage.

Cost and Return per Unit of All Cattle
Milk-and-Beef Herds

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 3 | 3 | 5 | 5 | 7 | 7 | |
| Units per farm | 29 | 28 | 38 | 42 | 44 | 37 | 36 |
| Man labor, hours | 72 | 72 | 82 | 75 | 67 | 65 | 72 |
| Horse work, hours | .2 | .9 | 1.5 | 1.5 | 2.9 | 2.1 | 1.5 |
| Costs: | | | | | | | |
| Feed | $47.11 | $41.81 | $41.03 | $38.24 | $39.92 | $28.78 | $39.48 |
| Man labor | 14.26 | 14.30 | 16.32 | 14.98 | 13.42 | 12.93 | 14.37 |
| Horse work | .03 | .12 | .22 | .15 | .26 | .16 | .16 |
| Shelter | 10.10 | 10.29 | 8.48 | 5.55 | 7.14 | 7.60 | 8.19 |
| Equipment | 2.79 | 2.58 | 1.89 | 1.66 | 1.86 | 2.42 | 2.20 |
| Interest at 5% | 3.23 | 2.92 | 3.05 | 2.28 | 2.73 | 2.09 | 2.72 |
| Miscellaneous cash | 1.58 | 1.77 | 1.31 | .60 | .77 | .67 | 1.11 |
| Total costs | 79.10 | 73.79 | 72.30 | 63.46 | 66.10 | 54.65 | 68.23 |
| Manure credit | 4.83 | 4.98 | 4.89 | 3.47 | 3.92 | 2.72 | 4.13 |
| Net cost | 74.27 | 68.81 | 67.41 | 59.99 | 62.18 | 51.93 | 64.10 |
| Value of product: | | | | | | | |
| Animal | 30.92 | 34.32 | 35.64 | 22.67 | 27.27 | 26.14 | 29.49 |
| Dairy | 36.38 | 33.64 | 35.11 | 36.16 | 37.83 | 33.85 | 35.50 |
| Total product | 67.30 | 67.96 | 70.75 | 58.83 | 65.10 | 59.99 | 64.99 |
| Return over all costs | -6.97‡ | -.85‡ | 3.34 | -1.16‡ | 2.92 | 8.06 | .89 |
| Return over feed cost | 20.19 | 26.15 | 29.72 | 20.59 | 25.18 | 31.21 | 25.51 |
| Feed: | | | | | | | |
| Corn, lb. | 1118 | 867 | 764 | 281 | 261 | 192 | 580 |
| Small grain, lb. | 1087 | 1184 | 787 | 644 | 532 | 262 | 749 |
| Mill feeds, lb. | 64 | 79 | 145 | 54 | 67 | 32 | 74 |
| Hay, lb. | 3068 | 3240 | 3345 | 2798 | 3367 | 2065 | 2980 |
| Fodder and stover, lb. | - | 88 | 1086 | 661 | 399 | 607 | 474 |
| Silage, lb. | 8491 | 7633 | 4903 | 3677 | 5118 | 5044 | 5811 |
| Milk, lb. | 110 | 145 | 137 | 95 | 152 | 191 | 138 |
| Skimmilk, lb. | 1398 | 1792 | 1732 | 1161 | 916 | 872 | 1312 |
| Total concentrates,*lb. | 2520 | 2453 | 2008 | 1188 | 1038 | 663 | 1645 |
| Total roughage,+ lb. | 5899 | 5872 | 6065 | 4685 | 5473 | 4352 | 5391 |
| Pasture, days | 211 | 197 | 144 | 141 | 223 | 201 | 186 |

| Range for specified items, 1940: | | | |
|---|---|---|---|
| Units per farm | 16 | to | 37 |
| Man labor, hours | 40 | to | 106 |
| Net cost | $63.64 | to | $85.70 |
| Total value of product | 54.11 | to | 78.14 |
| Return over all cost | -19.35‡ | to | 5.99 |
| Return over feed cost | 4.82 | to | 31.73 |
| Total concentrates,* lb. | 1976 | to | 2798 |
| Total roughage,+ lb. | 4270 | to | 6859 |
| Pasture, days | 178 | to | 242 |

*Six pounds of milk or skimmilk considered as one pound of concentrates.
+Three pounds of silage considered as one pound of roughage.
‡A minus indicates a cost greater than the value of production.

## Sheep

The cost and return per head for sheep are presented below. The number of head of sheep is the average number of mature head for a year with two lambs up to six months of age considered as one mature sheep. The fleece weight was calculated by dividing the total clip by the number of sheep sheared. The per cent death loss is based on the total number of sheep and lambs, regardless of the length of time that they were on the farm. The lambs raised per ewe is the number of lambs raised to six months of age divided by the number of ewes at lambing time.

Cost and Return per Sheep

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 7 | 7 | 8 | 12 | 12 | 12 | |
| Number of sheep per farm | 46 | 59 | 42 | 39 | 35 | 33 | 42 |
| Man labor, hours | 4.5 | 2.9 | 4.2 | 3.6 | 2.4 | 2.6 | 3.4 |
| Horse work, hours | .4 | .2 | .3 | .3 | .1 | .3 | .3 |
| Costs: | | | | | | | |
| Feed | $2.38 | $1.75 | $1.57 | $1.84 | $1.49 | $1.56 | $1.77 |
| Man labor | .90 | .59 | .84 | .73 | .48 | .51 | .68 |
| Horse work | .03 | .02 | .02 | .02 | .01 | .03 | .02 |
| Shelter | 1.07 | .34 | .74 | .59 | .70 | .59 | .67 |
| Equipment | .10 | .04 | .26 | .10 | .11 | .12 | .12 |
| Interest at 5% | .40 | .24 | .26 | .25 | .24 | .25 | .27 |
| Miscellaneous cash | .19 | .18 | .17 | .15 | .19 | .18 | .18 |
| Total cost | 5.07 | 3.16 | 3.86 | 3.68 | 3.22 | 3.24 | 3.71 |
| Manure credit | .20 | .19 | .15 | .16 | .13 | .11 | .16 |
| Net cost | 4.87 | 2.97 | 3.71 | 3.52 | 3.09 | 3.13 | 3.55 |
| Value produced: | | | | | | | |
| Sheep | 3.30 | 3.66 | 2.59 | 3.60 | 3.50 | 2.77 | 3.24 |
| Wool | 2.56 | 1.48 | 1.20 | 1.71 | 1.84 | 1.73 | 1.75 |
| Total product | 5.86 | 5.14 | 3.79 | 5.31 | 5.34 | 4.50 | 4.99 |
| Return over all costs | .99 | 2.17 | .08 | 1.79 | 2.25 | 1.37 | 1.44 |
| Return over feed cost | 3.48 | 3.39 | 2.22 | 3.47 | 3.85 | 2.94 | 3.22 |
| Weight of fleece, lb. | 8.1 | 7.5 | 8.4 | 8.8 | 7.9 | 8.3 | 8.2 |
| % lamb crop | 83 | 70 | 122 | 98 | 104 | 86 | 94 |
| % death loss, lambs | 18 | 14 | 5 | 9 | 13 | 19 | 13 |
| % death loss, sheep | 16 | 10 | 7 | 14 | 13 | 10 | 12 |
| Feeds: | | | | | | | |
| Grain, lb. | 95 | 52 | 49 | 24 | 16 | 21 | 43 |
| Hay and fodder, lb. | 153 | 178 | 161 | 188 | 168 | 108 | 159 |
| Silage, lb. | 339 | 307 | 152 | 114 | 58 | 240 | 202 |
| Total roughage,* lb. | 266 | 280 | 212 | 226 | 187 | 188 | 226 |
| Pasture, days | 218 | 223 | 221 | 210 | 211 | 156 | 207 |

| Range for specified items, 1940: | | | |
|---|---|---|---|
| Number of sheep per farm | 5 | to | 161 |
| Man labor, hours | 1.7 | to | 10.7 |
| Net cost | $2.65 | to | $8.63 |
| Total product | 3.53 | to | 10.05 |
| Return over all costs | -3.38 | to | 3.72 |
| Return over feed cost | 1.62 | to | 6.61 |
| Weight of fleece, lb. | 5.0 | to | 13.2 |
| % lamb crop | 33 | to | 150 |
| % death loss, lambs, | 0 | to | 40 |
| % death loss, sheep | 0 | to | 43 |
| Grain, lb. | 0 | to | 229 |
| Total roughage,* lb. | 62 | to | 614 |
| Pasture, days | 82 | to | 292 |

*Three pounds of silage considered as one pound of roughage.

## Hogs

The cost and return per one hundred pounds of hogs are presented below. The number of pigs per litter was calculated by adding together the number of pigs raised to six months of age and those that were sold or butchered at an earlier age. This sum was divided by the number of litters farrowed. The average market weight and the price received per hundred pounds are based on the total sales of hogs and pigs. The pounds of hogs produced include any gain in weight of breeding hogs and likewise the expenses include the cost of maintaining the breeding herd. The return over all costs is the difference between the net expenses per hundred pounds and the selling price. It does not include any receipts from corn-hog benefit payments. The return over feed is the difference between the feed cost and the selling price.

Cost and Return per 100 Pounds Hogs Produced

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 20 | 21 | 23 | 23 | 24 | 19 | |
| Lbs. produced per farm | 16,470 | 15,582 | 17,715 | 12,643 | 13,124 | 9,741 | 14,213 |
| Man labor, hours | 2.9 | 3.2 | 2.8 | 3.4 | 3.4 | 2.9 | 3.1 |
| Horse work, hours | .1 | .2 | .2 | .2 | .3 | .3 | .2 |
| Costs: | | | | | | | |
| Feed | $5.22 | $5.18 | $4.30 | $6.36 | $6.62 | $4.94 | $5.43 |
| Man labor | .58 | .63 | .56 | .69 | .67 | .57 | .62 |
| Horse work | .02 | .02 | .02 | .02 | .03 | .03 | .02 |
| Shelter | .16 | .14 | .20 | .25 | .20 | .24 | .20 |
| Equipment | .10 | .12 | .09 | .11 | .09 | .19 | .12 |
| Interest at 5% | .11 | .11 | .15 | .16 | .15 | .18 | .14 |
| Miscellaneous cash | .06 | .08 | .04 | .05 | .06 | .05 | .06 |
| Total cost | 6.25 | 6.28 | 5.36 | 7.64 | 7.82 | 6.20 | 6.59 |
| Manure credit | .41 | .42 | .39 | .40 | .35 | .37 | .39 |
| Net cost | 5.84 | 5.86 | 4.97 | 7.24 | 7.47 | 5.83 | 6.20 |
| Avg. sell. price per cwt. | 5.52 | 5.86 | 7.66 | 9.31 | 9.18 | 8.99 | 7.75 |
| Return over all costs | -.32 | .00 | 2.69 | 2.07 | 1.71 | 3.16 | 1.55 |
| Return over feed | .30 | .68 | 3.36 | 2.95 | 2.56 | 4.05 | 2.32 |
| Avg. weight of hogs sold | 239 | 238 | 231 | 236 | 226 | 235 | 234 |
| Pigs raised per litter | 6.2 | 6.3 | 7.3 | 6.4 | 6.0 | 5.9 | 6.3 |
| Feeds: | | | | | | | |
| Corn, lb. | 295 | 309 | 272 | 189 | 214 | 236 | 252 |
| Small grain, lb. | 189 | 203 | 159 | 223 | 147 | 151 | 179 |
| Other concentrates, lb. | 4 | 4 | 5 | 12 | 12 | 17 | 9 |
| Total concentrates, lb. | 488 | 516 | 436 | 424 | 373 | 404 | 440 |
| Skimmilk equivalent,*lb. | 512 | 612 | 637 | 713 | 660 | 597 | 622 |
| Pasture, days | 35 | 46 | 34 | 9 | 27 | 27 | 30 |
| Range for specified items, 1940: | | | | | | | |
| Pounds produced per farm | | | | | 3469 | to | 42715 |
| Man labor, hours | | | | | 1.6 | to | 5.8 |
| Net cost | | | | | $4.35 | to | $10.98 |
| Average selling price per cwt. | | | | | 4.90 | to | 6.24 |
| Return over all costs | | | | | -5.79 | to | 1.12 |
| Average weight of hogs sold | | | | | 89 | to | 317 |
| Pigs raised per litter | | | | | 3.0 | to | 9.5 |
| Total concentrates; lb. | | | | | 323 | to | 875 |
| Skimmilk equivalent,* lb. | | | | | 194 | to | 1219 |
| Pasture, days | | | | | 0 | to | 120 |

*Skimmilk and buttermilk plus ten times the weight of tankage fed.

## Chickens

The data for chickens are presented on the basis of one hundred hens. In a few instances, a small number of ducks or geese were raised. In such cases, the feed, labor and other expenses, and the receipts for ducks and geese are included. One rooster, or two chicks under six months of age, are considered as one unit in calculating the number of other chickens. Portable brooder houses were considered as equipment in arriving at the costs for shelter and equipment. The division of the costs between the production of eggs and the production of poultry was made on the basis of the proportion of the income obtained from each.

Cost and Return per 100 Hens

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 19 | 19 | 22 | 24 | 23 | 19 | |
| No. laying hens per farm | 125 | 136 | 158 | 145 | 136 | 124 | 137 |
| No. other chickens per farm | 64 | 68 | 87 | 71 | 77 | 79 | 74 |
| Eggs per hen | 145 | 146 | 150 | 141 | 121 | 119 | 137 |
| Man labor, hours | 251 | 270 | 281 | 296 | 355 | 329 | 297 |
| Horse work, hours | 7.1 | 4.8 | 6.3 | 7.7 | 9.1 | 9.0 | 7.3 |
| Costs: | | | | | | | |
| Feed | $162.13 | $154.27 | $138.57 | $190.96 | $201.93 | $175.76 | $170.60 |
| Man labor | 50.28 | 54.12 | 56.21 | 59.25 | 71.04 | 65.82 | 59.45 |
| Horse work | .57 | .39 | .70 | .73 | .90 | .77 | .68 |
| Shelter | 16.69 | 16.45 | 17.15 | 16.79 | 18.31 | 18.51 | 17.32 |
| Equipment | 12.39 | 16.32 | 18.53 | 21.44 | 15.96 | 20.08 | 17.45 |
| Interest at 5% | 3.41 | 3.45 | 3.58 | 3.65 | 3.83 | 3.65 | 3.60 |
| Miscellaneous cash | 10.27 | 10.14 | 12.29 | 11.77 | 13.05 | 17.36 | 12.48 |
| Total cost | 255.74 | 255.14 | 247.03 | 304.59 | 325.02 | 301.95 | 281.58 |
| Manure credit | 9.74 | 9.91 | 9.10 | 8.52 | 9.22 | 9.49 | 9.33 |
| Net cost | 246.00 | 245.23 | 237.93 | 296.07 | 315.80 | 292.46 | 272.25 |
| Value of product: | | | | | | | |
| Poultry | 61.84 | 54.03 | 54.93 | 63.53 | 69.32 | 76.49 | 63.36 |
| Eggs | 194.78 | 191.67 | 234.44 | 220.40 | 209.08 | 218.44 | 211.46 |
| Total product | 256.62 | 245.70 | 289.37 | 283.93 | 278.40 | 294.93 | 274.82 |
| Return over all costs | 10.62 | .47 | 51.44 | -12.14* | -37.40* | 2.47 | 2.57 |
| Return over feed cost | 94.49 | 91.43 | 150.80 | 92.97 | 76.47 | 119.17 | 104.22 |
| Price per dozen eggs | .16 | .16 | .19 | .19 | .21 | .23 | .19 |
| Feeds: | | | | | | | |
| Corn, lb. | 4384 | 4108 | 3590 | 2719 | 3687 | 3244 | 3622 |
| Small grain, lb. | 5011 | 4926 | 4437 | 4228 | 4226 | 5851 | 4780 |
| Other concentrates, lb. | 2634 | 2494 | 2601 | 3054 | 2778 | 2477 | 2673 |
| Meat scraps, lb. | 442 | 619 | 532 | 417 | 425 | 337 | 462 |
| Skimmilk, lb. | 3383 | 4582 | 4179 | 3769 | 6217 | 6126 | 4709 |
| Total concentrates, lb. | 12029 | 11528 | 10628 | 10001 | 10691 | 11572 | 11075 |
| Skimmilk equivalent, +lb. | 10903 | 15101 | 13226 | 10858 | 13448 | 11855 | 12565 |
| Range for specified items, 1940: | | | | | | | |
| Number of laying hens per farm | | | | | 65 | to | 200 |
| Number of other chickens per farm | | | | | 0 | to | 154 |
| Eggs per hen | | | | | 85 | to | 207 |
| Man labor, hours | | | | | 113 | to | 514 |
| Net cost | | | | | $138.76 | to | $387.28 |
| Value of poultry | | | | | -29.15* | to | 209.80 |
| Value of eggs | | | | | 113.15 | to | 278.44 |
| Value of total product | | | | | 84.00 | to | 470.98 |
| Return over all costs | | | | | -104.13* | to | 156.71 |
| Return over feed cost | | | | | -7.30 | to | 285.59 |
| Selling price per dozen eggs | | | | | 13.5 | to | 19.6 |

*A minus (-) indicates a loss or a failure to cover the charges.

+One pound of meat scraps or tankage considered as 17 pounds of skimmilk.

## Turkeys

The cost and return per one hundred pounds of turkeys are presented below. The pounds of turkeys produced includes the gain in weight of the laying flock as well as of the market turkeys. The average market weight and the average price received per pound are based upon the total sales of all turkeys. The per cent death loss of poults is based upon the death loss from the time the poults were hatched or purchased until the end of December, when most of the market turkeys had been sold. Death losses of the turkeys kept for the laying flock and of the poults which were covered by windstorm insurance, were not included.

Cost and Return per 100 Pounds of Turkeys Produced

| | 1940 | 1939 | 1938 | 1937 | 1936 | Avg. 5 yrs. |
|---|---|---|---|---|---|---|
| Number of farms | 7 | 7 | 7 | 6 | 3 | |
| Pounds produced per farm | 9476 | 11282 | 12266 | 10629 | 8323 | 10395 |
| Man labor, hours | 7.4 | 7.8 | 8.8 | 7.3 | 8.1 | 7.9 |
| Horse work, hours | .2 | .2 | .5 | .4 | .3 | .3 |
| Costs: | | | | | | |
| Feed | $10.65 | $8.37 | $8.96 | $14.47 | $14.85 | $11.46 |
| Man labor | 1.48 | 1.57 | 1.77 | 1.46 | 1.63 | 1.58 |
| Horse work | .02 | .01 | .06 | .04 | .04 | .03 |
| Shelter and equipment | .95 | .58 | .89 | .70 | 1.16 | .86 |
| Interest at 5% | .16 | .15 | .20 | .20 | .19 | .18 |
| Miscellaneous cash | .64 | .47 | .66 | .70 | .77 | .65 |
| Total cost | 13.90 | 11.15 | 12.54 | 17.57 | 18.64 | 14.76 |
| Credits: | | | | | | |
| Eggs sold | .06 | .00 | 1.56 | .60 | 2.34 | .91 |
| Manure | .65 | .50 | .55 | .64 | .58 | .58 |
| Total credits | .71 | .50 | 2.11 | 1.24 | 2.92 | 1.49 |
| Net cost | 13.19 | 10.65 | 10.43 | 16.33 | 15.72 | 13.27 |
| Value produced | 14.53 | 15.22 | 20.61 | 21.89 | 13.64 | 17.18 |
| Return over all costs | 1.34 | 4.57 | 10.18 | 5.56 | -2.08* | 3.91 |
| Return over feed cost+ | 3.94 | 6.85 | 13.21 | 8.02 | 1.13 | 6.63 |
| Average weight of turkeys sold | 16.2 | 15.2 | 14.7 | 14.4 | 14.8 | 15.1 |
| Average selling price per lb. | 15.7 | 16.1 | 19.5 | 20.9 | 16.6 | 17.8 |
| Per cent hatch | 63 | 60 | 64 | 64 | 60 | 62 |
| Per cent death loss of poults | 30 | 26 | 26 | 26 | 37 | 29 |
| Feeds: | | | | | | |
| Corn, lbs. | 218 | 174 | 200 | 248 | 303 | 229 |
| Small grain, lbs. | 303 | 157 | 140 | 164 | 61 | 165 |
| Other concentrates, lbs. | 258 | 245 | 289 | 350 | 320 | 292 |
| Total concentrates, lbs. | 779 | 576 | 629 | 762 | 684 | 686 |
| Meat scraps and tankage, lbs. | 37 | 26 | 37 | 22 | 40 | 32 |
| Skimmilk and buttermilk, lbs. | 65 | 68 | 44 | 65 | 44 | 57 |
| Range for specified items, 1940: | | | | | | |
| Pounds produced per farm | | | | 2602 | to | 15120 |
| Man labor, hours | | | | 4.3 | to | 10.1 |
| Net cost | | | | $9.48 | to | $20.77 |
| Value produced | | | | 10.99 | to | 20.53 |
| Return over all costs | | | | -3.38* | to | 4.55 |
| Average weight of turkeys sold, lbs. | | | | 14.3 | to | 18.5 |
| Average selling price per pound | | | | 14.4¢ | to | 17.3¢ |
| Per cent death loss of poults | | | | 9 | to | 60 |
| Total concentrates, lbs. | | | | 539 | to | 1448 |
| Meat scraps and tankage, lbs. | | | | 0 | to | 93 |
| Skimmilk and buttermilk, lbs. | | | | 0 | to | 195 |

*A minus (-) indicates a loss or a failure to cover the charges.
+Includes value of eggs sold.

## Work Horses

Average cost per work horse and per hour of horse work are presented. Costs and income for colts and other horses that are not worked are not included. Tractors were used for drawbar power on nineteen farms in 1940 and in 1939, on twenty farms in 1938, on nineteen farms in 1937, on eighteen farms in 1936, and on fifteen farms in 1935.

Cost of Horse Work per Horse

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 20 | 21 | 23 | 25 | 24 | 19 | |
| Horses per farm | 4 | 5 | 5 | 5 | 6 | 6 | 5 |
| Crop acres per horse | 35 | 34 | 31 | 30 | 33 | 34 | 33 |
| Man labor, hours | 51 | 47 | 54 | 55 | 63 | 54 | 54 |
| Costs: | | | | | | | |
| Feed | $30.12 | $30.11 | $30.30 | $35.91 | $40.14 | $40.87 | $34.57 |
| Labor | 10.24 | 9.41 | 10.79 | 10.95 | 12.56 | 10.78 | 10.79 |
| Shelter | 7.33 | 7.71 | 8.84 | 10.01 | 8.44 | 10.14 | 8.78 |
| Equipment | 4.28 | 3.09 | 4.37 | 4.30 | 4.82 | 5.49 | 4.39 |
| Interest at 5% | 4.79 | 4.85 | 5.32 | 5.32 | 5.20 | 4.91 | 5.07 |
| Miscellaneous cash | .91 | 1.91 | 1.76 | 1.08 | 1.02 | .79 | 1.24 |
| Depreciation | 11.80 | 8.59 | 11.49 | 6.90 | 9.00 | 6.50 | 9.05 |
| Total cost | 69.67 | 65.67 | 72.87 | 74.47 | 81.18 | 79.48 | 73.89 |
| Manure credit | 3.30 | 3.40 | 3.55 | 3.00 | 4.15 | 5.50 | 3.82 |
| Net cost | 66.37 | 62.27 | 69.32 | 71.47 | 77.03 | 73.98 | 70.07 |
| Hours worked | 599 | 695 | 717 | 745 | 848 | 887 | 748 |
| Cost per hour, cents | 11.1 | 9.0 | 9.7 | 9.6 | 9.1 | 8.3 | 9.4 |
| Feed: | | | | | | | |
| Grain, lb. | 1686 | 1980 | 2021 | 1727 | 2328 | 2286 | 2005 |
| Roughages,* lb. | 4888 | 4461 | 4253 | 3713 | 4536 | 4073 | 4321 |
| Pasture, days | 135 | 130 | 88 | 72 | 82 | 70 | 96 |
| Range for specified items, 1940: | | | | | | | |
| Horses per farm | | | | | 2 | to | 7 |
| Crop acres per horse | | | | | 9 | to | 124 |
| Man labor, hours | | | | | 13 | to | 83 |
| Net cost | | | | | $32.54 | to | $111.68 |
| Hours worked | | | | | 221 | to | 1001 |
| Cost per hour, cents | | | | | 5.0 | to | 24.1 |
| Grain, lb. | | | | | 601 | to | 4109 |
| Roughage,* lb. | | | | | 533 | to | 7467 |
| Pasture, days | | | | | 103 | to | 171 |

*Hay, fodder and stover plus one-third the weight of silage.

## Tractors

The number of hours tractors were operated and the cost per hour of operation are presented below for both two-plow and three-plow tractors. The labor of the regular farm workers used in servicing and repairing was charged at twenty cents per hour. The full amount of the gasoline tax (4¢ per gallon) was deducted from the fuel and oil expense whether it was actually collected this year or not. The use of the automobile, truck, and horses in repairing or servicing was charged at the rates found on the farms studied. Other cash expenses include the cash cost of repairing, parts, etc. Interest was calculated on the average of the beginning and ending inventories.

Cost per Hour for Tractors

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| **Two-Plow Tractors** | | | | | | | |
| Number of farms | 15 | 13 | 13 | 10 | 9 | 4 | |
| Hours worked per year: | | | | | | | |
| Drawbar | 352 | 388 | 351 | 275 | 194 | 292 | 309 |
| Belt | 88 | 123 | 106 | 71 | 59 | 79 | 87 |
| Totals | 440 | 511 | 457 | 346 | 253 | 371 | 396 |
| Per 100 hours of operation: | | | | | | | |
| Labor, hours | 6.7 | 7.7 | 6.4 | 8.8 | 10.6 | 9.4 | 8.3 |
| Fuel, gallons | 177 | 203 | 197 | 212 | 235 | 192 | 203 |
| Oil, quarts | 15 | 16 | 14 | 17 | 25 | 26 | 19 |
| Cost per hour of operation: | | | | | | | |
| Labor | $.014 | $.016 | $.013 | $.018 | $.021 | $.029 | $.019 |
| Fuel, oil and grease | .237 | .263 | .258 | .267 | .309 | .236 | .262 |
| Other cash expenses | .060 | .026 | .030 | .050 | .033 | .066 | .044 |
| Auto, truck & horses | .001 | .002 | .001 | .003 | .003 | .005 | .002 |
| Depreciation | .129 | .105 | .169 | .144 | .085 | .108 | .123 |
| Interest at 5% | .069 | .060 | .085 | .068 | .099 | .046 | .071 |
| Total cost | .510 | .472 | .556 | .550 | .550 | .490 | .521 |
| Range for specified items, 1940: | | | | | | | |
| Total hours worked per year | | | | | 223 | to | 847 |
| Fuel per 100 hours, gallons | | | | | 104 | to | 235 |
| Oil per 100 hours, quarts | | | | | 5 | to | 28 |
| Cost per hour of operation | | | | | $.358 | to | $.803 |
| **Three-Plow Tractors** | | | | | | | |
| Number of farms | 6 | 6 | 7 | 11 | 9 | 9 | |
| Hours worked per year: | | | | | | | |
| Drawbar | 312 | 395 | 394 | 388 | 443 | 372 | 384 |
| Belt | 142 | 155 | 158 | 161 | 137 | 183 | 156 |
| Total | 454 | 550 | 552 | 549 | 580 | 555 | 540 |
| Per 100 hours of operation: | | | | | | | |
| Labor, hours | 6.9 | 8.0 | 8.2 | 8.7 | 10.6 | 10.7 | 8.9 |
| Fuel, gallons | 243 | 247 | 265 | 246 | 245 | 252 | 250 |
| Oil, quarts | 20 | 22 | 22 | 22 | 31 | 35 | 25 |
| Cost per hour of operation: | | | | | | | |
| Labor | $.014 | $.016 | $.016 | $.017 | $.021 | $.021 | $.018 |
| Fuel, oil and grease | .307 | .308 | .349 | .313 | .307 | .192 | .296 |
| Other cash expenses | .084 | .054 | .123 | .099 | .053 | .195 | .101 |
| Auto, truck and horses | .003 | .003 | .002 | .002 | .002 | .005 | .003 |
| Depreciation | .126 | .142 | .144 | .145 | .087 | -.002* | .107 |
| Interest at 5% | .075 | .058 | .068 | .067 | .056 | .050 | .062 |
| Total cost | .609 | .581 | .702 | .643 | .526 | .461 | .587 |
| Range for specified items, 1940: | | | | | | | |
| Total hours worked per year | | | | | 221 | to | 634 |
| Fuel per 100 hours, gallons | | | | | 179 | to | 294 |
| Oil per 100 hours, quarts | | | | | 6 | to | 36 |
| Cost per hour of operation | | | | | $.473 | to | $.762 |

*Appreciation resulting from extensive repairs.

## Automobiles and Trucks

Cost per mile of travel for automobiles and trucks is presented. In these statements, the labor charge is the value, at twenty cents per hour, of the time the regular farm workers spent in repairing and servicing the machines. It also includes a charge for any use of horses in repairing them. Other cash expenses include the cost of license, repairs, parts, tires, insurance, and similar items. The miles driven are based on a check of the speedometer reading at the beginning and end of the year.

### Cost per Mile for Automobiles

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 17 | 17 | 21 | 22 | 23 | 18 | |
| Miles driven per car | 9620 | 10262 | 8761 | 8254 | 8422 | 7409 | 8788 |
| Miles per gal. gas. | 15.7 | 16.0 | 15.6 | 15.5 | 15.0 | 14.0 | 15.3 |
| Cost per mile of travel: | | | | | | | |
| Labor | $ - | $ - | $ - | $ - | $.001 | $.001 | $ - |
| Gas., oil and grease | .013 | .012 | .013 | .013 | .012 | .013 | .013 |
| Other cash expenses | .014 | .009 | .010 | .011 | .012 | .013 | .011 |
| Depreciation | .005 | .006 | .008 | .007 | .005 | .008 | .007 |
| Interest at 5% | .003 | .002 | .003 | .002 | .002 | .002 | .002 |
| Total cost | .035 | .029 | .034 | .033 | .032 | .037 | .033 |
| Range for specified items, 1940: | | | | | | | |
| Miles driven per car | | | | | 2500 | to | 20215 |
| Miles per gallon gasoline | | | | | 7.4 | to | 24.6 |
| Cost per mile of travel, cents | | | | | 2.1 | to | 6.2 |

### Cost per Mile for Trucks

| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | Avg. 6 yrs. |
|---|---|---|---|---|---|---|---|
| Number of farms | 10 | 12 | 14 | 15 | 14 | 12 | |
| Miles driven per truck | 6485 | 5744 | 5279 | 6365 | 4792 | 4126 | 5465 |
| Miles per gal. of gas. | 13.5 | 14.0 | 12.3 | 14.3 | 12.4 | 12.7 | 13.2 |
| Cost per mile of travel: | | | | | | | |
| Labor | $.001 | $.001 | $.001 | $.001 | $.002 | $.004 | $.002 |
| Gas., oil and grease | .015 | .016 | .015 | .015 | .017 | .016 | .016 |
| Other cash expenses | .011 | .017 | .017 | .014 | .022 | .026 | .018 |
| Depreciation | .008 | .008 | .012 | .010 | .009 | .011 | .009 |
| Interest at 5% | .003 | .003 | .004 | .003 | .004 | .004 | .003 |
| Total cost | .038 | .045 | .049 | .043 | .054 | .061 | .048 |
| Range for specified items, 1940: | | | | | | | |
| Miles driven per truck | | | | | 2373 | to | 17200 |
| Miles per gallon gasoline | | | | | 7.7 | to | 19.5 |
| Cost per mile of travel, cents | | | | | 2.2 | to | 6.4 |

## CROP STATEMENTS

### Methods of Computing and Presenting Data

The comparative cost and return for all six years for each of the principal crops grown on the farms studied are presented on pages 22 to 30. The data for each farm were computed as if the farmer were a full-owner. The factors of cost were charged at local prices. Man labor was charged at 20 cents per hour. Horse work was charged at 8 cents per hour in 1935 and 1936, at 9 cents in 1937 and 1938, and at 10 cents in 1939 and 1940. Two-plow tractors were charged at 45 cents per hour in 1935, 50 cents in 1936, 1937 and 1940, and at 55 cents in 1938 and 1939; and three-plow tractors at 60 cents in 1935, at 65 cents in 1936, 1937 and 1940, and at 70 cents in 1938 and 1939. Seeds were charged at cost, if purchased, otherwise at farm prices plus the cost of cleaning. Manure was charged at 50 cents per ton plus the cost of application. Forty per cent of the total manuring charge was allocated to the land covered and the balance was prorated on an acre basis to the remaining land normally receiving manure. Fifty per cent of the value of commercial fertilizer was charged against the crop in the year of application, twenty-five per cent the second year, and twenty-five per cent the third year. Uniform charges per acre were made for seed for hay crops, for the use of machinery, and for land. The cost of power was included with the cost of the machine for threshing, shredding and silo filling. The prices used are the averages of market value on the 15th of each month.

The costs presented are relative rather than absolute costs. Because many of the cost items, such as the farmer's own labor and the use of his own land, machinery and equipment, do not represent actual current "out-of-pocket" cash expense, it was necessary for purposes of comparison to estimate their value. Care must, therefore, be used in interpreting these data; but since the costs have been calculated on the same basis for all crops, they can be used in comparisons between crops.

Comparative Cost and Return per Acre for Principal Grain Crops

| | Barley 1935-40 | Oats 1935-40 | Oats and barley 1935-40 | Winter wheat 1935-40 | Spring wheat 1935, 37, 39 | Flax 1935, 39, 40 | Corn Husked standing 1935-40 | Corn Cut and shredded 1935-40 |
|---|---|---|---|---|---|---|---|---|
| No. farm-years | 112 | 101 | 39 | 72 | 21 | 18 | 90 | 66 |
| Acres per farm | 35 | 35 | 20 | 13 | 8 | 11 | 14 | 10 |
| Costs and return: | | | | | | | | |
| Man labor | $1.77 | $1.70 | $1.85 | $1.92 | $1.68 | $2.50 | $4.08 | $5.60 |
| Horse and tractor | 2.19 | 2.14 | 2.16 | 2.37 | 2.15 | 3.12 | 4.61 | 4.92 |
| Seed | 1.71 | 1.08 | 1.48 | 1.78 | 1.89 | 1.71 | .68 | .65 |
| Twine | .22 | .21 | .22 | .19 | .20 | .15 | - | .38 |
| Threshing | .74 | 1.10 | 1.04 | .57 | .39 | 1.19 | .31 | 1.98 |
| Manure | 1.53 | 1.40 | 1.61 | 1.44 | 1.05 | 1.36 | 2.70 | 3.46 |
| Machinery | 1.05 | 1.05 | 1.05 | 1.10 | 1.05 | 1.06 | 1.55 | 2.50 |
| Operating costs | 9.21 | 8.68 | 9.41 | 9.37 | 8.41 | 11.09 | 13.93 | 19.49 |
| Land | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Total costs | 12.71 | 12.18 | 12.91 | 12.87 | 11.91 | 14.59 | 17.43 | 20.45+ |
| Crop value | 15.69 | 11.75 | 11.74 | 14.36 | 10.23 | 15.04 | 29.38 | 28.56 |
| Crop value less cost* | 2.98‡ | -.43 | -1.17 | 1.49 | -1.68 | .45 | 11.95 | 8.11 |
| Yield, bushels | 24.9 | 37.9 | 32.6x | 16.9 | 11.5 | 9.4 | 49.8 | 48.4 |
| Cost per bushel | $.51 | $.32 | $.40 | $.76 | $1.04 | $1.55 | $.35 | $.42 |
| Avg. price for year | .63 | .31 | .36 | .85 | .89 | 1.60 | .59 | .59 |
| Amounts of labor, power & materials: | | | | | | | | |
| Before harvest: | | | | | | | | |
| Man labor, hrs. | 3.3 | 3.3 | 3.6 | 3.6 | 3.3 | 4.4 | 10.3 | 10.4 |
| Horse work, hrs. | 7.2 | 8.4 | 8.8 | 8.4 | 7.8 | 9.2 | 18.9 | 21.8 |
| Tractor use, hrs. | 1.4 | 1.2 | 1.2 | 1.5 | 1.3 | 1.9 | 2.4 | 1.3 |
| Harvest: | | | | | | | | |
| Man labor, hrs. | 5.5 | 5.2 | 5.7 | 6.0 | 5.1 | 8.1 | 10.1 | 17.6 |
| Horse work, hrs. | 5.6 | 5.4 | 5.4 | 6.6 | 5.6 | 8.4 | 15.4 | 22.3 |
| Tractor use, hrs. | .4 | .4 | .4 | .3 | .4 | .7 | .4 | - |
| Seed, bushels | 2.0 | 2.3 | 2.1 | 1.7 | 1.6 | .7 | .16 | .17 |
| Twine, pounds | 2.6 | 2.7 | 2.8 | 2.5 | 2.6 | 2.0 | - | 4.8 |

*A minus (-) indicates a cost greater than the value of the crop.
+Net cost after deducting credit for stover of $2.54.
‡At malting barley prices. Using feed barley price of $.42 crop value less cost would have been $-2.25.
xAt 40 pounds per bushel.

Comparative Cost per Acre for the Principal Roughage Crops

| | Corn for silage 1935-40 | Soybean hay 1935, 39,40 | Alfalfa 1935-40 | Alfalfa & timothy 1939-40 | Clover 1936,37 | Timothy 1937,38, 39,40 | Clover & timothy 1935,37, 38,39,40 | Wild hay 1935,37, 38,40 |
|---|---|---|---|---|---|---|---|---|
| Number farm-years | 128 | 29 | 100 | 11 | 20 | 30 | 55 | 27 |
| Acres per farm | 13 | 7 | 16 | 13 | 14 | 7 | 14 | 5 |
| Costs: | | | | | | | | |
| Man labor | $4.13 | $3.18 | $2.01 | $1.30 | $1.15 | $1.15 | $1.40 | $1.32 |
| Horse & tractor | 4.52 | 3.59 | 1.58 | 1.33 | .93 | .95 | 1.19 | .97 |
| Seed | .66 | 1.70 | 1.63 | 1.28 | 2.66 | .64 | 1.40 | - |
| Twine | .37 | .10 | - | - | - | - | - | - |
| Silage cutter | 2.20 | - | - | - | - | - | - | - |
| Manure | 2.99 | 1.66 | 1.47 | 1.67 | 1.16 | 1.60 | 1.61 | .08 |
| Machinery | 2.50 | 1.70 | 1.10 | 1.04 | .57 | .55 | .74 | .62 |
| Operating cost | 17.37 | 11.93 | 7.79 | 6.62 | 6.47 | 4.89 | 6.34 | 2.99 |
| Land | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 2.00 |
| Total cost | 19.58* | 15.43 | 11.29 | 10.12 | 9.97 | 8.39 | 9.84 | 4.99 |
| Yield, tons | 8.4 | 1.7 | 2.2 | 1.5 | 1.0 | 1.1 | 1.7 | 1.2 |
| Cost per ton | $2.33 | $9.08 | $5.13 | $6.75 | $9.97 | $7.63 | $5.79 | $4.16 |
| Amt. of labor, power and materials: | | | | | | | | |
| Before harvest or first cutting: | | | | | | | | |
| Man labor, hrs. | 9.8 | 6.8 | 5.8 | 4.0 | 5.8 | 5.7 | 5.8 | 6.6 |
| Horse work, hrs. | 18.5 | 12.5 | 8.2 | 4.7 | 8.6 | 9.0 | 8.5 | 10.0 |
| Tractor use, hrs. | 2.3 | 2.2 | .4 | .6 | .4 | .2 | .4 | .2 |
| Harvest or second cutting: | | | | | | | | |
| Man labor, hrs. | 10.8 | 9.2 | 3.5 | 1.9 | - | - | 1.2 | - |
| Horse work, hrs. | 16.6 | 9.6 | 5.2 | 2.6 | - | - | 2.0 | - |
| Tractor use, hrs. | .2 | .4 | .2 | .2 | - | - | - | - |
| Third cutting: | | | | | | | | |
| Man labor, hrs. | | | .9 | .6 | - | - | - | - |
| Horse work, hrs. | | | 1.2 | .9 | - | - | - | - |
| Tractor use, hrs. | | | - | - | - | - | - | - |
| Seed, bushels | .20 | 1.0 | | | | | | |
| Twine, lbs. | 4.7 | - | | | | | | |
| Per cent of acreage cut twice | | | 88 | 73 | 0 | 0 | 34 | 0 |
| Per cent of acreage cut three times | | | 21 | 28 | 0 | 0 | 0 | 0 |

*Net cost after deducting credit of $1.29 for corn picked up in field.

## Cost and Return per Acre for Barley and Oats

| | Barley | | | | | | Oats | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 |
| Number of farms | 13 | 17 | 21 | 23 | 19 | 19 | 15 | 16 | 17 | 18 | 17 | 18 |
| Acres per farm | 27 | 30 | 31 | 30 | 40 | 53 | 38 | 27 | 36 | 36 | 34 | 40 |
| Costs and return: | | | | | | | | | | | | |
| Man labor | $1.96 | $1.59 | $1.93 | $1.93 | $1.62 | $1.61 | $1.65 | $1.51 | $2.00 | $1.78 | $1.65 | $1.63 |
| Horse and tractor | 2.50 | 2.22 | 2.31 | 2.23 | 2.07 | 1.84 | 2.10 | 2.17 | 2.35 | 2.16 | 2.13 | 1.94 |
| Seed | 1.36 | 1.17 | 1.63 | 2.41 | 1.55 | 2.12 | 1.19 | .89 | .89 | 1.29 | .87 | 1.34 |
| Twine | .24 | .22 | .21 | .30 | .17 | .16 | .23 | .20 | .20 | .29 | .18 | .17 |
| Threshing | 1.06 | .71 | .78 | .77 | .49 | .61 | 1.33 | 1.22 | 1.00 | 1.26 | .87 | .90 |
| Manure | 1.72 | 1.72 | 1.96 | 1.68 | 1.29 | .79 | 1.46 | 1.62 | 1.68 | 1.78 | 1.10 | .75 |
| **Machinery** | 1.05 | 1.07 | 1.05 | 1.05 | 1.05 | 1.06 | 1.05 | 1.06 | 1.05 | 1.05 | 1.05 | 1.06 |
| Operating costs | 9.89 | 8.70 | 9.87 | 10.37 | 8.24 | 8.19 | 9.01 | 8.67 | 9.17 | 9.61 | 7.85 | 7.79 |
| Land | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Total costs | 13.39 | 12.20 | 13.37 | 13.87 | 11.74 | 11.69 | 12.51 | 12.17 | 12.67 | 13.11 | 11.35 | 11.29 |
| Crop value | 15.65 | 10.12 | 12.10 | 20.96 | 16.46 | 13.74 | 15.17 | 12.29 | 7.92 | 15.26 | 10.37 | 9.54 |
| Crop value less cost* | 2.26+ | -2.08+ | -1.27+ | 7.09+ | 4.72+ | 2.05+ | 2.66 | .12 | -4.75 | 2.15 | - .98 | -1.75 |
| Yield, bushels | 36.4 | 24.1 | 25.2 | 26.2 | 16.8 | 20.5 | 47.4 | 43.9 | 33.0 | 42.4 | 28.8 | 31.8 |
| Cost per bushel: Average | $.37 | $.51 | $.53 | $.53 | $.70 | $.57 | $.26 | $.28 | $.38 | $.31 | $.39 | $.36 |
| Lowest | .24 | .32 | .39 | .32 | .40 | .35 | .18 | .19 | .26 | .20 | .29 | .24 |
| Highest | .67 | 1.21 | .71 | .76 | 1.16 | .91 | .36 | .46 | .58 | .48 | .69 | .64 |
| Average price for year (malting barley) | .43 | .42 | .48 | .80 | .98 | .67 | .32 | .28 | .24 | .36 | .36 | .30 |
| Amounts of labor, power and materials: | | | | | | | | | | | | |
| Before harvest: | | | | | | | | | | | | |
| Man labor, hours | 3.4 | 2.9 | 3.4 | 3.4 | 3.7 | 3.1 | 3.0 | 2.9 | 3.4 | 3.4 | 4.0 | 3.2 |
| Horse work, hours | 3.8 | 4.5 | 7.0 | 7.7 | 10.2 | 10.3 | 4.8 | 4.8 | 8.2 | 8.6 | 12.2 | 11.6 |
| Tractor work, hours | 2.3 | 1.7 | 1.4 | 1.4 | 1.1 | .8 | 1.7 | 1.6 | 1.3 | 1.2 | 1.0 | .7 |
| Harvest: | | | | | | | | | | | | |
| Man labor, hours | 6.4 | 5.0 | 6.2 | 6.2 | 4.4 | 4.9 | 5.2 | 4.6 | 6.6 | 5.5 | 4.2 | 4.9 |
| Horse work, hours | 5.9 | 5.0 | 5.9 | 6.2 | 5.2 | 5.3 | 4.0 | 5.2 | 6.0 | 6.2 | 4.8 | 5.9 |
| Tractor work, hours | .4 | .4 | .5 | .4 | .3 | .3 | .4 | .4 | .5 | .2 | .3 | .3 |
| Seed, bushels | 2.1 | 2.2 | 2.0 | 2.0 | 2.0 | 1.7 | 2.3 | 2.3 | 2.4 | 2.1 | 2.2 | 2.3 |
| Twine, pounds | 2.8 | 3.2 | 2.6 | 3.2 | 1.8 | 2.2 | 2.8 | 3.0 | 2.5 | 3.1 | 2.5 | 2.4 |

*A minus (-) indicates a cost greater than the value of the crop.

+At malting barley prices. Using feed barley prices of 34 cents in 1940, 31 cents in 1939, 30 cents in 1938, 56 cents in 1937, 57 cents in 1936, and 42 cents in 1935, crop value less cost would be $-1.55, $-4.73, $-5.81, $.89, $-2.16, and $-3.08, respectively.

Cost and Return per Acre for Oats and Barley, Rye, Flax, and Oats and Wheat

| | Oats and Barley | | | | | | Rye | Flax | | | Oats & wheat |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | 1935 | 1940 | 1939 | 1935 | 1935 |
| Number of farms | 7 | 9 | 6 | 6 | 7 | 4 | 5 | 8 | 6 | 4 | 5 |
| Acres per farm | 26 | 24 | 15 | 21 | 19 | 18 | 27 | 13 | 13 | 6 | 23 |
| Cost and return: | | | | | | | | | | | |
| Man labor | $1.80 | $1.66 | $2.27 | $2.03 | $1.83 | $1.52 | $1.39 | $2.48 | $2.24 | $2.78 | $1.76 |
| Horse and tractor | 2.23 | 2.16 | 2.35 | 2.26 | 2.04 | 1.90 | 1.50 | 3.07 | 3.06 | 3.24 | 2.04 |
| Seed | 1.17 | 1.06 | 1.25 | 2.13 | 1.28 | 2.00 | 1.84 | 1.87 | 1.68 | 1.57 | 1.85 |
| Twine | .24 | .22 | .22 | .27 | .22 | .16 | .17 | .19 | .25 | .02 | .19 |
| Threshing | 1.25 | 1.03 | 1.10 | 1.40 | .82 | .67 | .36 | 1.13 | .98 | 1.48 | .71 |
| Manure | 2.18 | 1.86 | 2.01 | 1.64 | 1.59 | .35 | .65 | 1.43 | 2.26 | .38 | .73 |
| Machinery | 1.05 | 1.06 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.07 | 1.05 | 1.05 | 1.05 |
| Operating cost | 9.92 | 9.05 | 10.25 | 10.78 | 8.83 | 7.65 | 6.96 | 11.24 | 11.52 | 10.52 | 8.33 |
| Land | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Total cost | 13.42 | 12.55 | 13.75 | 14.28 | 12.33 | 11.15 | 10.46 | 14.74 | 15.02 | 14.02 | 11.83 |
| Crop value | 13.03 | 9.87 | 9.23 | 18.49 | 12.65 | 7.67 | 5.21 | 17.00 | 19.04 | 9.36 | 11.53 |
| Crop value less cost* | - .39 | -2.68 | -4.52 | 4.21 | .32 | -3.48 | -5.25 | 2.26 | 4.02 | -4.66 | - .30 |
| Yield, bushels | 39.5+ | 32.9+ | 34.2+ | 40.2+ | 27.5+ | 21.3+ | 12.4 | 10.9 | 11.4 | 6.0 | 22.6+ |
| Cost per bushel; Average | $.34 | $.38 | $.40 | $.36 | $.45 | $.52 | $.84 | $1.35 | $1.32 | $2.30 | $.52 |
| Lowest | .28 | .28 | .28 | .28 | .34 | .35 | .60 | .81 | .74 | 1.33 | .38 |
| Highest | .46 | .80 | .86 | .42 | .86 | .83 | 1.59 | 7.78 | 3.17 | 4.59 | 1.52 |
| Average price | .33 | .30 | .27 | .46 | .46 | .36 | .42 | 1.56 | 1.67 | 1.56 | .51 |
| Amounts of labor, power and materials: | | | | | | | | | | | |
| To harvest: | | | | | | | | | | | |
| Man labor, hours | 3.1 | 3.2 | 3.8 | 3.9 | 4.0 | 3.3 | 2.4 | 4.1 | 3.6 | 5.6 | 2.9 |
| Horse work, hours | 3.1 | 4.8 | 10.8 | 9.3 | 12.0 | 12.6 | 6.1 | 5.5 | 4.7 | 17.5 | 7.7 |
| Tractor work, hours | 2.1 | 1.6 | 1.0 | 1.3 | .8 | .5 | .8 | 2.4 | 2.4 | 1.0 | 1.1 |
| Harvest: | | | | | | | | | | | |
| Man labor, hours | 5.9 | 5.1 | 7.6 | 6.1 | 5.1 | 4.3 | 4.6 | 8.4 | 7.6 | 8.3 | 5.9 |
| Horse work, hours | 5.5 | 5.1 | 6.7 | 5.6 | 5.2 | 4.0 | 4.7 | 5.8 | 8.2 | 11.3 | 5.6 |
| Tractor work, hours | .5 | .4 | .4 | .4 | .5 | .5 | .3 | 1.1 | .6 | .4 | .5 |
| Seed, bushels | 2.0 | 2.2 | 2.0 | 2.3 | 2.1 | 2.2 | 1.7 | .6 | .6 | .8 | 2.0 |
| Twine, pounds | 3.0 | 3.2 | 2.7 | 2.9 | 2.7 | 2.3 | 2.3 | 2.2 | 3.9 | - | 2.5 |

*A minus (-) indicates a cost greater than the value of the crop.
+At 40 pounds per bushel.

## Cost and Return per Acre of Wheat

| | Winter Wheat | | | | | | Spring Wheat | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | 1939 | 1937 | 1935 |
| Number of farms | 9 | 8 | 15 | 17 | 13 | 10 | 6 | 6 | 9 |
| Acres per farm | 13 | 8 | 14 | 14 | 13 | 14 | 6 | 7 | 10 |
| Cost and return: | | | | | | | | | |
| Man labor | $1.62 | $1.90 | $2.01 | $1.84 | $1.94 | $2.22 | $1.68 | $1.67 | $1.70 |
| Horse and tractor | 2.36 | 2.86 | 2.45 | 2.17 | 2.31 | 2.08 | 2.34 | 2.25 | 1.85 |
| Seed | 1.52 | 1.21 | 1.71 | 2.32 | 1.95 | 1.97 | 1.22 | 2.61 | 1.83 |
| Twine | .19 | .15 | .18 | .24 | .16 | .21 | .17 | .25 | .18 |
| Threshing | .76 | .29 | .35 | .57 | .67 | .75 | .26 | .49 | .42 |
| Manure | 1.90 | 1.94 | 1.61 | 1.56 | 1.08 | .58 | 1.42 | 1.05 | .68 |
| Machinery | 1.13 | 1.09 | 1.11 | 1.05 | 1.16 | 1.05 | 1.06 | 1.05 | 1.05 |
| Operating cost | 9.48 | 9.44 | 9.42 | 9.75 | 9.27 | 8.86 | 8.15 | 9.37 | 7.71 |
| Land | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Total cost | 12.98 | 12.94 | 12.92 | 13.25 | 12.77 | 12.36 | 11.65 | 12.87 | 11.21 |
| Crop value | 16.83 | 6.53 | 6.44 | 17.58 | 18.48 | 23.03 | 6.44 | 16.95 | 8.80 |
| Crop value less cost* | 3.85 | -6.41 | -6.48 | 4.33 | 5.71 | 10.67 | -5.21 | 4.08 | -2.41 |
| Yield, bushels | 23.7 | 9.6 | 11.1 | 16.9 | 16.8 | 23.5 | 8.7 | 15.0 | 11.0 |
| Cost per bushel: Average | $.55 | $1.35 | $1.16 | $.78 | $.76 | $.53 | $1.34 | $.86 | $1.02 |
| Lowest | .36 | .66 | .85 | .54 | .46 | .34 | .76 | .59 | .70 |
| Highest | .78 | 3.23 | 2.79 | 1.25 | 1.79 | 1.10 | 2.87 | 1.24 | 1.51 |
| Average price | .71 | .68 | .58 | 1.04 | 1.10 | .98 | .74 | 1.13 | .80 |
| Amounts of labor, power & materials: | | | | | | | | | |
| Before harvest: | | | | | | | | | |
| Man labor, hours | 3.4 | 4.1 | 3.6 | 3.6 | 4.2 | 2.7 | 3.3 | 3.3 | 3.2 |
| Horse work, hours | 4.9 | 5.3 | 7.1 | 9.9 | 13.7 | 9.6 | 6.3 | 6.4 | 10.8 |
| Tractor work, hours | 2.1 | 2.4 | 1.8 | 1.0 | .8 | .7 | 1.6 | 1.6 | .6 |
| Harvest: | | | | | | | | | |
| Man labor, hours | 4.7 | 5.4 | 6.4 | 5.6 | 5.5 | 8.4 | 5.1 | 5.0 | 5.3 |
| Horse work, hours | 3.6 | 7.1 | 6.2 | 6.0 | 7.0 | 9.4 | 4.8 | 6.7 | 5.2 |
| Tractor work, hours | .6 | .2 | .3 | .3 | .2 | .3 | .5 | .2 | .4 |
| Seed, bushels | 1.8 | 1.9 | 1.6 | 1.6 | 1.7 | 1.6 | 1.4 | 1.7 | 1.6 |
| Twine, pounds | 2.3 | 2.4 | 2.1 | 2.8 | 2.3 | 3.1 | 2.4 | 2.9 | 2.6 |

*A minus (-) indicates a cost greater than the value of the crop.

## Cost and Return per Acre for Corn for Grain

| | Husked from Standing Stalks | | | | | | Cut and Shredded | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 |
| Number of farms | 17 | 15 | 18 | 15 | 10 | 15 | 9 | 11 | 12 | 16 | 11 | 7 |
| Acres per farm | 15 | 17 | 13 | 11 | 15 | 10 | 7 | 10 | 10 | 10 | 10 | 11 |
| Cost and return: | | | | | | | | | | | | |
| Man labor | $3.46 | $3.80 | $4.13 | $4.01 | $4.62 | $4.45 | $5.32 | $5.63 | $5.82 | $5.74 | $5.18 | $5.92 |
| Horse and tractor | 4.66 | 4.96 | 5.13 | 4.36 | 4.16 | 4.40 | 5.19 | 5.10 | 5.15 | 4.93 | 4.34 | 4.83 |
| Seed | .76 | .73 | .73 | .67 | .76 | .42 | .80 | .80 | .65 | .52 | .64 | .48 |
| Twine | - | - | - | - | - | - | .42 | .37 | .45 | .49 | .25 | .27 |
| Husker or shredder | .55 | .49 | .36 | .28 | - | .19 | 2.02 | 2.33 | 2.04 | 2.23 | 1.49 | 1.74 |
| Manure | 2.73 | 2.57 | 3.74 | 2.26 | 3.12 | 1.80 | 4.19 | 3.74 | 3.80 | 3.48 | 3.08 | 2.48 |
| Machinery | 1.55 | 1.55 | 1.55 | 1.55 | 1.55 | 1.55 | 2.50 | 2.52 | 2.50 | 2.50 | 2.48 | 2.50 |
| Operating cost | 13.71 | 14.10 | 15.64 | 13.13 | 14.21 | 12.81 | 20.44 | 20.49 | 20.42 | 19.89 | 17.46 | 18.22 |
| Land | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Total cost | 17.21 | 17.60 | 19.14 | 16.63 | 17.71 | 16.31 | 21.33+ | 20.63+ | 20.60+ | 20.70+ | 18.88+ | 20.54+ |
| Crop value | 29.99 | 23.79 | 26.09 | 38.64 | 25.12 | 22.86 | 29.20 | 25.38 | 24.29 | 41.16 | 22.00 | 19.38 |
| Crop value less cost* | 12.78 | 6.19 | 6.95 | 22.01 | 7.41 | 6.55 | 7.87 | 4.75 | 3.69 | 20.46 | 3.12 | -1.16 |
| Yield, bushels | 61.2 | 62.6 | 59.3 | 46.0 | 31.4 | 38.1 | 59.6 | 66.8 | 55.2 | 49.0 | 27.5 | 32.3 |
| Cost per bushel: Average | $.28 | $.28 | $.32 | $.36 | $.56 | $.43 | $.36 | $.31 | $.37 | $.42 | $.69 | $.64 |
| Lowest | .20 | .21 | .23 | .26 | .35 | .26 | .23 | .24 | .25 | .27 | .33 | .36 |
| Highest | .48 | .44 | .64 | .99 | 1.90 | 1.07 | .47 | .41 | .53 | .95 | 2.21 | 1.31 |
| Average price | .49 | .38 | .44 | .84 | .80 | .60 | .49 | .38 | .44 | .84 | .80 | .60 |
| Amounts of labor, power and materials: | | | | | | | | | | | | |
| Before harvest: | | | | | | | | | | | | |
| Man labor, hours | 9.0 | 9.2 | 10.4 | 9.7 | 11.8 | 11.8 | 9.4 | 9.0 | 10.4 | 11.1 | 10.5 | 11.9 |
| Horse work, hours | 11.9 | 13.8 | 18.0 | 17.3 | 24.3 | 28.1 | 15.9 | 17.9 | 21.9 | 22.8 | 24.1 | 28.1 |
| Tractor use, hours | 3.8 | 2.9 | 2.7 | 2.5 | 1.4 | 1.1 | 2.6 | 1.8 | 1.9 | 1.8 | 1.2 | .9 |
| Harvest: | | | | | | | | | | | | |
| Man labor, hours | 8.3 | 9.8 | 10.3 | 10.3 | 11.3 | 10.4 | 17.2 | 19.2 | 18.7 | 17.6 | 15.4 | 17.6 |
| Horse work, hours | 11.8 | 15.1 | 16.6 | 14.3 | 17.3 | 17.0 | 21.0 | 22.1 | 21.8 | 21.2 | 21.8 | 25.8 |
| Tractor use, hours | .5 | .6 | .6 | .3 | - | .3 | .2 | .1 | .1 | - | - | - |
| Seed, bushels | .15 | .14 | .14 | .16 | .20 | .19 | .15 | .15 | .17 | .17 | .19 | .19 |
| Twine, pounds | - | - | - | - | - | - | 4.9 | 5.3 | 4.8 | 6.0 | 3.2 | 4.4 |

+Net cost after deducting credit for stover of $2.61 in 1940, $3.36 in 1939, $3.32 in 1938, $2.69 in 1937, $2.08 in 1936, $1.18 in 1935.

*A minus (-) indicates a cost greater than the value of the crop.

## Cost per Acre for Corn for Silage and for Alfalfa

| | Corn for Silage | | | | | | Alfalfa | | | | | | Alf. & Tim. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | 1940 | 1939 |
| Number of farms | 20 | 21 | 22 | 23 | 22 | 20 | 14 | 11 | 20 | 21 | 15 | 19 | 5 | 6 |
| Acres per farm | 11 | 11 | 12 | 14 | 18 | 13 | 12 | 13 | 21 | 23 | 11 | 15 | 17 | 9 |
| Costs: | | | | | | | | | | | | | | |
| Man labor | $4.18 | $3.96 | $4.29 | $4.07 | $3.92 | $4.34 | $1.78 | $1.44 | $1.75 | $1.81 | $2.50 | $2.80 | $1.30 | $1.31 |
| Horse and tractor | 5.19 | 4.68 | 4.73 | 4.48 | 4.00 | 4.06 | 1.55 | 1.41 | 1.51 | 1.48 | 1.69 | 1.86 | 1.57 | 1.08 |
| Seed | .76 | .72 | .54 | .56 | .74 | .64 | 1.75 | 1.65 | 1.65 | 1.60 | 1.60 | 1.50 | 1.30 | 1.25 |
| Twine | .44 | .33 | .39 | .46 | .26 | .34 | - | - | - | - | - | - | - | - |
| Silage cutter | 2.11 | 2.29 | 2.32 | 2.05 | 2.05 | 2.40 | - | - | - | - | - | - | - | - |
| Manure | 3.12 | 2.94 | 3.51 | 2.66 | 3.28 | 2.41 | 1.50 | 1.54 | 1.79 | 1.79 | 1.44 | .75 | 1.24 | 2.10 |
| Machinery | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 1.16 | .93 | 1.06 | 1.06 | 1.20 | 1.21 | 1.12 | .96 |
| Operating cost | 18.30 | 17.42 | 18.28 | 16.78 | 16.75 | 16.69 | 7.74 | 6.97 | 7.76 | 7.74 | 8.43 | 8.12 | 6.53 | 6.70 |
| Land | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Total cost | 21.15* | 19.79* | 21.08* | 19.19* | 16.90* | 19.39* | 11.24 | 10.47 | 11.26 | 11.24 | 11.93 | 11.62 | 10.03 | 10.20 |
| Yield, tons | 10.3 | 9.9 | 9.3 | 8.2 | 5.1 | 7.4 | 2.2 | 1.3 | 2.3 | 2.1 | 1.9 | 3.1 | 1.6 | 1.4 |
| Cost per ton: Average | $2.05 | $2.00 | $2.27 | $2.34 | $3.31 | $2.62 | $5.11 | $8.05 | $4.90 | $5.35 | $6.28 | $3.75 | $6.27 | $7.29 |
| Lowest | 1.51 | 1.14 | 1.42 | 1.50 | .96 | 2.02 | 2.77 | 6.53 | 2.47 | 3.30 | 2.35 | 2.29 | 4.87 | 4.31 |
| Highest | 3.41 | 3.51 | 3.60 | 3.77 | 5.68 | 3.96 | 10.07 | 10.13 | 12.45 | 7.77 | 13.43 | 6.68 | 9.92 | 11.03 |
| Amount of labor, power and materials: | | | | | | | | | | | | | | |
| Before harvest or first cutting: | | | | | | | | | | | | | | |
| Man labor, hours | 8.8 | 8.5 | 9.5 | 10.5 | 11.3 | 10.1 | 4.7 | 4.6 | 5.0 | 6.3 | 6.6 | 7.6 | 3.7 | 4.2 |
| Horse work, hours | 11.0 | 13.2 | 17.5 | 20.5 | 24.8 | 24.0 | 5.3 | 6.3 | 7.1 | 9.2 | 10.0 | 11.4 | 4.5 | 4.9 |
| Tractor use, hours | 3.9 | 2.7 | 2.2 | 2.2 | 1.5 | 1.1 | .6 | .4 | .4 | .3 | .2 | .2 | .8 | .4 |
| Harvest or 2nd cutting | | | | | | | | | | | | | | |
| Man labor, hours | 12.0 | 11.3 | 11.9 | 9.8 | 8.3 | 11.6 | 2.9 | 2.7 | 3.5 | 2.8 | 3.8 | 5.2 | 2.0 | 1.8 |
| Horse work, hours | 17.3 | 16.2 | 17.5 | 15.0 | 14.4 | 19.0 | 4.0 | 3.6 | 5.3 | 4.3 | 6.3 | 7.6 | 2.7 | 2.4 |
| Tractor use, hours | .5 | .2 | .4 | .1 | - | - | .2 | .3 | .2 | .1 | .1 | .2 | .3 | .1 |
| Third cutting: | | | | | | | | | | | | | | |
| Man labor, hours | - | - | - | - | - | - | 1.4 | - | .3 | .2 | 2.1 | 1.2 | .8 | .5 |
| Horse work, hours | - | - | - | - | - | - | 1.8 | - | .5 | .3 | 2.9 | 1.7 | 1.2 | .6 |
| Tractor use, hours | - | - | - | - | - | - | .1 | - | - | - | - | - | .1 | - |
| Seed, bushels | .19 | .15 | .17 | .21 | .22 | .24 | - | - | - | - | - | - | - | - |
| Twine, pounds | 5.1 | 5.3 | 4.6 | 5.5 | 3.0 | 4.8 | - | - | - | - | - | - | - | - |
| % of acreage cut twice | - | - | - | - | - | - | 87 | 75 | 91 | 88 | 96 | 90 | 79 | 67 |
| % of acreage cut 3 times | - | - | - | - | - | - | 39 | 0 | 14 | 14 | 35 | 26 | 40 | 17 |

*Net cost after deducting credit for corn knocked off by binder of $.65 in 1940, $1.13 in 1939, $.70 in 1938, $1.09 in 1937, $3.35 in 1936, and $.80 in 1935.

Cost per Acre for Clover Hay, Timothy Hay, and Mixed Clover and Timothy Hay

| | Clover | | Timothy | | | | Clover and Timothy | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1937 | 1936 | 1940 | 1939 | 1938 | 1937 | 1940 | 1939 | 1938 | 1937 | 1935 |
| Number of farms | 6 | 14 | 5 | 8 | 10 | 7 | 13 | 12 | 10 | 13 | 7 |
| Acres per farm | 10 | 18 | 6 | 7 | 8 | 6 | 14 | 10 | 17 | 15 | 12 |
| Costs: | | | | | | | | | | | |
| Man labor | $.85 | $1.45 | $1.37 | $.66 | $1.42 | $1.15 | $1.50 | $1.18 | $1.32 | $1.32 | $1.70 |
| Horse and tractor | .74 | 1.12 | 1.18 | .58 | 1.26 | .80 | 1.41 | 1.02 | 1.18 | 1.07 | 1.28 |
| Seed | 2.70 | 2.63 | .25 | .25 | .75 | 1.30 | 1.10 | 1.32 | 1.60 | 1.85 | 1.10 |
| Manure | 1.07 | 1.25 | 1.61 | 1.16 | 1.77 | 1.85 | 1.74 | 1.67 | 1.88 | 1.96 | .81 |
| Machinery | .56 | .57 | .55 | .52 | .58 | .54 | .89 | .68 | .73 | .56 | .82 |
| Operating cost | 5.92 | 7.02 | 4.96 | 3.17 | 5.78 | 5.64 | 6.64 | 5.87 | 6.71 | 6.76 | 5.71 |
| Land | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Total cost | 9.42 | 10.52 | 8.46 | 6.67 | 9.28 | 9.14 | 10.14 | 9.37 | 10.21 | 10.26 | 9.21 |
| Yield, tons | .8 | 1.3 | 1.0 | .7 | 1.3 | 1.2 | 1.4 | 1.1 | 2.3 | 1.4 | 2.3 |
| Cost per ton: Average | $11.78 | $8.09 | $8.46 | $9.53 | $7.14 | $7.62 | $7.24 | $8.52 | $4.44 | $7.33 | $4.00 |
| Lowest | 9.35 | 4.68 | 5.07 | 7.27 | 4.56 | 4.77 | 4.75 | 5.27 | 3.61 | 4.49 | 2.76 |
| Highest | 14.17 | 13.37 | 12.95 | 18.03 | 26.60 | 30.57 | 13.06 | 22.28 | 13.44 | 13.83 | 5.34 |
| Amounts of labor and power: | | | | | | | | | | | |
| First cutting: | | | | | | | | | | | |
| Man labor, hours | 4.2 | 7.3 | 6.8 | 3.3 | 7.1 | 5.7 | 5.1 | 4.9 | 5.2 | 6.5 | 7.2 |
| Horse work, hours | 6.4 | 10.9 | 11.0 | 5.0 | 11.3 | 8.6 | 7.0 | 6.4 | 7.8 | 9.3 | 11.8 |
| Tractor use, hours | .3 | .4 | .2 | .2 | .4 | - | .6 | .4 | .5 | .4 | .2 |
| Second cutting: | | | | | | | | | | | |
| Man labor, hours | - | - | - | - | - | - | 2.4 | 1.0 | 1.4 | .1 | 1.3 |
| Horse work, hours | - | - | - | - | - | - | 3.2 | 1.7 | 1.9 | .1 | 3.2 |
| Tractor use, hours | - | - | - | - | - | - | .2 | - | - | - | - |
| Per cent of acreage cut twice | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 25 | 40 | 3 | 34 |

Comparative Cost and Return per Acre for Soybean Hay and for Wild Hay

| | Soybean hay | | | Wild hay | | | |
|---|---|---|---|---|---|---|---|
| | 1940 | 1939 | 1935 | 1940 | 1938 | 1937 | 1935* |
| Number of farms | 11 | 13 | 5 | 6 | 5 | 6 | 10 |
| Acres per farm | 8 | 8 | 6 | 4 | 6 | 5 | 4 |
| Costs and returns: | | | | | | | |
| Man labor | $3.24 | $2.86 | $3.46 | $1.07 | $1.18 | $1.08 | $1.96 |
| Horse and tractor | 3.80 | 3.54 | 3.42 | .74 | .99 | .98 | 1.15 |
| Seed | 1.81 | 1.52 | 1.76 | - | - | - | - |
| Twine | .06 | .09 | .14 | - | - | - | - |
| Manure | 2.04 | 1.82 | 1.12 | .28 | .04 | - | - |
| Machinery | 1.77 | 1.83 | 1.51 | .55 | .65 | .55 | .74 |
| Operating cost | 12.72 | 11.66 | 11.41 | 2.64 | 2.86 | 2.61 | 3.85 |
| Land | 3.50 | 3.50 | 3.50 | 2.00 | 2.00 | 2.00 | 2.00 |
| Total cost | 16.22 | 15.16 | 14.91 | 4.64 | 4.86 | 4.61 | 5.85 |
| Yield, tons | 1.7 | 1.7 | 1.7 | 1.0 | 1.2 | .9 | 1.5 |
| Cost per ton: Average | $9.54 | $8.92 | $8.77 | $4.64 | $4.05 | $5.12 | $3.90 |
| Lowest | 5.73 | 4.62 | 5.85 | 3.57 | 3.30 | 4.39 | 2.10 |
| Highest | 26.28 | 14.09 | 16.65 | 9.42 | 8.08 | 6.98 | 12.69 |
| Amounts of labor, power and materials: | | | | | | | |
| Before harvest: | | | | | | | |
| Man labor, hours | 6.9 | 5.7 | 7.7 | - | - | - | - |
| Horse work, hours | 9.7 | 8.5 | 19.4 | - | - | - | - |
| Tractor work, hours | 3.1 | 2.4 | 1.2 | - | - | - | - |
| Harvest: | | | | | | | |
| Man labor, hours | 9.3 | 8.6 | 9.6 | 5.3 | 5.9 | 5.4 | 9.8 |
| Horse work, hours | 9.2 | 8.5 | 11.2 | 7.1 | 9.6 | 8.8 | 14.4 |
| Tractor work, hours | .4 | .7 | .1 | .1 | .2 | .4 | - |
| Seed, bushels | 1.1 | .9 | 1.0 | - | - | - | - |
| Twine, pounds | .7 | 1.2 | 2.1 | - | - | - | - |

*Fifteen per cent of acreage cut twice.

## SOME FACTORS AFFECTING EARNINGS

Information gained from farm records can be used effectively in planning profitable changes in the farm business. Earnings varied widely among the farmers included in the study. The operator's labor earnings on the five most successful farms was $2493, and on the five least successful farms was $273, a range of $2220. This large variation indicates the probability that most or all of these farms could find some opportunity to make changes in their farming operations which would tend to increase earnings. These variations, in large part, are the result of differences in the size of business, in the selection of crop and livestock enterprises, and in the efficiency with which the individual enterprises are conducted. By analyzing those phases of his business, comparing his accomplishments with other farmers in the community, as presented in this report, a farmer can gain many ideas as to changes that could profitably be made on his farm.

### Size of Business

When conditions are such that farming is profitable, the larger farm business, within limits, tends to yield the larger earnings. This relationship is presented in Table 1. The size of farm business is here measured in terms of the number of work units. A work unit is the average amount of productive work on crops or livestock accomplished per man in 10 hours, or 10 hours of work off the farm for pay. As such, it serves as a measure of the volume of business on the farm. On the

average, the farmers with a large business had larger earnings than the farmers with a small business. When conditions are such that farming is unprofitable, the operators of large farms may be expected to incur somewhat larger losses. The size of the farm business may be increased by farming more land, by devoting a larger proportion of the land to crops yielding a high return per acre, by keeping more livestock, by keeping livestock of a more intensive type, or by producing products of higher quality.

Table 1
Size of Business and Operator's Labor Earnings, 1935-40

| Size of farm business | No. of farms | Per farm | |
|---|---|---|---|
| | | Total work units | Operator's labor earnings |
| Small | 42 | 449 | $ 817 |
| Medium | 49 | 588 | 1097 |
| Large | 42 | 889 | 1842 |

Selection of Crops

Most of the crops raised on southeastern Minnesota farms are utilized as feed for livestock. It is important that those feed crops yield a large quantity of nutrients per acre at a low cost. The production per acre and the relative cost per hundred pounds of digestible nutrients for the principal feed crops for Winona County are presented in Table 2. These data indicate the general relationships existing in this area, although they may not be directly applicable to all farms. A farmer may use his own crop records to prepare a similar comparison in order to determine the most desirable cropping system for his farm.

Table 2
Comparative Yields and Costs of Producing Feed Nutrients
1935-40

| | Average yield per acre | Total digestible nutrients per acre* | Cost per acre | Cost per 100 lbs. of digestible nutrients | Per cent protein is of total nutrients* |
|---|---|---|---|---|---|
| | bushels | pounds | | | |
| Grains: | | | | | |
| Corn | 49.8 | 2,273 | $17.43 | $ .77 | 9.0 |
| Oats and barley** | 32.6 | 956 | 12.91 | 1.35 | 13.6 |
| Barley | 24.9 | 921 | 12.71 | 1.38 | 12.6 |
| Oats | 37.9 | 843 | 12.18 | 1.44 | 14.7 |
| Winter wheat | 16.9 | 803 | 12.87 | 1.60 | 11.1 |
| Spring wheat+ | 11.5 | 546 | 11.91 | 2.18 | 11.1 |
| Roughages: | tons | | | | |
| Alfalfa hay | 2.2 | 2,266 | 11.29 | .50 | 20.2 |
| Clover and timothy hay | 1.7 | 1,676 | 9.84 | .59 | 10.6 |
| Corn silage | 8.4 | 2,822 | 19.58 | .69 | 7.1 |
| Timothy hay‡ | 1.1 | 1,056 | 8.39 | .79 | 6.0 |
| Soybean hay+ | 1.7 | 1,700 | 15.43 | .91 | 15.8 |

*Analysis of feeds obtained from "Feeding the Dairy Herd," Gullickson and Fitch, Minn. Exp. Station Bulletin 218 (1938 revision).
**At 40 pounds per bushel.
+Records for three years only.
‡Records for four years only.

Some farmers raise crops for sale. The net return per acre is an important consideration in the selection of crops for this purpose. The comparative return per acre for the crops commonly grown for sale in Winona County is shown in Table 3.

Table 3
Comparative Return Per Acre for Cash Crops, 1935-40

| | Yield per acre | Average price* | Value per acre | Cost per acre | Net return per acre |
|---|---|---|---|---|---|
| Corn, ear | 49.8 bu. | $ .59 | $29.38 | $17.43 | $11.95 |
| Malting barley | 24.9 bu. | .63 | 15.69 | 12.71 | 2.98 |
| Winter wheat | 16.9 bu. | .85 | 14.36 | 12.87 | 1.49 |
| Flax | 9.4 bu. | 1.70 | 15.98 | 14.59 | 1.39 |
| Oats | 37.9 bu. | .31 | 11.75 | 12.18 | - .43 |
| Spring wheat | 11.5 bu. | .91 | 10.46 | 11.91 | -1.45 |
| Feed barley | 24.9 bu. | .42 | 10.46 | 12.71 | -2.25 |

*Average of 15th of month farm prices in Winona County, 1935-1940.

Selection of Livestock

Cattle, hogs, sheep, chickens and turkeys differ in the relative proportions of concentrates, roughages, skimmilk and labor used in their production as may be seen from the data in Table 4. Cattle use relatively large amounts of roughage in relation to the amount of grain used, but not as large an amount as do sheep. Swine and chickens utilize grain and skimmilk but little or no roughage. There also are differences between livestock in the amount of man labor used. As farms vary in the relative quantities of grain, roughage, and skimmilk produced and in the amounts of available labor, the combination of livestock enterprises which will utilize most profitably the available feed and labor varies from farm to farm.

Table 4
Numbers of Livestock and Amounts of Roughage, Skimmilk and Labor Used per 1000 Pounds of Concentrates, Winona County, 1935-40

| | Quantity of livestock | Concentrates, lbs. | Roughage, lbs. | Skimmilk, lbs. | Man labor, hours |
|---|---|---|---|---|---|
| Dairy cattle | .9 head | 1000 | 4696 | 1349 | 89 |
| Milk-and-beef cattle | .7 head | 1000 | 3842 | 935 | 51 |
| Sheep | 23.3 head | 1000 | 3698 | - | 79 |
| Swine | 227 lbs.* | 1000 | - | 1414 | 7 |
| Chickens | 9.0 hens | 1000 | - | 425 | 27 |
| Turkeys | 146 lbs.* | 1000 | - | 83 | 12 |

*Net gain in weight.

Crop Yields

Farmers' earnings are affected by the yields of crops as well as by the selection of kinds of crops. The data in Table 5 show that the farmers obtaining high yields had higher earnings than those obtaining low yields.

Table 5
Crop Yields and Operators' Earnings, Winona County, 1935-40

| Crop yields | Number of farms | Yields, % of average | Operators' earnings |
|---|---|---|---|
| Low | 42 | 80 | $ 820 |
| Medium | 49 | 100 | 1282 |
| High | 42 | 120 | 1622 |

## Livestock Efficiency

Since the sale of livestock and livestock products constitutes the most important source of income on these farms, the efficiency of the livestock strongly influences the earnings. The most important item of cost, and the one which is most subject to the farmer's control, is the cost of feed. As is shown by the data in Table 6, during the six years of the study earnings were generally higher on the farms which kept the kinds of livestock and followed the methods of management which yielded the greatest return over the cost of feed. Good livestock, well balanced rations, use of feeds low in cost, and careful management contribute to a large return over cost of feed.

Table 6
Return Over Feed Cost per Animal Unit and Operator's Earnings, Winona County, 1935-40

| Return over feed cost per unit of productive livestock | Number of farms | Average return over feed cost | Operator's earnings |
|---|---|---|---|
| Low | 42 | $28 | $960 |
| Medium | 49 | 43 | 1228 |
| High | 42 | 60 | 1545 |

## Labor Efficiency

Another factor closely associated with farmers' earnings is the efficiency of labor. The data in Table 7 show that the earnings were generally higher on those farms on which a large amount of work was accomplished per worker.

Table 7
Labor Efficiency and Operator's Earnings, Winona County, 1935-40

| Work per worker | Number of farms | Units per worker | Operator's earnings |
|---|---|---|---|
| Low | 42 | 192 | $730 |
| Medium | 49 | 256 | 1424 |
| High | 42 | 327 | 1546 |

- - - -

The foregoing represent most of the more important types of factors affecting earnings. Each cooperating farmer will be able, by studying the data presented in this report and in reports numbers 113 and 116, to find ways of increasing his earnings through improvement of his methods and practices in regard to these factors.