

Twenty-one Years of Iowa Farm Records

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SUMMARY

This bulletin summarizes over 11,000 records kept by Iowa farmers from 1920 to 1940. It shows the reactions of a group of relatively efficient farmers to changes in prices and in weather during a period that begins at the end of one great war, includes the reconstruction period that followed, the secondary Great Depression, followed by a period of serious drouth, economic recovery, and finally some of the initial impacts of another major war.

It is estimated that from 1920 to 1940 gross sales on these farms were 140 to 190 percent of those on the average Iowa farm. The record keepers also put more into their farms than did the average farmer, and operating expenses exceeded the average by about 60 percent.

Trends of income and organization have varied between type of farming areas. Since the late 1920's the acreage of corn in the cash grain and the eastern livestock areas has declined about 10 percent. In the dairy area the decline was relatively minor; but in the western livestock area it amounted to nearly a fifth and in the southern pasture area to nearly a third because of advancing erosion and a series of drouths. The southern pasture area has shown a pronounced general reduction in production and income as compared to other sections.

Gross income recovered rapidly after 1921 from the low level of the primary post war depression, rising from \$1,700 per 100 acres to \$3,000, a level which was held from 1925 to 1929, declined to about \$800 in 1932; and then recovered to \$2,800 by 1940. Net income followed the same general course, but fluctuation was not so great because of adjustments in expenses.

Sales of livestock provided the greatest source of income on the record farms. The rest was accounted for largely by sales of dairy and poultry products and crops, all of which were much smaller than livestock sales.

Expenses followed a course similar to gross income, but operating expenses declined by only about half as great a percentage as receipts and tended to lag somewhat behind receipts. Fixed expenses (including payments of interests on borrowed funds, taxes, and upkeep of improvements) declined from about \$500 per 100 acres in 1920 to \$400 in 1929, then to \$280 in 1933 as an average for all the record farms. Such expenses rose but little from 1933 to 1940.

Valuation of land and improvements declined from about \$24,000 per 100 acres on record farms in 1920 to \$14,000 in 1928 as farmers came to realize that returns were to be more or less permanently below the wartime level. By 1933 the valuation

had reached \$9,000. Meantime the western livestock area fell somewhat and the southern area fell materially as compared to the rest of the state. The value of liquid and working assets fluctuated more closely in sympathy with farm income. Sharp declines occurred in the early 1930's, but by 1940 these two types of assets were practically back to their levels of the early 1920's except in the southern pasture area.

Between types of farms there did not appear to be any pronounced and continuous differences in net income per 100 acres. There were, however, pronounced differences in organization and in relative importance of the various income and expense items. Hog sales brought in around \$1,500 on the hog farms and about half that much on crop farms. Cattle sales amounted to \$2,500 on the commercial feeding farms, \$300 or \$400 on general farms and only small amounts on other types. Operating expenses ran about \$100 higher on dairy and cattle-feeding farms than on the other types, and were lowest on general farms; while fixed expenses were higher on the cattle-feeding, dairy and hog farms than on other types.

Valuation of total assets per 100 acres also differed between types with the most pronounced differences in liquid assets.

Many of the most pronounced differences between groups of farms are those related to acreage per farm. The smaller farms used more labor per 100 acres and also had higher investments in working assets. Consequently gross and net income per 100 acres were also higher on the smaller acreages, with a \$600 spread in net income during the late 1920's between farms of less than 140 acres and those of 340 acres and over. During and after the depression the spread contracted to about \$300 per 100 acres. The shift in relative returns is apparently related to a considerable degree to the process of mechanization which was more advantageous to large farms than small ones.

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The purpose of this bulletin is to summarize the principal trends of income and of investment in a sample of the larger and more efficient Iowa farms which have kept records during the period 1920 to 1940. The historical aspect of the data presented here is not a matter of merely antiquarian interest. They yield some rather definite ideas of the types of change in farm income and organization that are to be expected from one phase to another of the more violent business "cycles." They show, further, how various types and sizes of farms, and different elements within the farm respond to the rise and fall of farm prices.

A second phase of the study, no less important from a practical point of view, is treated in another bulletin, "Statistical Comparisons of Record-Keeping Farms and a Random Sample of Iowa Farms for 1939," Iowa Agr. Exp. Sta., Res. Bul. 308, 1942. In that publication comparisons are made between certain farm-record data and corresponding figures from a representative sample of Iowa farms in order to determine how far the trends and relationship on the record farms can be assumed to represent the typical farm. The results increase confidence in certain types of data from farm records but also indicate a need for caution in drawing inferences from certain other data if these are to be applied to smaller or less efficient farms than those which kept the records.

The data on which the study is based were provided by something over 11,000 Iowa farm records summarized by the Iowa Agricultural Experiment Station during the period 1920 to 1940. During the first 2 years the records summarized here were provided by detailed cost accounting routes under the supervision of the Agricultural Experiment Station. These routes continued to provide from 20 to 60 records per year until 1936. Since 1922, however, farm accounts summarized by the Ex-

¹This study was conducted under Project 334 of the Iowa Agricultural Experiment Station. An essential phase of the work, however, was performed by WPA Projects Nos. O.P. 665-72-3-222 and O.P. 165-1-72-62.

From year to year small changes were made in the accounting procedure and forms. Further, these varied to some extent between the various research projects under which farm records were kept and the farm record project of the Agricultural Extension Service. Consequently, it was very difficult to compare some of the earlier records with those of more recent years.

In the W.P.A. projects mentioned above, records of the earlier years were transcribed to current accounting summary forms. Further, data from the records were reorganized and recombined so that the various subtotals of income or expense, as well as financial ratios and efficiency factors, could be compared directly between different years.

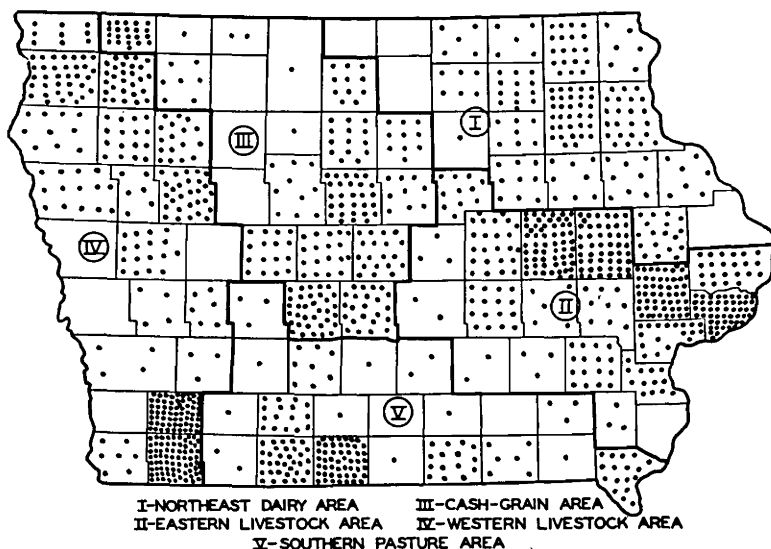


Fig. 1. Distribution of record farms in 1939.

tension Service under the direction of L. G. Allbaugh provided increasing amounts of data. Since 1929 cooperative Farm Management Associations fostered by the Extension Service have gradually displaced the extension type of record kept by scattered individual farmers.² The number of records that were sufficiently complete for use in this study rises from 26 in 1920 to 688 in 1930, then declines to 467 in 1933, and finally rises again to 1,231 in 1939.

Taken altogether, these various records have provided a wealth of information that has been used for the analysis of various farm-management problems during the 21-year period, for general farm business information for Iowa farmers, for basic data in extension programs and for classroom purposes at Iowa State College.

Distribution of the records over the state in 1939 is shown in fig. 1. Some concentration in the eastern and central parts of the state has resulted from the development of farm business associations in these sections. In earlier years the concentration was less pronounced.

During the 5-year period, 1936-1940, the record farms contained an average of 240 acres as compared to 163 acres for the state. On the record farms gross income averaged \$6,260 and net income \$2,650,³ in round numbers. The largest source of income

² See appendix table A for the numbers of records from each source.

³ See appendix C for averages per farm 1920 to 1940. For the accounting method used in deriving the various income summary items mentioned here, see appendix D.

was from livestock which brought in \$5,500, but \$1,720 of this was offset by livestock purchases. Crop sales brought in \$500, but on the other hand, purchases of feeds amounted to \$1,130. Other items of income include sales of dairy products which brought in \$550, eggs and poultry \$300, and government payments \$364, while food and fuel used in the household were valued at \$270—all in round numbers. Operating expenses average \$1,300, including \$500 for maintenance and fuel for farm machinery, tractors and farm share of automobile expense. Fixed expense including interest on borrowed funds, taxes, insurance and upkeep of permanent improvements, required approximately \$700.

There was, however, some variation in the size of the record farms from year to year. Particularly, there was an increase from about 200 acres per record-keeping farm in 1922-1928 to 240 acres from 1934 to 1940. Consequently the averages per farm do not give a very good picture of the year to year trends. Averages per 100 acres are much more satisfactory for this purpose and will be used generally throughout the remainder of the bulletin.

GENERAL TRENDS OF RECEIPTS FROM 1920 TO 1940

In 1920, when the farm record series begins, farm prices were falling sharply from the levels of World War I. Recovery began late in 1921, and consequently we find gross and net farm income on the record farms rising from 1922 to 1925. A comparison between these income figures and the indexes of farm prices can be made in fig. 2, as can a comparison with the yield of corn, another strong influence on farm returns. From 1925 to 1929 gross income on the record farms held a level not far from \$3,000 per 100 acres, while net farm income ran between \$1,200 and \$1,500 per 100 acres.

In late 1929 began the great depression of the early 1930's, with Iowa farm prices declining from an index of 104 in 1929 to 39 in 1932. Furthermore, Iowa farmers experienced during the 1930's a series of disastrous drouths, with corn yields much below normal in part or all of the state, particularly in 1930, 1931, 1934 and 1936. Consequently average gross income dropped from \$3,044 per 100 acres in 1929 to \$776 in 1932, and net income from \$1,519 to a net deficit of \$379 in 1931. From 1932 to 1934 recovery in gross and net income was almost as rapid as was the decline 2 or 3 years earlier. Gross income rose to \$2,246 per 100 acres in 1934 and net income to \$1,141. These rates of income were obtained in spite of the 1934 drouth. The explanation is that the greater number of the record farms were located in the eastern and northeastern parts of the state, where the drouths were less severe. Further, a large number

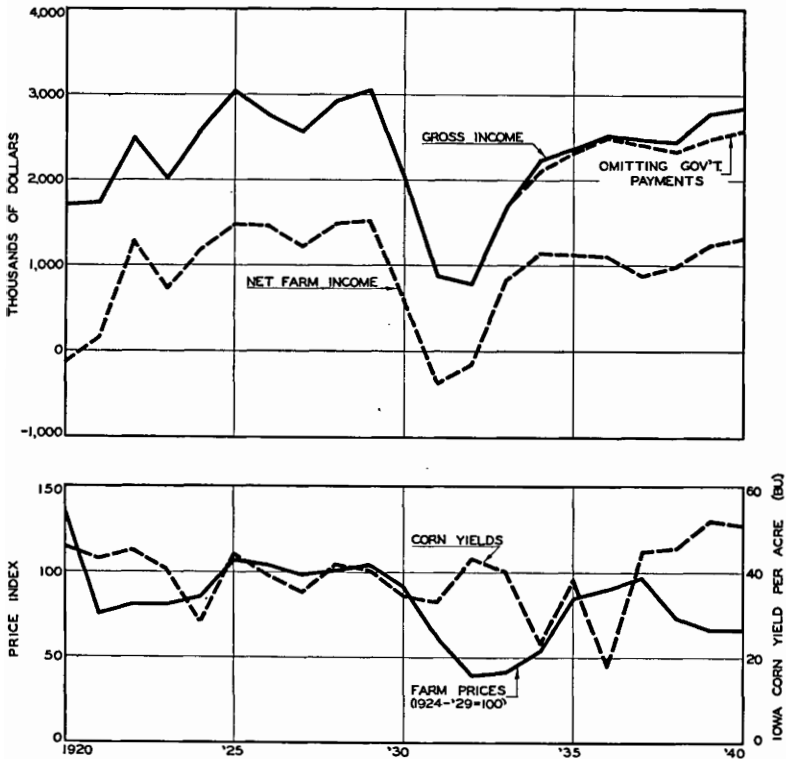


Fig. 2. Gross and net income per 100 acres compared with farm prices and corn yields, 1920-1940.

of the record farms gave major emphasis to livestock production so that their receipts during 1934 and 1936 were increased by rising livestock prices.

The last general change in level of farm receipts during the period we are studying occurred in 1939 and 1940. The Iowa farm price index declined somewhat in 1938 and 1939. But crop yields, especially corn, were very favorable after 1936 and particularly in 1939 and 1940, partly because of the introduction of hybrid seed and partly because of favorable seasons. Consequently in the last 2 years of the period gross income per 100 acres on the record farms was up in the neighborhood of \$2,800, and net farm income was around \$1,200 or \$1,300, which is nearly as high as in the late 1920's.

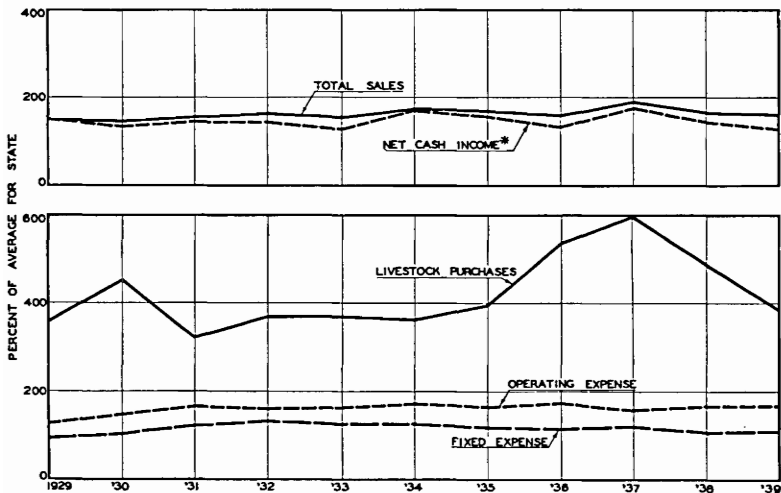
COMPARISON OF RECORD FARMS WITH THE IOWA AVERAGE

We have just seen that gross and net income on the record farms fluctuated from year to year with the level of farm prices and with yields of corn. Another question should now be raised.

How did the level of income and of expenses on the record farms compare with that on the average Iowa farm? Data for such a comparison are available for the years 1929 to 1940, and the results are shown in fig. 3.⁴

It is clear from fig. 3 that a much larger volume of business is done on each 100 acres of the record farms than on the average farm. Total sales per 100 acres ran from 140 to 190 percent of average. The relatively high returns in 1934 and 1937 are explained largely by the fact that most of the record farms were located in areas where the drouths were less severe. Net cash income also exceeded that on the average farm but to a lesser extent than did the total sales. The record keepers not only got more out of their farms than did the average farmer; they also put more into them as is shown by similar comparisons of expense figures. Thus, for most of the period operating expenses per 100 acres ran about 60 percent higher than average, while fixed expenses (which consist of interest payments, taxes, insurance and upkeep of permanent improvements) ran from 4 to 30 percent above the average farm. It was in the production of live-stock, however, that the record keepers differed most from the typical farm. In most of the years for which comparisons are

⁴ Estimates for the average Iowa farms were obtained from Iowa Agr. Exp. Sta., Research Bul. 293, Incoming and outgoing payments of Iowa farm families, by Lawrence Witt. From the estimates in this bulletin sub-totals of income and expense elements were prepared in form comparable to certain of the items available from the record farms. These were next expressed per 100 acres for the comparisons shown in fig. 3.



* NO DEDUCTIONS HAVE BEEN MADE FOR FEED BOUGHT, OR FOR INSURANCE, ON WHICH NO COMPARABLE DATA ARE AVAILABLE.

Fig. 3. Selected income and expense items on record farms as percentage of figures for average Iowa farm per 100 acres, 1929-1939.

possible the record farms spent from three to five times as much for the purchase of livestock as did the average farmer for each 100 acres of his land. In 1936 and 1937 livestock purchases per 100 acres were actually over five times as great as on the average farm. A part, though by no means all, of this difference may be explained by the greater proportion of commercial cattle feeders among the record farms.

Most of the remainder of this bulletin will be devoted to a comparison of shifts in organization and trends in income between groups of the record farms. In this analysis three different bases of comparison will be used; first by area, second by type of farming followed by the individual farmer and third by size of farm. In each of these three comparisons a similar though not identical process of analysis will be followed. First, we shall examine the differences in organization of the farm and of the basic conditions affecting them such as type of land; size of farm; percentage of land in the principal feed crop, corn; yield of corn; amount of labor employed; amount of capital invested and its form. Second, we shall examine the variations and trends in income, both gross and net farm income. Third, we shall determine the composition of income received on the record farms; the amounts and proportions of receipts from crop sales, livestock sales and so on. Fourth, we shall examine the elements of expense and of their shifts in relative importance.

Before beginning the comparisons just described, it should be remarked again that many of the record farms are either larger than the typical farm or are operated by more capable men. Consequently the differences between types, between areas of the state and so on, may not be representative of similar differences within the entire population. Furthermore, neither among the record farms nor in the entire population are the differences between groups clear cut. Classifications cut across each other so that farms specialized in dairy production may be found either in the so-called Dairy area of the northeastern part of Iowa, or in any other area, although they are relatively more numerous in the Dairy area. Hog farms may be found in any part of the state although they tend to be more numerous in some regions than others. The classifications by size of farm and by type also cut across each other. Commercial cattle feeding may be found as the dominant enterprise either on a large farm or a small one, though it tends to occur more often on large farms (in terms of acreage). Dairy farms may be either small or large, although they tend to run small in acreage, and so on.

COMPARISONS BY AREAS

The type-of-farming areas of the state correspond closely to the major soil areas. In the north-central part we find the rich and relatively level soils of the cash grain area. Here, as shown in table 1, the corn crop is at the greatest advantage and occupied nearly 40 percent of the total farm land in the 1926-1933 period, (prior to the severe drouths and the Agricultural Adjustment programs which materially reduced acreage of this crop). The ease with which this land can be handled as well as the relatively high yields resulted in a relatively high percentage of the land being planted in grain crops. The high yields of corn and oats give them a strong advantage over pasture in value of product and put the cattle enterprise, which requires a large amount of roughage, at a disadvantage. Consequently we find the farms tending to specialize in the production of grain to be sold for cash, or else in production of grain and hogs.

To the east of the cash grain area is the dairy area which contains much rough land that is either kept in pasture or is so rotated that it is in hay or pasture about 2 years out of 5. In the 1926-1933 period about one-fourth of this land was in corn. Dairy cattle, which can consume large amounts of roughage, comprise one of the principal types of livestock here, but on most farms hogs bring in more income than do the cattle. In other words, more grain is produced than is needed by the cattle, and hogs generally provide the most favorable means of marketing it. The area might be characterized more aptly as a hog-and-dairy area than as a dairy area. The farms may be specialized toward the production of hogs and dairy products or a combination of these with some beef, and with some poultry products.

TABLE 1. PERCENT OF FARM LAND IN CORN, AND CORN YIELD BY AREAS, 1926-'33 AND 1937-'40

Area	Percent of land in corn		Yield of corn per acre in bushels	
	1926-'33	1937-'40	1926-'33	1937-'40
Record farms				
Cash grain area	38	35	46	62
Dairy area	24	23	42	61
Eastern livestock area	32	29	51	62
Western livestock area	40	32	45	50
Southern pasture area	23	16	41	41
All record farms	32	28	46	59
State average (from assessors records)	33	29	38	49

South of the dairy area lies the eastern livestock area, and along the Missouri River, two or three counties in width, we find the western livestock area. These two regions possess deep and productive soils, but much rolling land that needs to be kept in pasture or hay for a large part of the time. Consequently they produce relatively more corn than the dairy area and also a

relatively large amount of high-quality hay. These crops are favorable to the production of meat animals; beef cattle and hogs predominate among the livestock enterprises. Commercial cattle-feeding farms and hog farms are, therefore, prominent among the more specialized types.

The fifth type of farming area is the southern pasture area which lies across the southern and southeastern parts of the state. Grain yields are lower here than in other areas. A large part of the land is rough and needs to be kept in pasture to avoid erosion. Oats, which in the dairy area fit well into the dairy ration, yields much less in the southern area, and the pastures tend to dry up in the summer so that they are not so satisfactory for dairy production. Consequently the principal type of livestock in the southern area is beef cattle or dual purpose cattle, though hogs are also of importance, and in some sections quite a few sheep are kept to consume some of the available roughage.

Each of these five areas showed a relatively characteristic shift in crop acreage from 1933 to 1940 under the influence of the drouths and of the Agricultural Adjustment program. The dairy area, in which the crop system was already fairly well adjusted to the type of land, saw relatively little change in the percent of land in corn. In the eastern livestock area and the cash grain areas, as shown in table 1, corn declined about 10 percent on the record farms. In the western livestock area, where erosion was serious, the decline in corn amounted to a fifth, and in the southern pasture area, where erosion was also serious, it amounted to nearly a third on the record farms.

In the meantime the development of hybrid corn, together with relatively favorable crop years in the late 1930's, led to a sharp increase in corn yields on the record farms in northern areas. In the western livestock area, and in the southern pasture area, however, declining soil productivity and continued drouths kept the yields near their 1926-'33 levels. These trends in crop acreages and in corn yields should be kept in mind as we compare the trends of farm income and expense of the various areas.

TRENDS IN GROSS AND NET INCOME

The primary post-war depression began during 1920 and brought sharp downward adjustments in farm prices before the end of the year. Furthermore, the low level of price and income continued during 1921, as is shown in fig. 4.⁵ From 1921 to 1925 there was a rapid recovery in gross income, but this was followed by lower crop yields and some recession in prices until 1929.

⁵ The number of records available for the years 1920 to 1925 was small and, particularly in the earlier years, records were obtained from relatively few localities, only one county being represented in 1920 and two in 1921. Consequently no classification by areas is shown for years prior to 1926.

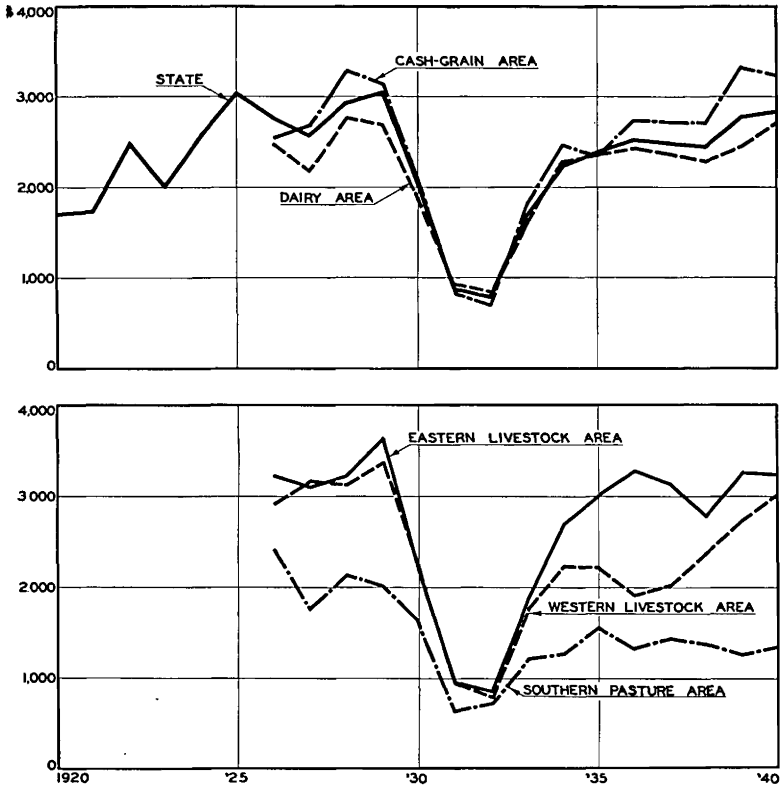


Fig. 4. Gross income per 100 acres, 1920-1940 by areas.

With 1930 began the "Great Depression," and falling prices were aggravated by poor corn yields (except in the dairy area) in 1930 and, except in southern Iowa, in 1931. For the state as a whole, gross income on the record farms declined from about \$3,000 in 1929 to less than \$1,000 in 1931 and 1932. Recovery began in 1933 and was almost as rapid as had been the decline. Furthermore, it continued through 1936 in spite of the drouths of 1934 and 1936. Rather, we might say that the record farms were less affected as a group than the state as a whole, since the greater number of record farms were located in the eastern and northern sections where the drouth was least severe. With the outbreak of World War II in 1939 stronger prices coupled with high crop yields brought gross income almost back to the peak levels of 1925 and 1929.

When we examine the various areas separately we find that there are certain definite differences in gross income both in general level and also in trend. In general, highest gross in-

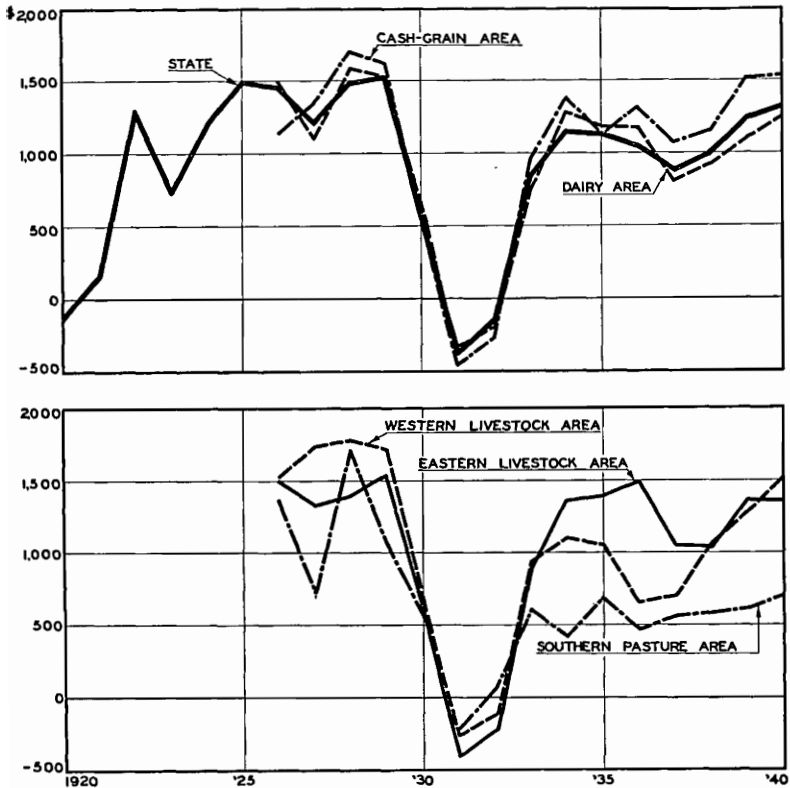


Fig. 5. Net farm income per 100 acres, by areas, 1920-1940.

come figures per 100 acres are found in the cash grain area and the eastern livestock areas. Next comes the western livestock area, which equalled the two regions just mentioned from 1926 to 1929. Following 1933, however, the western livestock area began to fall below the northern and eastern areas, chiefly because of a succession of poor years, but also partly because soil erosion was beginning to make itself felt throughout the western part of the state.

As might be expected, the dairy area and the southern pasture areas with their rougher land and poorer soils, generally yielded less gross income per 100 acres than the remainder of the state. The dairy area, however, held its relative position as compared to the state average, while the southern area continued to fall further and further below other areas. The explanation will be found in advancing erosion coupled with a decline in the relative percentage of land in corn, severe drouths and probably a more

or less permanent loss in yielding ability of the land. The effects are brought out strikingly in fig. 4 and will appear again and again as we discuss other phases of the farm business. We may well pose the question whether this area has undergone a permanent deterioration as a farming region. Probably it is too early to be sure, but the decline in comparison with other parts of the state is indeed striking.

Deduction of operating expenses, purchases of feed, and depreciation of working assets from the gross income gives us the figures on net operating income which are shown in Appendix E. In recent years these deductions amounted to something like one-third of the gross income. The net operating income which remains over is the amount available to pay rent, taxes, upkeep of permanent improvements, interest on the operator's own capital and wages for labor by himself or members of his family.

The further deduction of fixed expenses and of depreciation in fixed assets yields the figures on net farm income. This is the amount that the farmer has left over for the use of all his own resources, for use of his own land, his net capital and his labor as well as that of unpaid members of his family.

Net farm income, as shown in fig. 5, follows a course similar to that of gross income. But there are certain important differences. Laborers and farm operators are capable of moving from one area to another if earnings appear to be higher in one section than another. This process, however, is notoriously a slow one, and the resulting adjustment lags considerably behind the discrepancies of income. Second, rents likewise tend to adjust themselves to the earnings of the land. And finally, farm operators are able to adjust their rates of expenditure to their income within limits. Consequently differences between areas are smaller for the net farm income than for gross income.

From 1926 to 1940 the same general trends are noticeable in net farm income as in the gross income. The highest levels of net farm income per 100 acres were reached in the late 1920's, and these levels were nearly though not quite equalled in 1939 and 1940. The same sharp decline occurred from 1929 to 1931-32. The same effects of the drouths of 1934 and 1936-37 are shown in the areas affected. In net income as well as gross, the southern pasture area falls short of the returns received in other parts of the state. But the adjustments in expenditures to reduced sales have prevented the disparity from growing appreciably during these 15 years.

Principal elements of income and expense by areas are shown in Appendix E (tables E1-12). Sales of crops were not of great importance on the average record farm. They were largest in the cash grain area where they amounted to \$300 to \$500 per 100

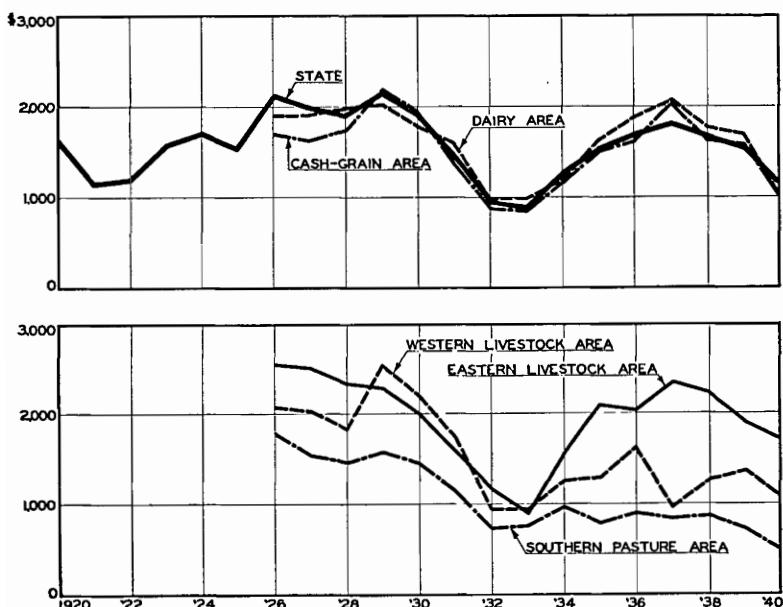


Fig. 6. Income from livestock per 100 acres, by areas, 1922-1940.

acres during the late 1920's. Sales of dairy and poultry products brought in \$700 or \$800 per 100 acres in the dairy area in the 1920's and \$500 to \$600 during the late 1930's, but with a shrinkage to something over \$400 during the worst of the depression. In other areas dairy and poultry sales were only half to two-thirds as great as in the dairy area.

In all areas the largest source of income came from the sale of livestock, and this fluctuated with livestock prices and with the supply of feed. Since livestock provided the principal source of income in all areas, the trends shown in fig. 6 will be observed to parallel very closely those of gross income in fig. 4. In the dairy and cash grain areas income from the sales of hogs and cattle brought in an average of \$2,200 to \$2,300 a year from each hundred acres both in the late 1920's and the late 1930's with such income falling to about a half of these amounts during the years 1932-33. These figures approximately represent the state average for all record farms. The eastern livestock area is a more intensive livestock-producing area, and such sales there amounted to about \$3,200 per 100 acres both before and after the depression.

Wider variation occurred in the western livestock area. Here livestock sales fluctuated from \$2,400 to \$3,400 in 1926 to 1929 and from \$1,700 to \$2,200 in 1937 to 1940. It was only in 1939

and 1940 that the effects of the drouths were overcome enough for livestock production here to approach the figures of the mid-twenties. The southern pasture area, again, exhibits the downward trend already pointed out in crop production. Livestock sales declined from \$1,700 to \$2,100 per 100 acres of farm land in 1926-29, to \$900 in 1932-33, and with very little recovery up to 1940.

TRENDS IN EXPENSES

When we examine the year to year changes in the principal elements of expense we find that they fluctuate in a manner quite similar to the gross income, though often with a year's lag. This is particularly true of operating expenses (fig. 7). In the first place, the prices of labor, machinery upkeep, fuel for tractor, seeds and supplies vary more or less like the prices of farm products, though not necessarily in the same proportion nor with the same timing. Second, the farmer has at least some degree of control over the amount of labor hired and over most of the other elements of operating expense.

It is noticeable in fig. 7 that average operating expenses for all record farms declined by only about half as great a percentage as did gross income from 1929 to 1932. The low point in operating expense occurred in 1933 as compared to 1932 with gross income. Further, after recovery began, the operating expenses showed a persistent upward trend as compared to income. This is explained largely by the process of mechanization, with increasing expenses for the operation of equipment. We shall return to this question a little later.

The cash grain, eastern livestock and western livestock areas had the highest operating expenses per 100 acres in the late 1920's, averaging about \$500. By 1940 the corresponding figures were \$650 for the cash grain and eastern livestock areas but only \$500 for the western livestock area. Only in the southern pasture area was operating expense somewhat lower at the end of the period than the beginning, and here there had been the least mechanization and a general contraction in the intensity of operation, as already mentioned.

Fixed expenses include payments for interest on borrowed funds, taxes and upkeep of permanent improvements. That the expenditure for these purposes is "fixed" only in a relative sense is shown by a comparison of figs. 7 and 8. From 1920 to 1932 the investment in fixed assets such as land and permanent improvements was gradually being written off, debt carried against it was being paid off, and interest rates on mortgage loans were declining. Consequently the amount of interest paid per 100 acres was declining. This process was accelerated from 1929 to 1933, and in addition to this, taxes were being reduced,

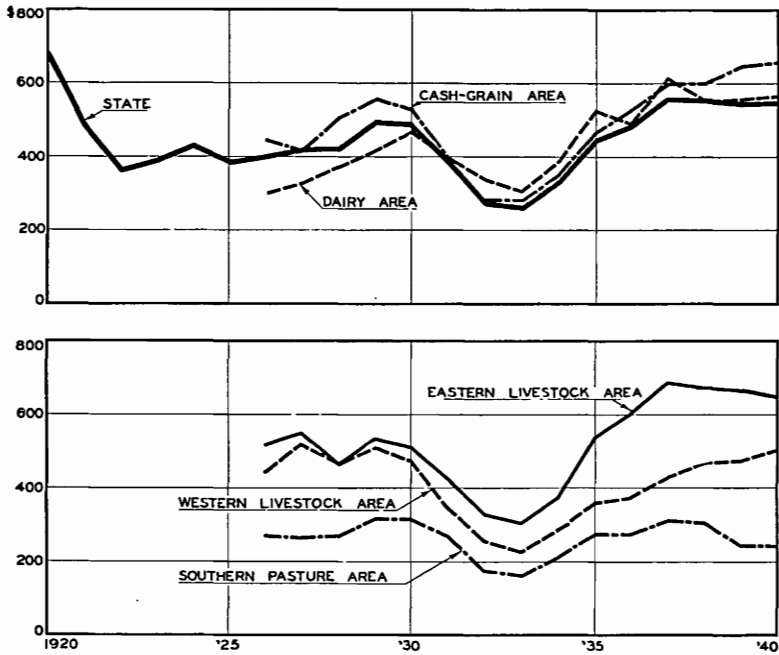


Fig. 7. Farm operating expenses per 100 acres, by areas, 1920-1940.

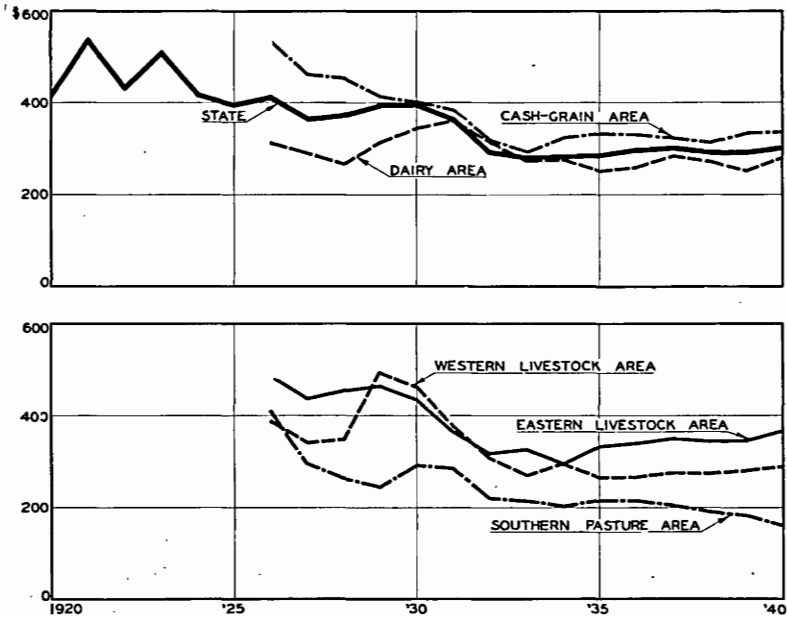


Fig. 8. Fixed expenses per 100 acres, by areas, 1920-1940.

and repairs on improvements were often deferred because of the low farm income. Consequently we find fixed expenses dropping by a quarter to a third in this period of 4 years.

In the areas that had relatively few records there were diverse movements up to 1929; but for the most part the trends are highly consistent between areas. Again, only the southern pasture area exhibits a trend that does not agree with the rest of the state. As a general statement, we may say that fixed expenses per 100 acres averaged around \$400 in the late 1920's, and around \$300 from 1933 to 1940 for northern parts of the state. For the southern pasture area the corresponding figures were between \$250 and \$300 in the late 1920's and about \$275 in 1940.

TRENDS IN VALUATION OF ASSETS

The trends in valuation of the principal farm assets are implied in the foregoing discussion of the elements of income and expense. The valuation placed by farmers on their land depends on the net value of the crops per acre on the one hand, and on the other is affected by the current rate of capitalization of long-term income, which has corresponded to the rate of interest on long-term investments such as farm mortgages. The net value of crops is affected by trends in yields and by the percentage of the land that can be planted in the higher valued and more profitable crops such as corn. This was mentioned previously and is related to the decline in relative value of fixed assets per 100 acres in the southern and western areas as compared to the northern and eastern ones.

The adjustment in valuation of land lags, sometimes by several years, behind the value of the crops raised on it. In 1920 the state was just at the end of a land boom which had been built up on the basis of wartime prices. The decline from \$24,000 per 100 acres in 1920 to about \$14,000 in 1928 was a drastic one and was scarcely interrupted even though, as we have seen, gross income and the value of crops recovered part of the post-war loss. In other words, farmers gave up but slowly the idea that their land could yield an income based on the demands of boom years. The decline slowed down in the later 1920's. But the shock of the Great Depression, followed by an epidemic of foreclosures and forced sales, brought a new and even sharper decline until 1933, when a new level was established at around \$9,000 per 100 acres for the record farms. With government support to the prices of farm products and a continued decline in interest rates this level was held until 1940.

There was but little change in the relative position of the cash grain, eastern livestock and western livestock areas, though the latter tended to fall somewhat below the first two. The dairy area

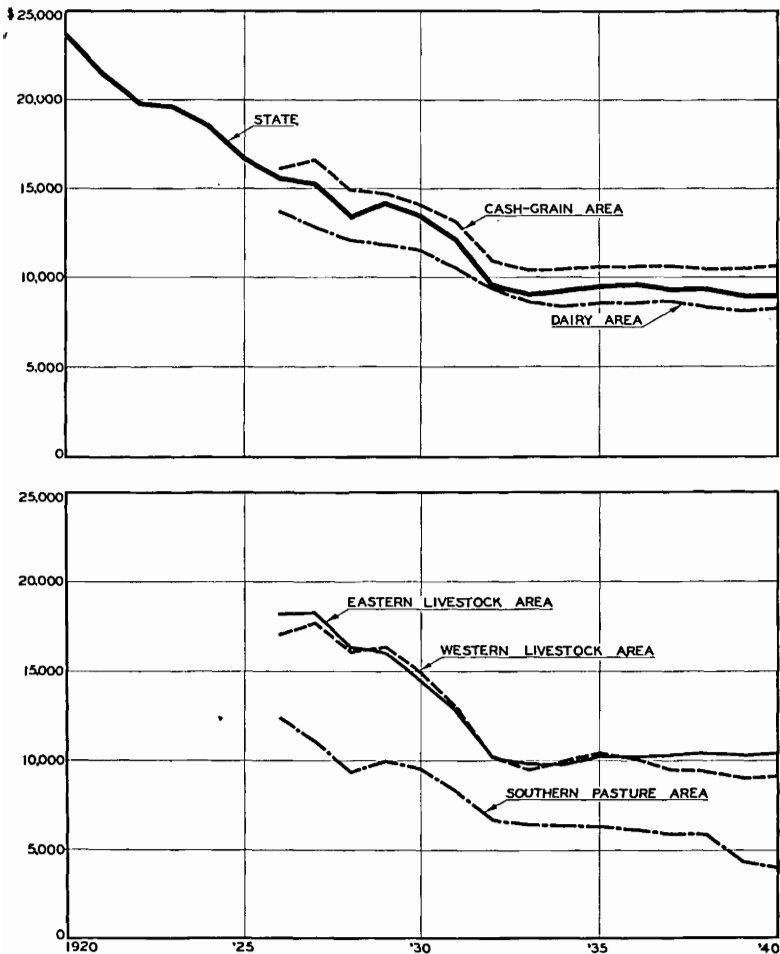


Fig. 9. Fixed assets per 100 acres, by areas, 1920-1940.

with its rougher land and smaller percentage of acres in corn remained below the three just named, but the productivity of its land was holding up well, and the spread between the value of its fixed assets per 100 acres and the state average was less than in 1926. As already indicated the southern pasture area fell, both absolutely and relatively, further below the other four areas.

Unlike the fixed assets, the valuation of working assets underwent a prompt and sharp decline after 1920. This group consists of farm machinery, breeding cattle and horses. With recovery in the prices of farm products in the late 1920's the valuation of working assets rose from an average of approximately

\$1,200 for all record farms in 1927 to \$1,600 in 1930, (see fig. 10). The decline to 1933 carried working assets to a level 15 or 20 percent below 1930, but subsequent recovery brought the valuation back to 1930 levels for the dairy and eastern livestock areas by 1938. Here again the southern pasture area and the western livestock areas lagged behind in the recovery. Shortage of feed in the drouth years resulted in partial liquidation of breeding stock in these sections, and the herds had not been built up to their former level by 1940.

The movement of value of liquid assets was similar to that of working assets, but with much greater amplitude (see fig. 11). This group consists of crops and feeds on hand, livestock that is being raised or fattened for market and supplies that are normally used up within a year's time. Consequently they reflected the full force of market fluctuations. But there was also a direct influence from the size of the annual crops and resulting inventory changes; and this, of course, varied from one part of the state to another.

From Jan. 1, 1928, to Jan. 1, 1930, the average value of liquid assets per 100 acres for all the record farms rose from approximately \$2,100 to \$2,500. The decline to January 1933 carried this value below \$1,000, and the recovery to 1940 brought it back to the 1930 level. For the cash grain and the eastern livestock areas good crops and favorable prices in 1939 carried their liquid assets above the 1929-30 level. In the western livestock area the value was slightly below 1930; while in the southern pasture area continued drouths and the general contraction in farming opera-

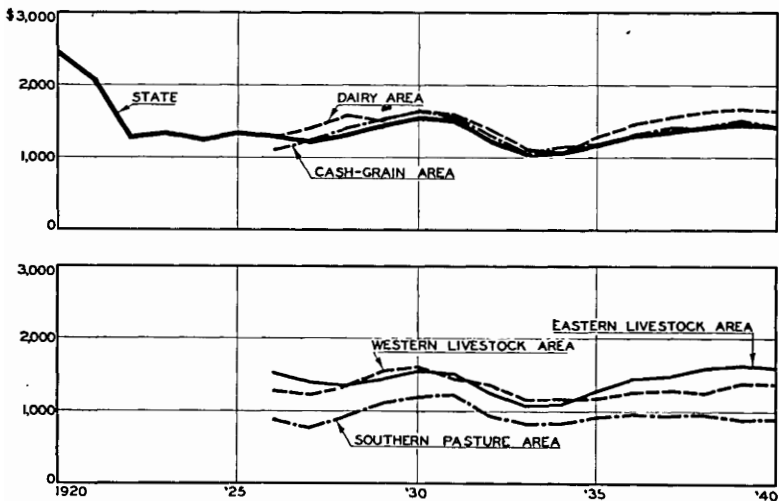


Fig. 10. Working assets per 100 acres on Jan. 1, 1920-1940.

tions already mentioned left liquid assets only a little above the depression level.

COMPARISONS BY TYPES OF FARMS

Among the many combinations of enterprises and specializations in production, six stand out as most important in Iowa. These may be listed as follows:

1. *General or diversified farms*: Those which have no single outstanding source of income, generally with three or more fairly important sources.

2. *Crop farms*: Where an important part of the crops is sold directly for cash rather than being converted into livestock products.⁶

3. *Hog farms*: Those which are organized around the hog enterprise, both as the outstanding means of disposing of feed grown and as the principal source of income. A majority of the various types received the greatest single share of their income from hogs. But in the three types which follow, there are definite organizational patterns in which other enterprises play a role approaching or even exceeding the importance of hogs.

4. *Dairy farms (or dairy and hog farms)*: Dairy products an outstanding source of income and dairy cattle the outstanding consumers of feed and labor.

5. *Dual-purpose cattle farms (or dual-purpose cattle and hog farms)*: With the cattle herd of outstanding importance but both beef and dairy products providing important sources of income.

6. *Commercial cattle feeders*: Principal source of income from the sale of cattle that had been purchased and fattened.

It should be pointed out that the patterns of the various types are not discrete or clearly set off from one another. Variations in importance of the different farm enterprises are almost infinite, and the types shade into one another almost imperceptibly. Therefore the limits between types have to be decided upon

⁶In this study the farms were classified partly on the basis of the relative importance of the various sources of income, but the precise limits were set by characteristic physical patterns, since it was found that shifting prices led to unstable income classifications. For the types other than the General or Diversified, the following criteria were employed: **Crop farms**; crop sales (including the value of crops turned over to the landlord for rent) equal to 30 percent or more of the value of all crops raised and also equal to more than 25 percent of total cash sales.

Hog farms; One litter of pigs raised for each 8 acres (or less) of land in rotation.
Dairy and hog farms; One milk cow for each 15 (or fewer) acres of total land in farm, and butterfat production over 125 pounds per cow.

Dual-purpose cattle and hog farms; One breeding cow (in opening inventory) for each 18 or fewer acres of total land, and butterfat production less than 125 pounds per cow. (Also with beef sales of importance comparable to butterfat sales.)

Commercial cattle-feeding farms; Selling at least 30 cattle and buying at least two-thirds as many as sold.

In addition to these types there were also various specialty farms such as hybrid-seed-corn-producing farms, turkey farms, lamb-feeding farms, and so on. These were counted in the averages for the state as a whole and in the area and size averages, but were not of sufficient importance to discuss as separate types.

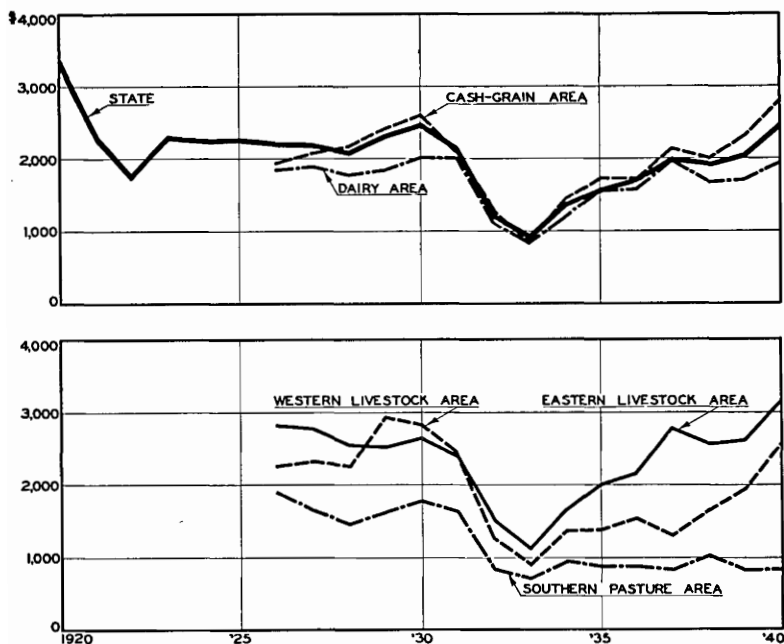


Fig. 11. Liquid assets per 100 acres on Jan. 1, 1920-1940.

arbitrarily. And since many farms may be near the adopted limits, changes in relative importance of a given enterprise may cause a given farm to shift from one type to another between years. Thus it is possible for the same farm to be classified as a general farm 1 year and a hog farm the next, if a larger number of hogs are raised in the second year.

The above paragraph may, however, give an exaggerated idea of the instability of the types. Such instability, however, occurs chiefly at the limits of the type groups. Farms which are strongly specialized in any particular direction are not likely to shift from that type to another within any short period of time. Further, the direction of possible shifts is limited. Thus, the farm that is on the line between the dairy and the hog type might shift in classification from one of these two types to the other but could not suddenly become a crop farm or a commercial feeding farm.

There is much greater homogeneity within each type of farming group than there is within a given type of farming area, or within a given size of farm group. A size group may, and generally does, contain farms of all the organizational patterns listed. Likewise each area contains a mixture of all types and sizes.

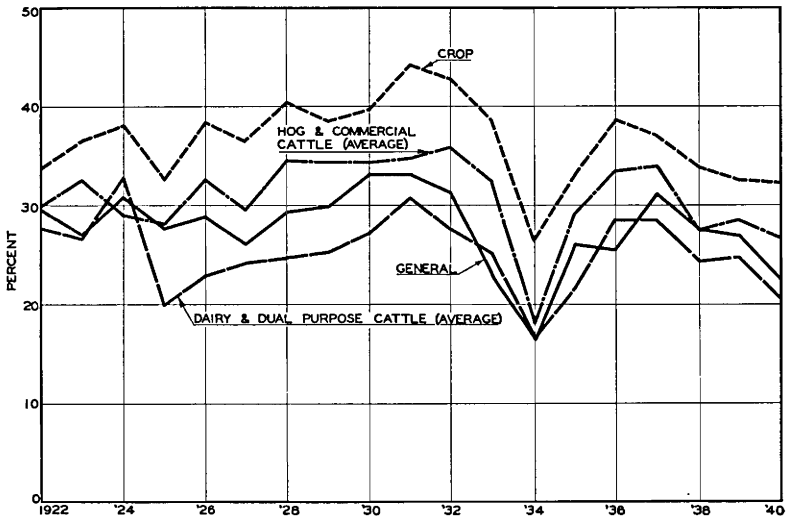


Fig. 12. Percentage of land in harvested corn by type of farm, 1922-1940.

Since each area has certain pronounced soil and topography conditions, however, it tends to have a larger proportion than others of types particularly suited to those conditions.

TYPE OF FARM AND PERCENTAGE OF LAND IN CORN

The type of land influences, although it does not absolutely determine, the combination of enterprises found on it. If the land is particularly suited to grain production, a high percentage is planted in corn, which generally yields the highest income opportunity. If it is level and easily worked, it also tends to be operated in large acreage units. Where these two characteristics are combined, therefore, we are likely to find large numbers of crop farms, (see figs. 12 and 13).

If there is somewhat less corn and there is some rough land that needs to be kept in pasture or roughage, livestock enterprises are at an advantage. The specific type of livestock, however, will vary with the proportion of roughage and with the preference of the farmer. When corn production is relatively high, hogs or the commercial cattle-feeding enterprise may form the center of the business, since these can consume large amounts of grain with but little roughage. Incidentally, on the record farms these two types have shown about the same percentage of land in corn throughout the 1922-40 period; they are somewhat lower than the crop farms but higher than the other livestock types or the general type (fig. 12).

The general type shows a somewhat lower percentage in corn than the hog or commercial feeding farms, and keeps more cows

and other roughage-consuming livestock. Dairy farms and the dual-purpose cattle and hog farms are generally located on land that has still less corn and more pasture and hay. Although these two types are likely to have about the same percentage of land in corn, they are found most commonly in different parts of the state. The dairy farms occur either near town where there is a demand for milk or else in the northeastern part of the state where pastures remain green throughout the summer and where there are good yields of oats (an advantageous grain in the dairy ration). Dual-purpose cattle farms, however, are more common in the southern part of the state where there is much rough land but where pasture and other conditions are not so favorable to the dairy enterprise. It will be observed that the relative percentage of land in corn has not changed greatly between types since 1922. There has, however, been some narrowing of the range since 1934, with the restriction on corn acreage caused by the Agricultural Adjustment program.

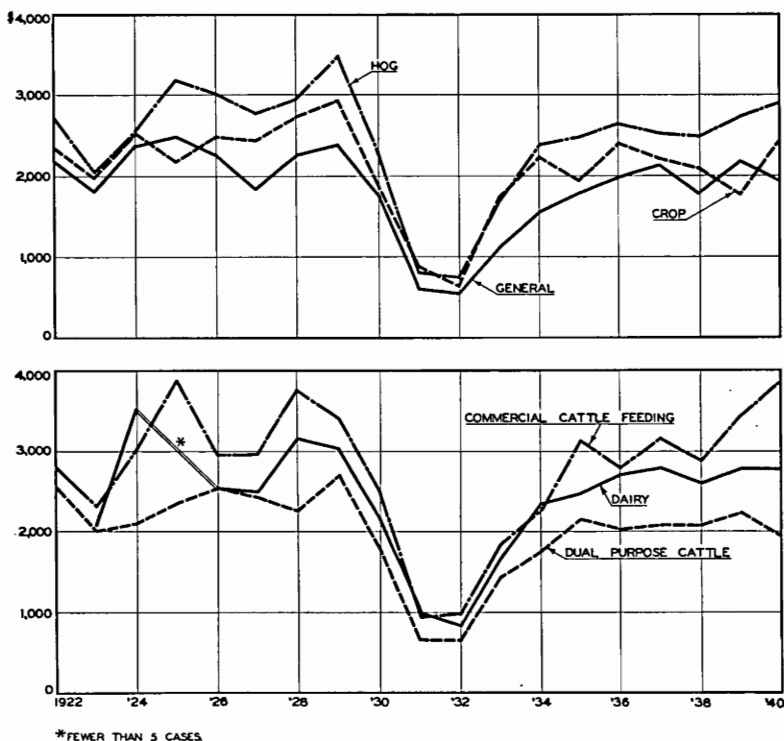


Fig. 13. Gross income per 100 acres, by type of farm, 1922-1940.

TYPE OF FARM RELATED TO SIZE

Since the different types of farms represent varying degrees of labor and capital intensity as applied to the land, we find some corresponding variation in the average size of farm. Thus, the dairy farms on which records were kept in 1939 averaged 185 acres, general farms 210 acres, hog farms 212 acres; while crop, dual-purpose cattle, and commercial cattle-feeding farms each averaged over 300 acres. It should be pointed out again, however, that the record farms generally ran larger than state averages.

Even more pronounced than differences in average acreages, however, is the wide range within each type (fig. 13). In each case there were some farms smaller than 120 acres and others larger than 400 acres. Size of farm and the organizational pattern that distinguishes a type of farm are largely independent. The correlation between the two comes chiefly from the fact that (as stated above) the different types represent different degrees of labor and capital intensity; and greater managerial effort per 100 acres is required on dairy and hog farms than on crop farms or dual-purpose cattle farms. Hence the tendency for the two former types to run smaller than the latter. But individual farmers differ even more widely in managerial ability, and, therefore, the size of farm varies correspondingly within each type.

TRENDS IN GROSS AND NET INCOME

For individual years there are rather wide differences in income as the prices of various major products move upward or downward. Thus the gross income per 100 acres from the crop farms rises and falls with the price of the crops sold and also with the yield. Gross income on commercial cattle farms varies with cattle prices, and that on hog farms with prices of hogs.

As a general thing gross income per 100 acres on cattle-feeding farms runs somewhat above that on other types, while that on the general farms and on dual-purpose cattle farms usually runs below the general average. These differences in gross income per 100 acres, however, do not indicate corresponding differences in net income. Thus, the general farm usually both produces and consumes the greater part of its feed crops, and its diversification leads to more complete utilization of its by-products. Therefore the volume of produce marketed from such a farm is less per acre than from most other types, though this does not indicate lower profit-making potentialities. At the other extreme, the commercial cattle-feeding farm does a large volume of business but also incurs large expenses in the purchase of feed as well as of feeders.

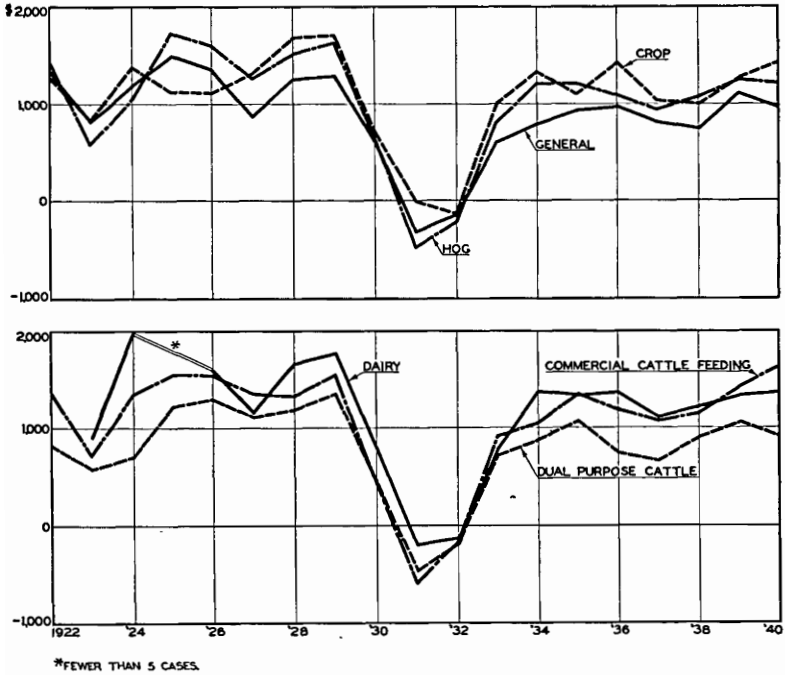


Fig. 14. Net income per 100 acres, by type of farm, 1922-1940.

Year to year fluctuations of net income have, in general, been less than those of gross income. (Compare figs. 13 and 14.) In other words, the different types of farms have shown considerable ability to adjust their expenses to their gross incomes, partly because the things they sell and the things they buy tend to move more or less together, and partly because farm expenses can be deferred from one year to another.

Second, over the period studied there has been less difference in the general level of net income between farms of different types than between levels of gross income. This gives some evidence of the ability of farmers to adjust their operations and make minor shifts of production so that net earnings from one product do not long remain above or below earnings from another. There are, however, individual years, and sometimes 2 or 3 years together, when such disparities do obtain.

There are some pronounced differences in the relative importance of principal income and expense elements as between types (Appendix E, tables E-13 to E-24). Crop sales are of importance only on the crop farms where they brought in \$600 to \$800 per 100 acres per year during the late 1920's and \$400 to \$600

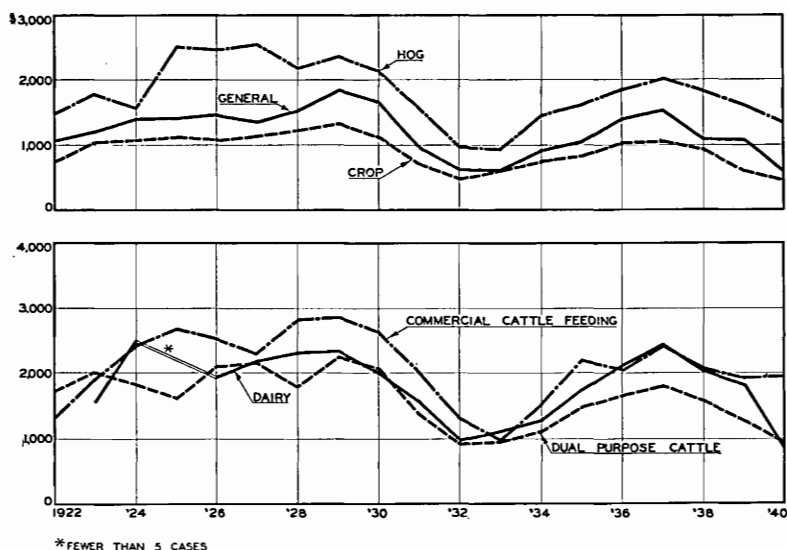


Fig. 15. Livestock sales per 100 acres, by type of farm, 1922-1940.

in the late 1930's. In the other types crop sales generally brought in \$100 to \$200 per 100 acres. Hogs are usually the greatest source of income on all Iowa types, but were naturally most important on those farms classified as hog farms where they brought in around \$1,500 per 100 acres, except during the depression. At the other extreme, on crop farms and on general farms the sale of hogs brought in an average of \$600 to \$800. Sales of cattle were generally next in importance amounting to an average of about \$2,500 in the commercial feeding farms, \$300 to \$400 on the general farms but only occasional receipts on the crop farms. Total sales of livestock rose from \$1,500 per 100 acres in 1933 on the commercial cattle-feeding farms to \$4,500 in 1940; on the hog, dairy, and dual-purpose cattle farms the rise was from \$1,000 to around \$2,000, and on the crop farms it was from \$600 to \$1,200 (see fig. 15). Sales of dairy products amounted to \$100 to \$200 per hundred acres, except on the dairy farms where they ran around \$800.

VARIATIONS IN EXPENSE ELEMENTS BY TYPES OF FARMS

The general level and relative importance of various elements of expense conform to the production requirements of the respective major enterprises. Fixed expenses (for taxes, upkeep of improvements and interest on debts) averaged \$250 to \$350 per 100 acres during the late 1930's. This expense was \$50 to

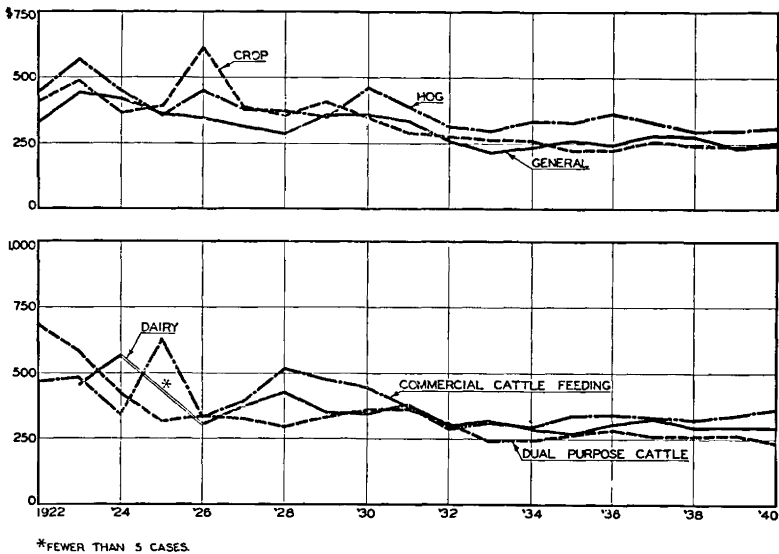


Fig. 16. Fixed expense per 100 acres, by type of farm, 1922-1940.

\$75 higher on the commercial cattle-feeding, hog farms and dairy farms than on the other types. It has declined materially since the 1920's, with reduction in taxes and in the debt load (fig. 16).

Operating expenses (for labor, operation of machinery, purchases of seed, and so on) have been running around \$100 higher per 100 acres on dairy and cattle-feeding farms than on the

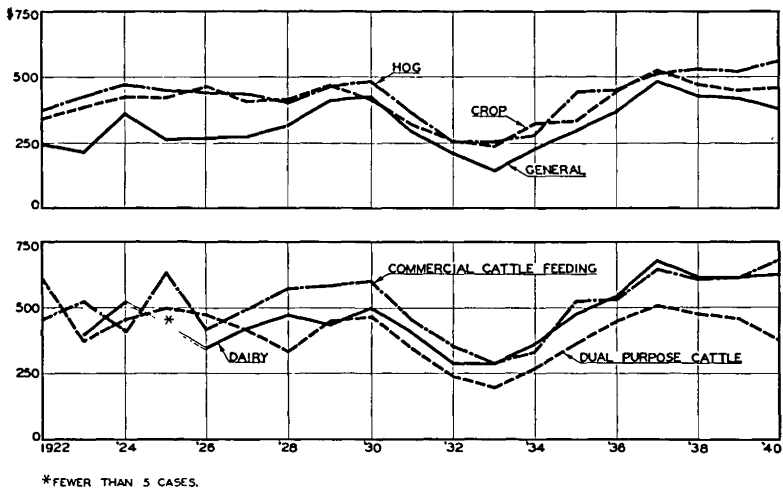


Fig. 17. Operating expenses per 100 acres, by type of farm, 1922-1940.

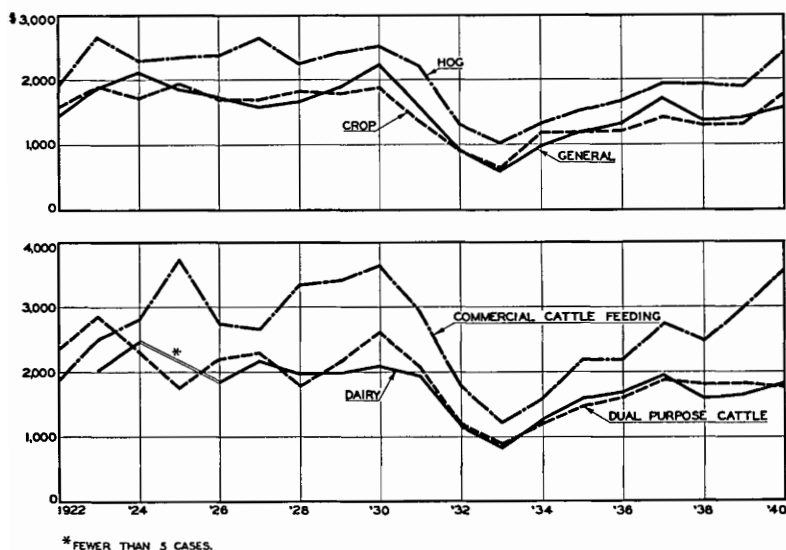


Fig. 18. Liquid assets per 100 acres, by type of farm, 1922-1940.

other types and are lowest on general farms (fig. 17). The only pronounced changes in relative level of operating expense have been an increase on dairy farms.

Purchases of feed differ in a characteristic fashion between types, and the relative level has not changed appreciably during the period studied. Roughly, this expense required about \$700 per 100 acres during the 1935-40 period on cattle-feeding farms, \$450 on hog farms, \$300 on dairy and on dual-purpose cattle farms and less than \$200 on crop farms.

Purchases of livestock per 100 acres were far greater on cattle-feeding farms than on any other type. Here it amounted in round figures to \$1,800 in 1928, declined to \$400 in 1934 and then rose to \$2,500 in 1940. On the other types, livestock purchases were generally confined to an occasional breeding animal and generally ran from \$100 to \$300 per 100 acres. An exception should be made, however, for certain specialty farms such as those feeding large numbers of lambs or of purchased hogs (which are not shown in Appendix E).

VARIATIONS IN CAPITAL BETWEEN TYPES

Trends in total value of all capital managed (including land) have not differed appreciably between types during the period 1922 to 1940. With slight year to year differences, each type has followed the same downward trend, slowly from 1922 to 1930, rapidly from that year until 1938, and then with some

small recovery until 1940. Throughout the period valuation of total assets on commercial cattle-feeding farms has tended to run higher than in other groups, followed by dairy farms and hog farms. The general farms have generally been lowest, with crop farms and dual-purpose cattle farms slightly above them.

Differences between types have been relatively smaller in value of land and permanent improvements per 100 acres than in values of working assets or liquid assets. Greatest differences have been in liquid assets (including crops and feeds on hand, supplies, and livestock being fattened for sale). As we might expect, commercial cattle-feeding farms have stood well above the other types in value with liquid assets during the 1930's, from a third to a half higher than the general average.

Next came dairy, hog and dual-purpose cattle farms with approximately \$1,700 per 100 acres, and at the bottom were general farms with \$1,400 and crop farms with \$1,300. The relative position of the different types changes but little from the late 1920's to the period 10 years later (fig. 18). The principal shift was the relative increase on dairy farms with the intensification of dairy production already referred to.

Investments in working assets (including breeding stock, work stock and machinery) followed a trend which differed decidedly from those of fixed assets and of liquid assets. (See fig. 19.) Working assets were rising gradually in value from 1925 to 1930. A decline occurred to 1933, and then a new rise to a 1937-40 level generally higher than in 1930. To a large extent this trend may be attributed to the purchase of additional implements, tractors, and so on, or in other words, is an evidence of the process of mechanization.

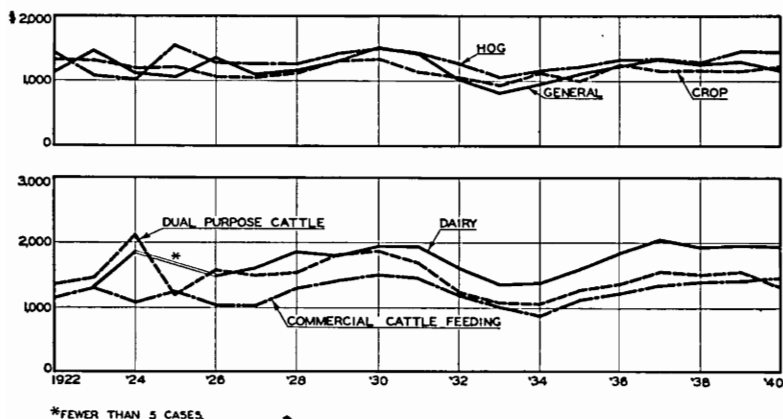


Fig. 19. Working assets per 100 acres, by type of farm, 1922-1940.

Differences in working assets were less pronounced between types than were differences in liquid assets. Dairy farms are an exception with an average of \$1,800 to \$1,900 worth of working assets per 100 acres in 1937-40 as compared to \$1,400 on dual-purpose cattle farms, \$1,300 on hog farms and commercial cattle-feeding farms and \$1,100 on crop farms.

RETURNS ON LIVESTOCK PER \$100 OF FEED FED TO PRODUCTIVE LIVESTOCK

Four of the six types of farms are distinguished by the kind of livestock or livestock product that yields the principal amount of income. Between livestock enterprises there are characteristic differences in the usual ratio of feed value to total income. In fattening steers and in raising hogs the value of feed ordinarily makes up 75 to 80 percent of total cost. Consequently, about \$130 from livestock sales is required on each of these enterprises to break even. At the other extreme, dairy and poultry production take much more expensive shelter than does hog or steer production. In these two enterprises feed amounts to only about half the total expense, and therefore, a ratio of nearly \$200 per \$100 of feed fed is required to break even.

The ratio of receipts from productive livestock to the value of feed fed to them is commonly used as an index of efficiency in livestock production. It is seldom feasible, however, to work out such ratios for each of three or four enterprises on a farm. For convenience a single ratio is computed for the farm as a whole. Such ratios are not characteristic of any individual enterprise but lie between the limits indicated. Their exact position depends on the relative size of the different enterprises, the prevailing prices of feed and of livestock prices and the feeding efficiency of the farmer. Nevertheless, each type of farm has a more or less characteristic combination of livestock enterprises, and, therefore, has a characteristic ratio of livestock income to value of feed consumed.

On the record farms the highest livestock income per \$100 of feed was found on the dairy farms where it averaged \$160 both in the 1925-29 period and in 1936-40. On general farms and on hog farms the returns per \$100 of feed averaged between \$140 and \$145 in each period. On commercial cattle-feeding farms there were unfavorable years in the late 1920's as against a series of favorable years in the late 1930's. Consequently returns per \$100 of feed averaged only \$117 in the earlier period and \$141 in the later one. On the dual-purpose cattle and hog farms the corresponding rates of returns were \$141 and \$124. There seems to be no reason, however, to believe that the wavelike variations from year to year shown in fig. 20 are anything more than ef-

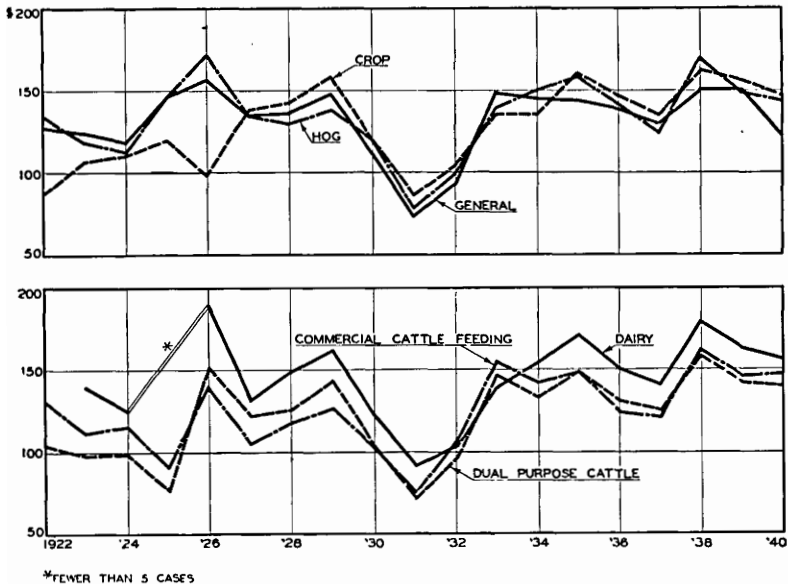


Fig. 20. Returns per \$100 of feed, by type of farm, 1922-1940.

fects of temporary shifts in prices of either feed or livestock. No pronounced change in the feed requirements per unit of livestock production has occurred that would call for permanent shifts in the relative returns on feed.

EFFECT OF MECHANIZATION ON FARM EXPENSES

One of the strongest influences on Iowa agriculture during the 1920-40 period has been the process of mechanization. In 1920 there were 178,000 automobiles and 20,000 tractors on Iowa farms. By 1940 the numbers had risen to 237,000 and 129,000, respectively. During the same period the number of motor trucks increased from 9,000 to 26,000. This shift affected the farm business in several ways. First, the total available power on farms adopting mechanical power was increased so that the farmer could do more work per day. Consequently he could either intensify his operations or could get along with less labor. Second, adoption of mechanical power reduced the need for horses and mules which declined from 1,468,000 to 804,000. This released feed so that it could be utilized for the production of more salable livestock produce per 100 acres and was one of the reasons for the upward trend in gross income. But on the other hand, the shift from animal to mechanical power meant that fuel, oil and other supplies had to be purchased for the tractor or automobile to take the place of horse feed raised on the farm.

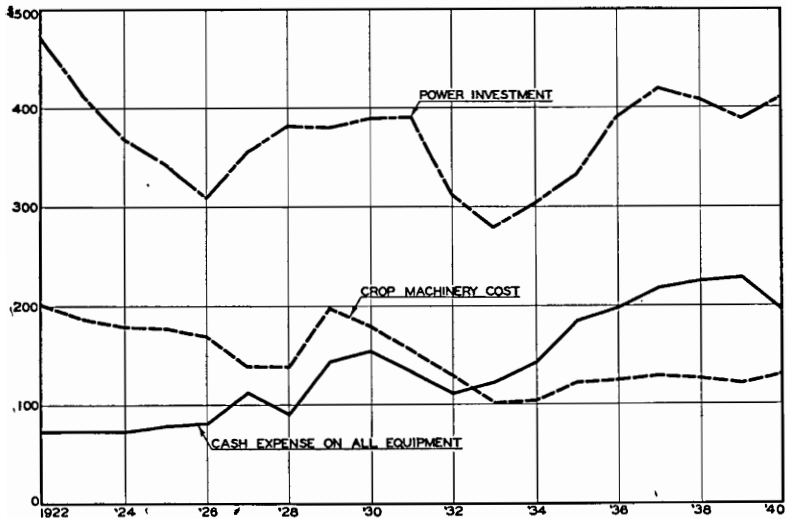


Fig. 21. Power investment, crop machinery cost and cash expense on all equipment per 100 acres, 1922-1940 average of all records.

Thus, expenditures were raised as well as receipts, and the farmer was made dependent on market prices to a greater extent than before.

The adoption of tractors and automobiles increased the total investment in power units above that when horses alone were used. From 1920 to 1926, however, the investment in power units on the record farms fell rather rapidly as prices both of horses and of tractors declined from war-time levels. After this, the trend was generally upward, except for the depression years, though the rate was not rapid (fig. 21).

The cost of operating farm implements (as distinguished from power units or prime movers) continued to decline from 1922 to 1933, except for an interruption in trend in 1929. After 1933 there was a gradual rise until 1940 as mechanical corn pickers, combines and other large-sized implements were adopted in the wake of the tractor. Nevertheless—the average expense on crop implements per 100 acres on record farms was a quarter lower in 1940 than it had been in 1925.

When current cash expenses on prime movers and on equipment for crops and livestock are combined, as in fig. 21, we obtain a curve that is different from either of the two just mentioned.⁷ For the 1922-40 period as a whole the cash expense on

⁷ It should be noticed that the crop machinery expense plotted in fig. 21 includes depreciation and interest on the valuation of implements as well as the current cash expense of their repair and maintenance. Cash expense on all equipment, however, is exclusive of depreciation on old machines and of the purchase of new ones and includes no indirect expense such as interest on the investment or charges for storage.

all equipment shows a pronounced upward trend, though it is interrupted in 1928 and in 1931-32. In 1939 this expense was three times as high on the record farms as in 1922. Throughout the entire period there were only insignificant changes in the total number of months of labor used per farm. In other words by far the greater part of the increase in cash expense just described was offset, not by reduction in the expense for labor, but by the other types of shifts within the farm business previously discussed.

On an average the number of months of labor hired by the record farms per 100 acres declined about 10 percent. But wages paid to hired labor fluctuated with the rates of wages paid as well as the amount of labor hired. Differences in amounts paid for labor hired per 100 acres became smaller between the 1920's and the late 1930's (fig. 22). Part of this, at least, may be attributed to a saving of labor because of mechanization on the larger farms.⁸

The mechanization process proceeded at characteristically different rates in different areas and on farms of various sizes and types. Consequently, cash expense on all equipment rose most rapidly in the cash grain area and the eastern livestock areas and changed least in the southern pasture area, where rough land and small crop acreages made the adoption of large, new machines most difficult (fig. 23). Differences between types of

⁸ As with many of the other graphs in this bulletin, much of the year to year fluctuation in the early 1920's is to be attributed to small numbers of farms in some groups.

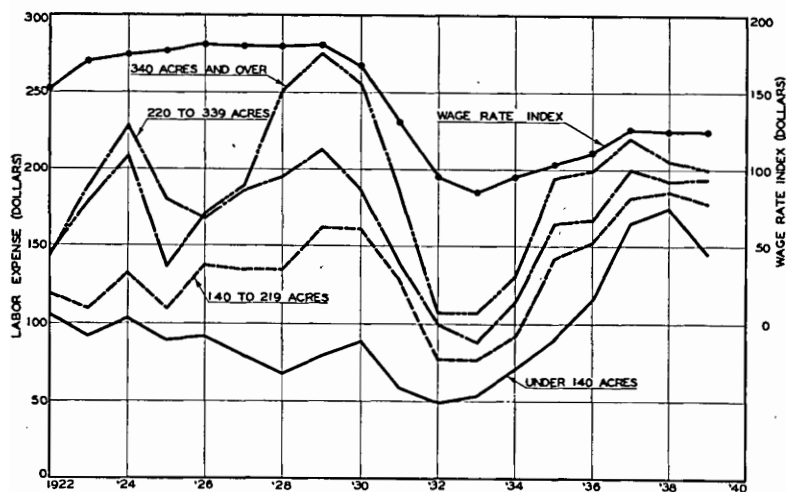


Fig. 22. Expenses for hired labor by size of farm, compared with index of wage rates, 1922-1940.

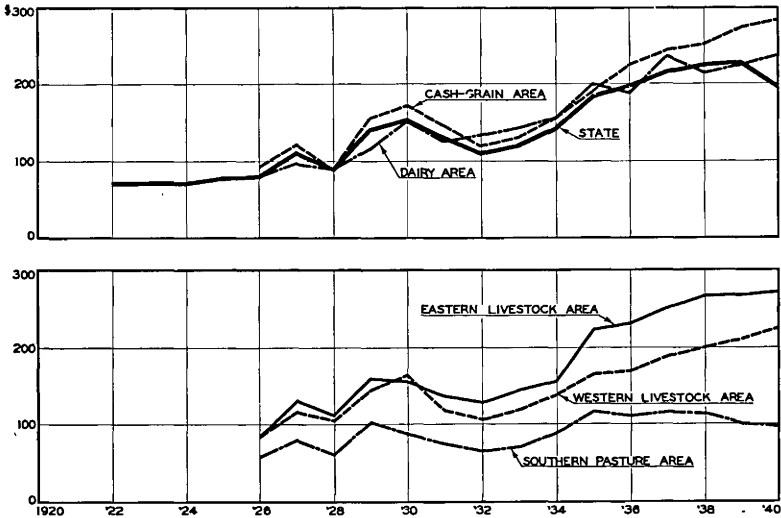


Fig. 23. Expense on all equipment per 100 acres, by areas, 1922-1940.

farms were less pronounced, but expense on equipment rose least on the dual-purpose cattle farms and on the diversified farms. These two types have the least need for large capacity and specialized crop machinery.

Trends in equipment expense per 100 acres have differed but little between size groups (fig. 24). Throughout the period, with few exceptions, the lowest equipment expense has been on the largest farms. As a general average the farms of 340 acres or larger have run \$30 or \$40 per 100 acres below those under 140 acres. As the smaller farms adopt tractors and the equipment that goes with them, it is possible that the spread may increase. A suggestion of this is seen in the behavior of the curves after 1936, but it is as yet too early to be confident of the change in trend.

VARIATIONS IN RETURNS AND INVESTMENTS BY SIZE OF FARM

As we go from smaller to larger farms we expect to find certain shifts in farm organization and also in the relationships between various income and expense elements. Of course, acreage alone is not a completely satisfactory measure of size of business, or rather it measures only one aspect of size. The kind of soil and the amount of labor and of capital goods are of co-ordinate importance. In a study such as this one, however, it is not possible to discuss every phase of the business, and acreage is both the most familiar expression of size and also in some ways the easiest to work with.

It has been shown elsewhere⁹ that the farms with larger acreages tend to be of less intensive types, using less labor per acre of land and obtaining a less rapid turnover on invested capital. Why does the type shift with the acreage? The answer is found chiefly in the fact that the supervision of labor increases in difficulty both with the number of workers and also with the area over which they are scattered. Therefore, a farmer is confronted with a problem of finding a combination of the factors of production that will conform to his ability as a manager. He may, for instance, choose a farm of relatively small acreage but with major emphasis on intensive enterprises such as dairy production which require large amounts of labor and capital. Or he may at the other extreme choose a relatively extensive organizational pattern such as the crop type, which requires a large amount of land but relatively little labor per acre. This is not to imply, however, that there is any sharp and clear cut difference in acreage between dairy farms, crop farms and other types. Farmers themselves vary in capacity. At the one extreme a man with large managerial capacity may operate a large dairy farm, while at the other a man with small capacity may be found running a crop farm of relatively small acreage. Furthermore, there are differences in intensity within types as well as between types.

TRENDS IN GROSS AND NET INCOME BY SIZE OF FARM

The trends in income and in value of principal assets for the record farms are shown by size groups in Appendix E, tables E-25 to E-32, and certain items are shown graphically in figs. 25 to 29. The general trends in income by size groups from 1922 to 1939 are, of course, very similar to those for the type

⁹ Iowa Agr. Exp. Sta., Res. Bul. 160, The uses of efficiency factors in analysis of farm records, by John A. Hopkins, Jr., 1933, pp. 135-137.

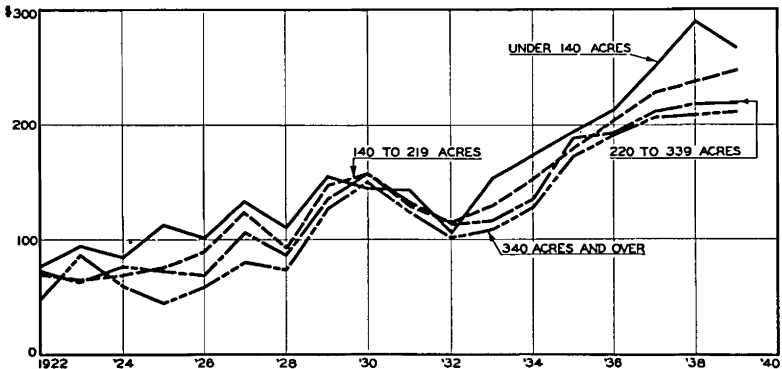


Fig. 24. Expense for all equipment per 100 acres, by size of farm, 1922-1939.

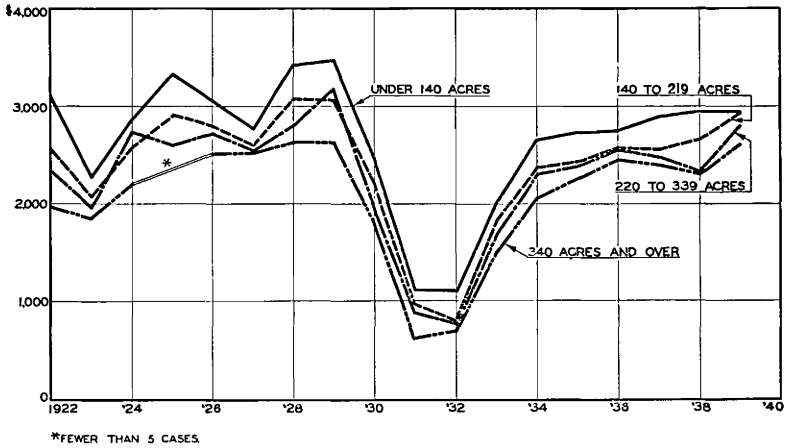


Fig. 25. Gross income per 100 acres, by size of farm, 1922-1939.

and area groupings that were discussed earlier. The smaller farms, however, are found to have larger incomes per 100 acres than larger ones, as we might infer from what was said above about the differences in intensity. In the late 1920's gross income per 100 acres on farms of less than 140 acres averaged about \$600 more than on those of 340 acres and over. During and after the depression, however, the spread has been appreciably less and averaged only about \$450 per 100 acres in the late 1930's

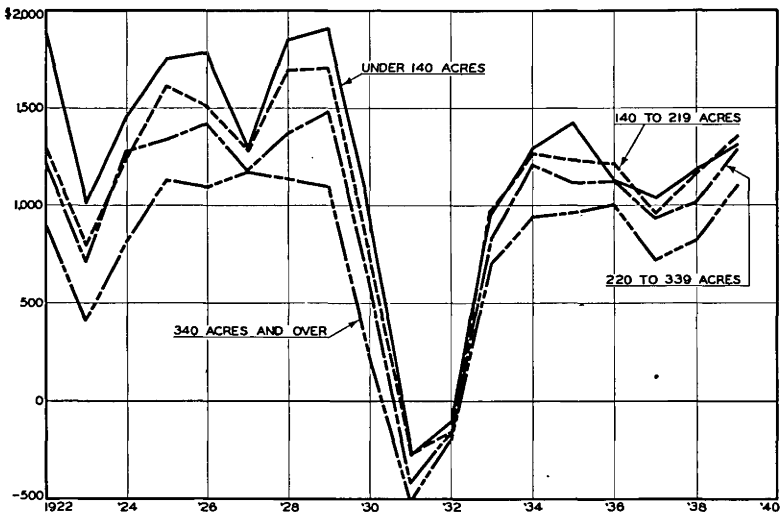


Fig. 26. Net income per 100 acres by size of farm, 1922-1939.

(figs. 25 and 26). The spread in net income per 100 acres declined in the same period from approximately \$600 to \$300. The relative improvement in position of the larger farms is probably related to the process of mechanization which makes it easier to handle large acreages.

TRENDS IN VALUE OF ASSETS BY SIZE OF FARM

Some interesting contrasts between size groups are found when we examine the various types of assets. From the end of World War I until 1933 there was an almost continuous shrinkage in the value of the fixed assets, chiefly land and buildings. This has been pointed out before. The various size groups followed courses that were almost exactly parallel. Throughout the period, however, the investment in fixed assets per 100 acres has run somewhat higher on the smaller farms. These require a certain minimum outfit of buildings and other improvements, which do not increase proportionately as we go from smaller to larger farms.

In liquid assets also the various size groups have followed generally parallel trends since 1922. An exception must be noted since 1935 when the assets per 100 acres on farms under 140 acres declined to a level from \$100 to \$200 below the larger farms, while such investments on farms of 340 acres and larger worked up to a level higher than for any other group. The shift in relative position seems to be explained chiefly by the greater amounts of corn sealed on the larger farms under Government loans.

In working assets (fig. 27) there is a pronounced difference in level of investment per 100 acres between size groups, with the highest rate of investment on the smaller farms. There are two explanations for this pattern. In the first place the smaller farms are likely to be of more intensive types, as mentioned previously. Second, the small farms require a certain minimum power and equipment outfit, and this does not increase as rapidly as acreage when we move toward larger farms. From 1931 on there is a noticeable widening of the spread between the smaller and larger farm groups. In 1939 the working assets per 100 acres on farms of 340 acres and over were about the same as in 1929-31. On farms of less than 140 acres, and those of 140 to 219 acres, on the other hand, corresponding investments in 1939 were 10 to 15 percent higher than in 1929-31. The increase on the smaller farms is to be attributed in a large measure to adoption of tractors and of larger equipment. Adoption of these involves a greater proportionate increase in investment on a small farm than on a large one. On a large farm it may be possible to dispose of enough horses and horse-drawn equipment

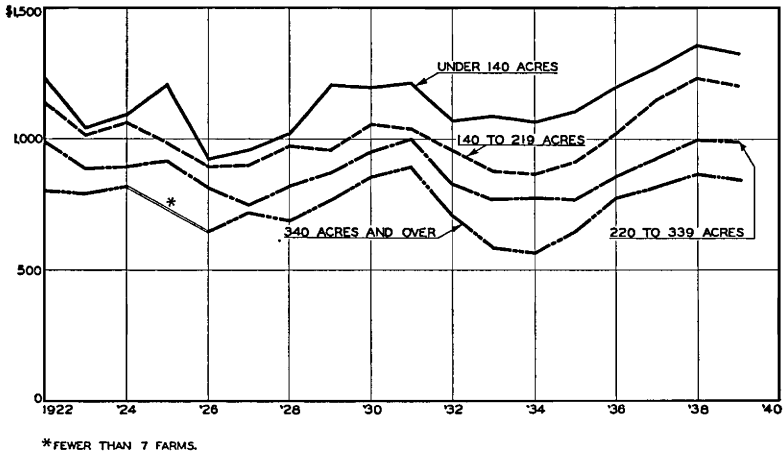


Fig. 27. Working assets per 100 acres by size of farm, 1920-1939.

to offset, or nearly offset, the purchase of the tractor. But this can seldom be done on the small farm since it is desirable to keep a few horses and some horse-drawn equipment for hauling and other light work. Consequently, fewer horses and less equipment can be disposed of when the tractor is acquired.

TRENDS IN INCOME AND EXPENSE ELEMENTS

Differences in the principal types of income and of expense between size groups conform to what has already been said about the shift in intensity and in prevailing types of farming from the smaller to the larger farms. Total sales of livestock have varied pretty closely with the size of farm. But when we deduct livestock purchased we find that net livestock sales per 100 acres ran \$300 or \$400 higher in the smallest size group than in the largest (fig. 28). At the same time the smaller farms also produced much more dairy and poultry produce per 100 acres (fig. 29). Of course the net production for the entire farm was much greater on the large farms than on the small ones, but these comparisons demonstrate the variation in general intensity as we go from one size group to another.

Differences in expenses are much less pronounced than in receipts. On farms of less than 140 acres fixed expenses generally ran about \$50 or \$60 per 100 acres higher than in the three larger size groups. This can be explained by the need for more improvements per 100 acres on small farms previously referred to. Operating expenses varied but little from one size to another. Purchases of feeds tended to run somewhat higher on the smallest and the largest farms than in the two middle groups.

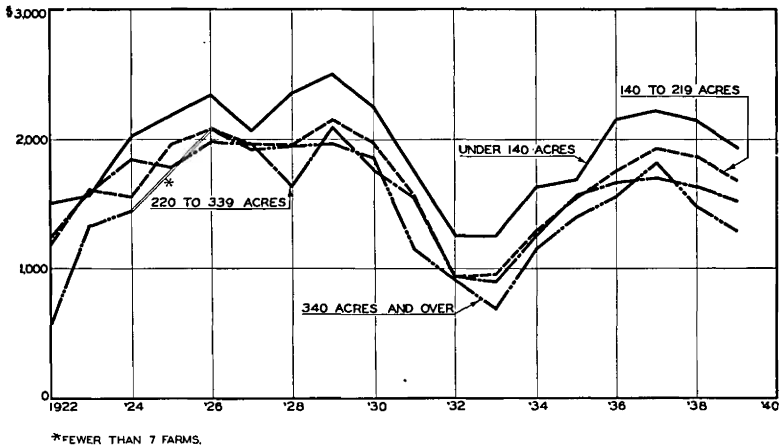


Fig. 28. Net sales of livestock per 100 acres, by size of farm, 1922-1939.

On small farms the farmers supplemented their feed production by purchases, while on the largest, intensive commercial feeding enterprises are found more often than on small acreages.

From the figures and the discussion in this bulletin we may conclude that farm records kept under the supervision of the Iowa Agricultural Experiment Station and the Iowa Agricultural Extension Service yield an excellent detailed history of the shifts in organization and in income on record-keeping farms. It may be assumed that these farms are representative of the more efficiently-managed ones of the state. The story of the shifts made by these farmers in response to changing price and weather conditions is a valuable one. It shows something like a model which other farmers might well attempt to follow.

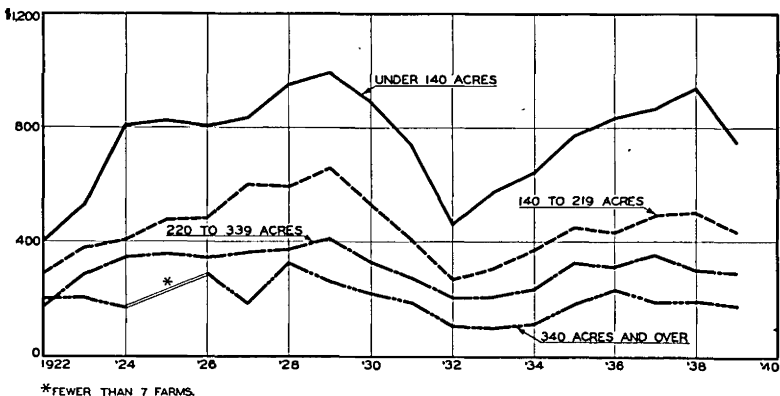


Fig. 29. Dairy and poultry products sold per 100 acres, by size of farm, 1922-1939.

The question should be raised, however, whether the relationships described on the record farms are also applicable to Iowa farms in general. To be more specific, are the relationships between acreages, numbers of livestock, and so on, representative of farmers in similar type or size groups who do not keep records or are the record keepers a class by themselves? This has a bearing on the question whether other farmers can actually emulate the example or can only aspire to it. "Statistical Comparisons of Record-Keeping Farms and a Random Sample of Iowa Farms for 1939," Iowa Agr. Exp. Sta., Res. Bul. 308, 1942, compares the organizational characteristics and income results of record keepers in 1939 with a representative sample of Iowa farms.

APPENDIX

APPENDIX A. NUMBERS OF IOWA FARM RECORDS BY TYPE
OF RECORD, 1920-1940.

	Records from cost routes	Farm business associations	Other extension records	Total records available	Number used in this study
1920	26	—	—	26	26
1921	47	—	—	47	45
1922	45	—	171	216	188
1923	39	—	111	150	124
1924	45	—	111	166	149
1925	22	—	99	121	101
1926	22	—	216	238	232
1927	18	—	376	394	356
1928	26	—	431	457	457
1929	39	127	484	650	592
1930	49	177	479	705	688
1931	—	108	543	651	650
1932	65	172	326	563	562
1933	57	89	324	470	467
1934	53	104	359	516	511
1935	68	121	537	726	713
1936	62	314	492	806	806
1937	—	516	588	1,104	996
1938	—	696	489	1,185	1,082
1939	—	762	469	1,231	1,231
1940	—	973	225	1,198	1,198

APPENDIX B. 1. NUMBER OF RECORDS CLASSIFIED BY AREAS, 1920-1940.

	State	Cash grain area	Dairy area	Eastern livestock area	Western livestock area	Southern pasture area
1920	26	—	—	—	—	—
1921	45	—	—	—	—	—
1922	188	—	—	—	—	—
1923	124	—	—	—	—	—
1924	149	—	—	—	—	—
1925	101	—	—	—	—	—
1926	232	24	85	67	33	23
1927	356	61	91	102	42	60
1928	457	119	85	112	50	91
1929	592	226	104	125	67	70
1930	688	266	99	196	65	62
1931	650	250	90	158	87	65
1932	562	137	72	148	109	96
1933	467	100	59	133	92	83
1934	511	126	67	146	90	82
1935	713	142	134	169	166	102
1936	806	176	117	223	196	94
1937	996	194	167	304	186	145
1938	1,082	188	202	324	259	109
1939	1,231	213	202	336	324	166
1940	1,198	203	210	336	282	167

APPENDIX B. 2. NUMBER OF RECORDS CLASSIFIED BY TYPE AND SIZE OF FARM, 1922-1940.

	Classification by type of farm						Classification by size of farm			
	General farms	Crop farms	Hog farms	Dairy farms	Dual-purpose cattle farms	Commercial cattle-feeding farms	Under 140 acres	140-219 acres	220-339 acres	340 acres and above
1922	63	33	47	4	11	20	44	86	51	7
1923	36	19	26	10	15	13	33	47	34	10
1924	58	22	16	11	13	14	42	49	43	15
1925	35	11	24	11	4	8	33	36	27	4
1926	52	6	71	35	13	22	60	98	60	14
1927	48	43	87	50	25	37	92	137	96	31
1928	70	88	85	60	27	29	118	173	129	37
1929	97	101	102	79	32	40	139	243	158	52
1930	99	122	116	99	64	73	151	263	208	66
1931	80	65	146	93	73	70	115	244	212	79
1932	99	42	90	86	88	63	83	211	192	76
1933	25	95	43	68	93	50	62	175	158	73
1934	57	61	27	71	83	52	70	196	165	81
1935	95	68	52	107	101	73	121	276	219	97
1936	127	63	62	97	109	123	134	293	252	127
1937	250	85	89	77	99	127	158	340	330	168
1938	111	82	186	138	143	178	165	370	366	181
1939	242	58	345	130	72	208	192	432	412	195
1940	178	162	317	163	99	232	—	—	—	—

APPENDIX C. SELECTED INCOME AND EXPENSE ITEMS ON RECORD FARMS, AVERAGE PER FARM, 1920-1940.

Year	Number of farms	Gross income	Net farm income	Chief sources of income			Principal expenditures				Acres per farm	Total capital managed
				Dairy & poultry products	Livestock sold	Crops sold	Operating expense	Fixed expense	Feed bought	Livestock bought		
1920	26	\$3,875	\$-289	\$ 526	\$4,815	\$2,095	\$1,548	\$ 941	\$ 733	\$1,125	228	\$66,946
1921	45	3,804	331	446	3,561	638	1,067	1,175	398	1,556	220	56,969
1922	188	4,842	2,510	492	3,101	632	704	838	293	730	194	44,427
1923	124	4,079	1,471	689	3,768	527	772	1,025	369	630	202	46,903
1924	149	5,338	2,454	816	4,338	581	880	760	699	814	207	46,437
1925	101	5,771	2,808	870	4,259	336	728	863	882	1,351	190	38,204
1926	232	5,462	2,871	905	5,115	360	789	812	613	991	198	37,891
1927	356	5,257	2,487	961	5,137	478	852	749	786	1,093	205	38,308
1928	457	5,941	3,019	1,041	4,746	587	857	756	873	910	203	38,025
1929	592	6,363	3,175	1,119	5,558	644	1,030	823	779	1,102	209	40,408
1930	688	4,935	1,251	923	4,836	526	1,045	844	747	883	213	40,170
1931	650	1,934	-846	743	3,912	287	858	818	601	630	223	37,947
1932	562	1,801	-364	504	2,705	198	638	688	396	513	232	30,434
1933	467	3,984	1,974	544	2,681	304	617	664	371	602	238	28,662
1934	511	5,412	2,749	638	3,699	521	789	679	869	659	241	30,398
1935	713	5,372	2,552	824	4,391	476	1,009	649	844	943	227	30,175
1936	806	5,967	2,614	854	5,130	535	1,142	702	1,110	1,123	237	32,319
1937	996	6,090	2,133	910	5,962	532	1,353	729	1,322	1,536	243	33,200
1938	1,082	5,908	2,411	874	5,690	394	1,340	710	1,957	1,651	242	33,054
1939	1,231	6,641	2,956	786	5,651	394	1,309	701	1,175	1,995	240	32,066
1940	1,198	6,767	3,137	877	5,025	591	1,303	716	1,071	2,296	238	32,810

APPENDIX D. NET INCOME STATEMENT FORM.

Debits		Credits	
1. Equipment repairs	_____	1. Dairy products sold	_____
2. Truck repairs, fuel, oil	_____	2. Eggs sold	_____
3. Auto repairs, fuel (farm share)	_____	3. Poultry sold	_____
4. Tractor repairs, fuel, oil	_____	4. Hogs sold	_____
5. Special equipment, repairs, hire	_____	5. Cattle sold	_____
6. Labor hired	_____	6. Sheep sold	_____
7. Purchased groceries for labor	_____	7. Total Livestock Sales	_____
8. Livestock expense	_____	8. Corn sold, bushels	_____
9. Crop expense	_____	9. Other feed crops	_____
10. Miscellaneous operating expense	_____	10. Non-feed crops	_____
11. Cash Operating Expense	_____	11. Labor off farm	_____
12. Taxes	_____	12. Special machine work income	_____
13. Interest paid	_____	13. Tractor income	_____
14. Insurance on buildings	_____	14. Gov't. payments	_____
15. Permanent improvement repairs	_____	15. Other miscellaneous income	_____
16. Cash Fixed Expense	_____	16. Crop share rent	_____
17. Feeds bought, commercial	_____	17. Total Cash Income	_____
18. Feeds bought, farm raised	_____	18. Horses sold	_____
19. Total Feeds Bought	_____	19. Equip. and improv. sold	_____
20. Poultry bought	_____	20. Total Cash Sales	_____
21. Hogs bought	_____	21. Food and fuel from farm	_____
22. Cattle bought	_____	22. Total Income	_____
23. Sheep bought	_____	23. Liquid assets, inventory incr.	_____
24. Total Livestock Bought	_____	24. Breeding cattle, inventory incr.	_____
25. Total Cash Expenses	_____	25. Working assets, inventory incr.	_____
26. Horses bought	_____	26. Farm improv., inventory incr.	_____
27. New machinery and equipment	_____	27. Total Business Credits	_____
28. New improvements	_____	28. Subtract Business Debits	_____
29. Total New Capital Invested	_____	29. Net Farm Income	_____
30. Total Cash Expenditures	_____		
31. Liquid assets, inventory decr.	_____		
32. Breeding cattle, inv. decr.	_____		
33. Working assets, inv. decr.	_____		
34. Farm improvement, inv. decr.	_____		
35. Total Business Debits	_____		

Derivation of Income Summary Figures

Add:

Total Cash Income (Cr. line 17)	_____
Food & fuel (Cr. line 21)	_____
Incr. liquid assets (Cr. line 23)	_____
Incr. Breeding cattle (Cr. line 24)	_____

Subtract:

Decr. liquid assets (Dr. line 31)	_____
Decr. breeding cattle (Dr. line 32)	_____
Livestock bought	_____
Gross Income	_____

Subtract:

Feed bought (Dr. line 19)	_____
Gross Profits	_____

Subtract:

Cash operating expense (Dr. line 11)	_____
Depreciation working assets (from depr. schedule)	_____
Net Operating Income	_____

Subtract:

Cash fixed expense (Cr. line 16)	_____
Depr. fixed assets (from deprec. schedule)	_____
Net Farm Income	_____

APPENDIX E. TABLE E-1. INCOME, CAPITAL AND CORN PRODUCTION PER 100 ACRES, STATE AVERAGE OF RECORD FARMS, 1920-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested	Corn acreage harvested	Corn yield bu.
1920	\$1,700	\$ 468	\$ -127	\$3,372	\$2,455	\$23,535	\$190	85	58
1921	1,729	825	150	2,275	2,069	21,496	91	81	55
1922	2,496	1,837	1,294	1,742	1,282	19,876	45	59	51
1923	2,019	1,342	728	2,291	1,333	19,596	78	62	47
1924	2,579	1,716	1,186	2,234	1,238	18,479	61	63	34
1925	3,037	2,087	1,478	2,254	1,345	16,707	77	52	52
1926	2,759	1,977	1,450	2,214	1,287	15,636	190	60	44
1927	2,564	1,681	1,213	2,184	1,219	15,246	149	60	39
1928	2,927	1,957	1,487	2,080	1,314	13,835	182	66	49
1929	3,044	2,008	1,519	2,305	1,452	14,105	238	66	47
1930	2,045	1,081	587	2,475	1,560	13,454	190	71	42
1931	867	78	-379	2,143	1,507	12,142	98	76	38
1932	776	225	-157	1,242	1,228	9,540	50	75	55
1933	1,674	1,200	829	921	1,040	9,069	86	70	51
1934	2,246	1,500	1,141	1,358	1,059	9,159	121	46	28
1935	2,367	1,485	1,124	1,576	1,181	9,478	237	59	47
1936	2,518	1,473	1,103	1,704	1,302	9,593	275	73	24
1937	2,477	1,260	878	1,982	1,364	9,325	335	78	55
1938	2,441	1,367	996	1,938	1,421	9,323	298	67	57
1939	2,767	1,604	1,236	2,039	1,457	8,914	338	66	63
1940	2,843	1,708	1,318	2,445	1,424	8,894	297	60	60

TABLE E-2. PRINCIPAL ELEMENTS OF INCOME AND EXPENSE PER 100 ACRES, STATE AVERAGE OF RECORD FARMS, 1920-1940.

Year	Dairy & poultry products sold	Live-stock sold	Crops sold	Food & fuel to household	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1920	\$230	\$2,112	\$919	\$109	\$679	\$413	\$321	\$493	\$ 84
1921	203	1,619	290	113	485	534	181	480	110
1922	253	1,598	326	226	363	432	151	407	121
1923	341	1,865	261	192	382	507	183	312	116
1924	394	2,096	281	181	425	417	338	393	113
1925	457	2,242	177	208	383	395	464	711	137
1926	457	2,583	182	199	398	410	310	501	162
1927	469	2,506	233	180	416	365	383	533	132
1928	513	2,338	289	181	422	372	430	448	139
1929	535	2,659	308	179	493	394	373	527	148
1930	433	2,317	247	169	491	396	351	415	115
1931	334	1,754	129	129	385	367	270	283	81
1932	217	1,166	85	95	275	297	171	221	101
1933	229	1,126	128	97	259	279	156	253	141
1934	265	1,535	216	91	327	282	361	273	141
1935	363	1,934	210	122	444	286	372	415	153
1936	361	2,165	226	117	482	296	468	474	137
1937	375	2,453	219	123	557	300	544	632	129
1938	362	2,355	163	114	554	293	395	682	163
1939	327	2,355	164	106	545	292	490	831	150
1940	369	2,111	248	109	547	301	450	965	145

TABLE E-3. INCOME, CAPITAL & CORN PRODUCED PER 100 ACRES,
CASH-GRAIN AREA, 1926-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested	Corn average harvested	Corn yield
1926	\$2,549	\$1,780	\$1,136	\$1,945	\$1,104	\$16,067	\$171	83	43
1927	2,670	1,905	1,344	2,077	1,229	16,552	148	74	41
1928	3,277	2,250	1,697	2,169	1,397	14,935	188	81	54
1929	3,137	2,124	1,622	2,422	1,534	14,722	258	79	48
1930	2,023	1,029	521	2,601	1,629	14,034	208	78	40
1931	824	15	-455	2,068	1,569	13,144	86	89	35
1932	690	139	-272	1,278	1,291	10,919	46	92	53
1933	1,806	1,342	962	874	1,059	10,326	76	86	55
1934	2,452	1,787	1,375	1,400	1,136	10,469	111	63	34
1935	2,343	1,542	1,130	1,733	1,206	10,584	242	77	49
1936	2,738	1,721	1,308	1,742	1,278	10,577	288	100	26
1937	2,703	1,462	1,065	2,145	1,402	10,634	397	100	59
1938	2,683	1,537	1,146	2,012	1,400	10,490	334	89	64
1939	3,340	1,929	1,510	2,318	1,504	10,496	445	90	66
1940	3,248	1,955	1,528	2,832	1,421	10,541	400	83	61

TABLE E-4. PRINCIPAL ELEMENTS OF INCOME AND EXPENSES PER 100
ACRES, CASH GRAIN AREA, 1926-1940.

Year	Dairy & poultry products sold	Live-stock sold	Crops sold	Fuel & food to household	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Return per \$100 feed fed
1926	\$394	\$2,670	\$250	\$177	\$445	\$532	\$241	\$981	\$141
1927	466	1,902	434	186	418	461	233	276	136
1928	509	2,126	526	167	509	452	284	387	139
1929	530	2,746	419	167	556	412	353	569	149
1930	400	2,386	275	158	531	401	333	458	113
1931	299	1,647	147	114	396	387	255	277	82
1932	223	1,089	101	84	284	320	145	214	100
1933	261	1,069	138	95	281	291	108	226	149
1934	298	1,372	340	91	352	322	243	218	142
1935	362	1,795	305	119	465	330	280	289	149
1936	351	2,097	318	111	527	328	402	482	143
1937	376	2,636	233	119	598	323	505	597	130
1938	335	2,278	195	107	600	312	402	633	162
1939	371	2,506	194	94	648	332	616	938	157
1940	373	2,004	383	91	656	337	479	998	144

TABLE E-5. INCOME, CAPITAL AND CORN PRODUCTION PER 100 ACRES, DAIRY AREA, 1926-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested	Corn acreage harvested	Corn Yield
1926	\$2,463	\$1,943	\$1,502	\$1,852	\$1,290	\$13,660	\$191	42	41
1927	2,186	1,501	1,101	1,919	1,387	12,799	145	40	33
1928	2,770	2,006	1,585	1,790	1,573	12,050	195	43	44
1929	2,681	1,945	1,523	1,852	1,515	11,859	223	41	43
1930	1,909	1,089	658	2,021	1,638	11,494	189	55	43
1931	916	156	- 333	2,018	1,599	10,439	113	53	30
1932	828	223	- 194	1,137	1,380	9,205	50	51	55
1933	1,605	1,095	731	854	1,126	8,671	78	49	50
1934	2,248	1,603	1,286	1,203	1,074	8,362	133	48	42
1935	2,350	1,513	1,180	1,578	1,276	8,544	286	39	51
1936	2,425	1,517	1,173	1,600	1,463	8,507	306	54	31
1937	2,361	1,181	805	1,982	1,566	8,734	370	64	52
1938	2,285	1,279	926	1,694	1,635	8,318	311	49	59
1939	2,449	1,427	1,098	1,732	1,676	8,084	291	52	68
1940	2,701	1,642	1,247	1,989	1,643	8,210	300	49	66

TABLE E-6. PRINCIPAL ELEMENTS OF INCOME AND EXPENSE PER 100 ACRES, DAIRY AREA, 1926-1940.

Year	Dairy & poultry products sold	Live-stock sold	Crops sold	Food & fuel to house-hold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1926	\$702	\$2,066	\$114	\$235	\$301	\$313	\$155	\$171	\$178
1927	789	2,163	125	199	330	291	296	258	133
1928	890	2,157	95	197	374	268	364	178	144
1929	819	2,276	145	194	415	314	245	252	154
1930	636	1,992	166	187	469	346	256	215	115
1931	515	1,757	81	146	401	363	263	168	87
1932	426	1,124	57	95	332	316	158	134	94
1933	438	1,140	82	95	313	276	131	153	153
1934	448	1,448	171	91	383	277	220	254	142
1935	582	1,840	257	131	525	252	247	228	162
1936	639	2,188	115	131	492	261	330	315	144
1937	580	2,651	200	132	613	285	466	584	131
1938	540	2,276	81	125	556	273	325	506	170
1939	507	2,154	93	127	558	254	327	479	152
1940	589	1,711	125	117	563	281	353	705	154

TABLE E-7. INCOME, CAPITAL & CORN PRODUCTION PER 100 ACRES, EASTERN LIVESTOCK AREA, 1926-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested	Corn acreage harvested	Corn yield
1926	\$3,217	\$2,113	\$1,498	\$2,804	\$1,510	\$18,150	\$203	64	50
1927	3,105	1,900	1,334	2,782	1,384	18,300	185	59	46
1928	3,216	1,952	1,399	2,557	1,353	16,394	193	72	54
1929	3,631	2,104	1,528	2,526	1,435	16,129	267	67	50
1930	2,247	1,167	626	2,659	1,554	14,538	190	71	47
1931	960	49	- 410	2,391	1,511	12,722	125	76	47
1932	860	189	- 226	1,510	1,245	10,149	69	78	61
1933	1,877	1,331	876	1,121	1,074	9,870	122	73	54
1934	2,688	1,753	1,358	1,631	1,080	9,779	157	54	34
1935	3,003	1,803	1,394	2,001	1,257	10,262	307	61	59
1936	3,286	1,891	1,488	2,152	1,416	10,178	350	81	37
1937	3,130	1,481	1,044	2,785	1,473	10,250	468	84	68
1938	2,793	1,461	1,032	2,568	1,593	10,352	359	67	65
1939	3,264	1,795	1,361	2,632	1,624	10,226	374	68	77
1940	3,244	1,843	1,357	3,140	1,596	10,321	302	61	63

TABLE E-8. PRINCIPAL ELEMENTS OF INCOME AND EXPENSES PER 100 ACRES, EASTERN LIVESTOCK AREA, 1926-1940.

Year	Dairy & poultry products sold	Livestock sold	Crops sold	Food & fuel to household	Operating expense	Fixed expense	Feeds bought	Livestock bought	Returns per \$100 feed fed
1926	\$354	\$3,302	\$210	\$183	\$517	\$485	\$496	\$ 754	\$154
1927	404	3,514	298	179	546	435	549	996	127
1928	427	3,114	252	182	468	453	687	778	131
1929	487	2,952	314	182	532	463	514	667	146
1930	435	2,468	250	174	515	433	429	462	118
1931	331	1,980	147	129	425	367	321	403	78
1932	205	1,493	98	93	329	317	230	344	93
1933	210	1,267	171	94	309	324	182	376	134
1934	274	1,979	215	93	376	294	486	430	149
1935	419	2,790	196	123	538	332	582	710	154
1936	408	2,818	280	114	601	340	674	784	133
1937	427	3,355	289	131	685	350	823	1,010	121
1938	417	3,228	215	112	672	343	520	1,000	161
1939	360	3,171	206	107	666	345	647	1,273	140
1940	394	3,053	287	117	648	366	601	1,350	143

TABLE E-9. INCOME, CAPITAL & CORN PRODUCTION PER 100 ACRES,
WESTERN LIVESTOCK AREA, 1926-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested	Corn acreage harvested	Corn yield
1926	\$2,913	\$2,000	\$1,524	\$2,271	\$1,269	\$17,063	\$197	81	42
1927	3,156	2,168	1,739	2,320	1,222	17,707	143	97	46
1928	3,124	2,174	1,775	2,269	1,344	16,165	266	86	47
1929	3,372	2,301	1,707	2,934	1,554	16,315	250	75	52
1930	2,209	1,226	685	2,834	1,607	14,914	211	80	41
1931	970	207	- 257	2,467	1,443	12,887	85	78	36
1932	797	276	- 116	1,279	1,345	10,208	46	78	52
1933	1,755	1,272	930	917	1,146	9,590	73	78	48
1934	2,219	1,457	1,096	1,361	1,150	9,977	112	43	20
1935	2,209	1,389	1,054	1,386	1,168	10,342	182	69	37
1936	1,916	997	650	1,537	1,255	10,088	209	70	11
1937	2,021	1,061	698	1,305	1,281	9,500	184	83	40
1938	2,367	1,407	1,059	1,645	1,246	9,343	244	75	48
1939	2,725	1,632	1,283	1,958	1,372	9,031	328	73	54
1940	3,012	1,890	1,620	2,564	1,365	9,170	282	68	58

TABLE E-10. PRINCIPAL ELEMENTS OF INCOME AND EXPENSE PER 100
ACRES, WESTERN LIVESTOCK AREA, 1926-1940.

Year	Dairy & poultry products sold	Live-stock sold	Crops sold	Food & fuel to house-hold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1926	\$260	\$2,552	\$237	\$186	\$441	\$388	\$381	\$ 480	\$148
1927	258	2,625	240	168	515	340	383	603	141
1928	343	2,414	422	184	467	348	352	580	138
1929	429	3,385	309	208	512	492	461	850	146
1930	373	2,785	293	181	476	461	373	587	115
1931	285	2,047	117	152	349	378	281	292	81
1932	199	1,104	112	118	254	307	150	160	105
1933	186	1,202	139	112	226	269	171	258	130
1934	219	1,476	225	99	287	294	389	216	132
1935	220	1,730	180	126	362	265	375	437	145
1936	198	1,950	174	123	375	267	452	330	132
1937	215	1,688	177	114	430	276	415	722	131
1938	236	1,915	159	118	468	274	376	662	164
1939	213	2,191	187	107	474	280	504	822	149
1940	262	2,207	268	113	504	288	504	1,138	140

TABLE E-11. INCOME, CAPITAL AND CORN PRODUCTION PER 100 ACRES, SOUTHERN PASTURE AREA, 1926-1940.

Year	Gross income	Net Operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested	Corn acreage harvested	Corn yield
1926	\$2,407	\$1,859	\$1,366	\$1,900	\$ 869	\$12,383	\$161	55	42
1927	1,771	1,081	725	1,646	772	11,120	109	49	32
1928	2,125	1,436	1,104	1,485	937	9,366	107	52	43
1929	2,015	1,364	1,059	1,622	1,101	9,924	147	50	40
1930	1,613	916	563	1,782	1,195	9,595	108	55	36
1931	638	143	- 218	1,625	1,230	8,189	73	58	39
1932	722	340	63	858	944	6,650	31	60	49
1933	1,219	868	600	725	834	6,435	58	56	44
1934	1,270	675	418	958	835	6,286	74	9	3
1935	1,560	963	685	891	918	6,319	130	38	34
1936	1,338	744	469	888	965	6,139	144	31	8
1937	1,434	826	555	840	947	5,846	105	45	42
1938	1,382	831	583	1,032	958	5,818	147	41	37
1939	1,265	850	618	838	891	4,374	171	35	41
1940	1,350	907	700	855	891	4,056	166	30	45

TABLE E-12. PRINCIPAL ELEMENTS OF INCOME AND EXPENSES PER 100 ACRES, SOUTHERN PASTURE AREA, 1926-1940.

Year	Dairy & poultry products sold	Live-stock sold	Crops sold	Food & fuel to household	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1926	\$308	\$2,158	\$168	\$168	\$268	\$409	\$250	\$366	\$167
1927	318	1,896	99	163	263	291	377	365	128
1928	416	1,710	123	181	269	262	375	250	145
1929	407	1,803	154	171	318	243	281	231	143
1930	355	1,669	172	171	317	291	300	221	112
1931	303	1,289	89	139	269	285	202	142	80
1932	128	889	44	91	178	220	146	162	113
1933	138	910	71	90	165	213	167	159	146
1934	121	1,124	82	82	211	203	378	151	136
1935	215	1,077	81	114	276	216	293	286	160
1936	257	1,007	114	112	273	215	266	108	134
1937	222	964	121	111	313	205	242	133	139
1938	207	1,038	109	99	305	191	178	181	155
1939	184	875	73	97	243	185	124	146	160
1940	208	668	103	96	242	162	133	171	146

TABLE E-13. GENERAL FARMS
INCOME AND CAPITAL PER 100 ACRES, 1922-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$2,180	\$1,756	\$1,327	\$1,458	\$1,127	\$16,789	\$ 22
1923	1,808	1,381	822	1,874	1,469	18,033	50
1924	2,364	1,737	1,190	2,109	1,138	18,638	42
1925	2,486	1,925	1,483	1,862	1,053	15,773	9
1926	2,264	1,834	1,351	1,734	1,366	14,752	220
1927	1,822	1,273	855	1,587	1,104	13,151	131
1928	2,254	1,623	1,239	1,662	1,169	12,263	127
1929	2,396	1,720	1,269	1,886	1,300	12,839	183
1930	1,768	1,041	590	2,234	1,514	13,427	166
1931	594	78	- 343	1,587	1,413	11,245	88
1932	539	177	- 159	912	1,034	8,736	34
1933	1,102	871	586	623	816	7,397	23
1934	1,544	1,087	772	990	951	8,347	65
1935	1,777	1,245	921	1,195	1,099	9,316	144
1936	1,989	1,306	980	1,320	1,236	8,506	280
1937	2,145	1,171	801	1,709	1,316	9,204	300
1938	1,798	1,092	737	1,391	1,255	8,637	257
1939	2,170	1,409	1,100	1,410	1,306	7,666	277
1940	1,953	1,282	967	1,671	1,184	7,125	252

TABLE E-14. GENERAL FARMS
PRINCIPAL ELEMENTS OF INCOME AND EXPENSE PER 100 ACRES, 1922-1940.

Year	Dairy and poultry products	Live-stock sold	Crops sold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1922	\$339	\$1,184	\$190	\$243	\$335	\$ 74	\$136	\$127
1923	448	1,345	175	218	446	101	146	124
1924	522	1,526	206	366	423	177	120	118
1925	524	1,543	129	264	366	214	134	146
1926	483	1,620	233	270	348	115	143	157
1927	515	1,516	151	277	319	202	151	134
1928	491	1,652	122	320	288	237	130	136
1929	514	1,973	230	413	361	189	143	148
1930	472	1,838	232	429	363	198	180	112
1931	305	1,060	128	295	336	83	80	73
1932	186	682	66	211	260	58	65	93
1933	177	649	76	140	220	72	39	149
1934	248	962	96	224	237	183	59	145
1935	321	1,129	132	303	263	160	84	145
1936	425	1,531	132	376	246	233	143	140
1937	357	1,821	179	488	295	387	302	128
1938	316	1,247	142	432	282	164	165	151
1939	286	1,238	138	420	238	230	191	151
1940	300	844	180	386	249	175	260	137

TABLE E-15. CROP FARMS
INCOME AND CAPITAL PER 100 ACRES, 1922-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$2,347	\$1,794	\$1,261	\$1,582	\$1,328	\$21,305	\$ 66
1923	1,981	1,422	829	1,896	1,322	18,727	97
1924	2,519	1,831	1,365	1,726	1,190	17,627	81
1925	2,158	1,513	1,117	1,954	1,207	17,001	18
1926	2,479	1,804	1,104	1,701	1,069	18,336	42
1927	2,441	1,774	1,298	1,691	1,047	16,324	176
1928	2,744	2,100	1,664	1,835	1,118	15,028	149
1929	2,926	2,187	1,704	1,884	1,309	15,207	291
1930	1,849	1,152	719	1,886	1,345	13,571	153
1931	886	363	2	1,359	1,147	12,636	82
1932	636	212	- 144	921	1,046	10,517	44
1933	1,713	1,359	1,012	656	948	9,778	86
1934	2,229	1,692	1,323	1,184	1,126	10,190	151
1935	1,922	1,400	1,100	1,204	1,016	9,677	208
1936	2,401	1,725	1,418	1,202	1,242	9,941	258
1937	2,209	1,365	1,041	1,421	1,177	9,252	339
1938	2,089	1,311	1,006	1,300	1,163	8,837	340
1939	1,751	1,549	1,252	1,317	1,160	9,307	329
1940	2,472	1,724	1,413	1,792	1,198	9,037	287

TABLE E-16. CROP FARMS
PRINCIPAL ELEMENTS OF INCOME AND EXPENSE PER 100 ACRES, 1922-1940.

Year	Dairy & poultry products	Live-stock sold	Crops sold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1922	\$171	\$ 935	\$702	\$343	\$410	\$ 71	\$205	\$ 86
1923	188	1,297	525	387	489	53	271	106
1924	308	1,251	503	425	368	104	175	110
1925	273	1,248	350	423	390	105	127	119
1926	269	1,161	646	464	614	84	65	97
1927	262	1,263	580	415	392	155	122	138
1928	361	1,399	656	419	360	147	151	142
1929	419	1,552	763	471	406	167	216	158
1930	311	1,302	505	416	350	164	150	119
1931	216	792	339	323	294	74	74	86
1932	156	571	224	261	273	45	80	104
1933	180	671	253	240	267	42	63	135
1934	262	828	551	327	264	155	77	135
1935	228	926	379	338	229	119	95	159
1936	265	1,171	485	445	229	141	136	147
1937	245	1,217	473	525	259	204	161	134
1938	232	1,110	395	474	247	174	175	162
1939	138	834	343	453	239	199	229	156
1940	221	824	566	460	254	162	370	145

TABLE E-17. HOG FARMS
INCOME AND CAPITAL PER 100 ACRES, 1922-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$2,723	\$1,986	\$1,429	\$1,929	\$1,450	\$20,804	\$ 39
1923	2,046	1,269	576	2,668	1,082	19,401	43
1924	2,545	1,607	1,046	2,302	1,020	19,736	34
1925	3,185	2,212	1,713	2,352	1,548	17,974	52
1926	3,011	2,178	1,588	2,379	1,273	16,217	213
1927	2,766	1,740	1,252	2,640	1,264	16,605	173
1928	2,934	1,981	1,503	2,247	1,257	13,996	177
1929	3,473	2,055	1,624	2,420	1,408	14,492	236
1930	2,247	1,194	622	2,524	1,506	13,121	199
1931	806	0	- 493	2,217	1,444	12,319	100
1932	743	183	- 227	1,298	1,291	9,910	45
1933	1,677	1,186	796	1,018	1,073	9,620	73
1934	2,367	1,619	1,207	1,324	1,162	9,679	119
1935	2,478	1,617	1,201	1,619	1,213	10,013	250
1936	2,640	1,514	1,089	1,669	1,326	10,593	300
1937	2,536	1,354	937	1,937	1,326	10,054	314
1938	2,491	1,445	1,056	1,914	1,282	9,539	313
1939	2,739	1,631	1,250	1,895	1,472	9,344	336
1940	2,908	1,759	1,206	2,409	1,454	9,526	283

TABLE E-18. HOG FARMS
PRINCIPAL ELEMENTS OF INCOME AND EXPENSE PER 100 ACRES, 1922-1940.

Year	Dairy & poultry products	Live-stock sold	Crops sold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1922	\$234	\$1,716	\$206	\$377	\$442	\$226	\$243	\$133
1923	362	2,005	289	427	573	237	211	118
1924	290	1,830	343	473	456	341	257	112
1925	456	2,603	69	454	358	428	94	145
1926	446	2,646	146	442	452	311	179	171
1927	407	2,726	173	434	384	485	170	134
1928	419	2,419	201	404	373	460	234	130
1929	409	2,578	171	464	355	338	227	137
1930	374	2,355	109	489	463	439	222	119
1931	302	1,686	78	374	390	292	118	78
1932	177	1,053	67	256	316	186	74	99
1933	163	1,072	82	257	304	162	138	138
1934	208	1,543	82	282	340	402	86	150
1935	272	1,801	128	445	336	353	175	158
1936	276	2,027	115	455	366	526	169	141
1937	387	2,187	119	516	336	554	177	123
1938	322	2,072	115	534	299	390	241	169
1939	300	1,951	127	528	302	449	329	148
1940	351	1,985	224	565	316	440	637	143

TABLE E-19. DAIRY FARMS
INCOME AND CAPITAL PER 100 ACRES, 1922-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$2,517	\$1,512	\$ 470	\$1,777	\$2,226	\$22,007	\$131
1923	2,074	1,443	894	2,019	1,332	19,109	68
1924	3,499	2,601	1,958	2,477	1,850	18,200	31
1925	2,823	2,073	1,593	2,381	866	16,470	32
1926	2,525	1,980	1,578	1,852	1,497	13,262	151
1927	2,475	1,659	1,153	2,169	1,611	14,247	167
1928	3,150	2,271	1,654	1,986	1,867	12,603	214
1929	3,027	2,243	1,757	1,999	1,793	13,216	257
1930	2,134	1,268	802	2,073	1,957	13,049	180
1931	985	281	-198	1,939	1,945	11,406	106
1932	821	289	-128	1,144	1,623	9,470	45
1933	1,649	1,182	761	825	1,361	9,290	96
1934	2,335	1,739	1,354	1,238	1,382	9,962	134
1935	2,470	1,684	1,325	1,584	1,591	9,715	250
1936	2,684	1,702	1,349	1,670	1,840	9,744	315
1937	2,784	1,528	1,090	1,952	2,044	10,015	412
1938	2,697	1,584	1,191	1,604	1,942	9,343	322
1939	2,768	1,689	1,314	1,638	1,975	9,370	342
1940	2,776	1,731	1,343	1,803	1,948	8,962	296

TABLE E-20. DAIRY FARMS
PRINCIPAL ELEMENTS OF INCOME AND EXPENSE PER 100 ACRES, 1922-1940.

Year	Dairy & poultry products	Live-stock sold	Crops sold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1922	\$ 963	\$2,472	\$ 78	\$572	\$856	\$184	\$196	\$153
1923	851	1,752	125	396	454	105	184	140
1924	1,226	2,660	130	523	568	266	171	125
1925	1,089	2,397	68	303	370	338	204	165
1926	842	2,075	139	349	305	133	127	189
1927	966	2,331	106	417	375	341	141	131
1928	1,085	2,437	112	471	425	411	116	149
1929	1,065	2,519	111	436	352	259	168	162
1930	896	2,173	103	499	349	228	154	123
1931	741	1,670	78	402	380	172	91	92
1932	537	1,059	39	287	311	137	62	103
1933	583	1,180	87	282	319	104	75	139
1934	674	1,368	118	358	287	176	91	154
1935	804	1,835	122	477	270	225	108	171
1936	923	2,235	94	542	305	279	127	151
1937	1,156	2,543	93	679	329	426	136	141
1938	912	2,146	51	618	294	245	127	179
1939	874	1,990	38	619	297	299	184	163
1940	997	1,063	171	626	294	267	237	156

TABLE E-21. DUAL PURPOSE CATTLE AND HOG FARMS
INCOME AND CAPITAL PER 100 ACRES, 1922-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$2,553	\$1,636	\$ 802	\$2,364	\$1,358	\$20,699	\$ 20
1923	2,002	1,260	569	2,872	1,474	24,294	48
1924	2,088	1,280	703	2,304	2,103	19,108	113
1925	2,358	1,612	1,202	1,763	1,192	16,000	12
1926	2,539	1,705	1,276	2,200	1,581	14,847	153
1927	2,429	1,541	1,102	2,300	1,500	15,845	101
1928	2,244	1,500	1,171	1,790	1,545	12,268	126
1929	2,679	1,796	1,325	2,162	1,803	11,562	176
1930	1,802	895	440	2,612	1,873	12,936	165
1931	653	-44	-473	2,056	1,700	12,411	86
1932	640	176	-204	1,196	1,256	8,819	34
1933	1,429	1,067	703	872	1,066	7,747	61
1934	1,753	1,181	865	1,201	1,048	8,055	70
1935	2,132	1,389	1,059	1,477	1,273	9,002	186
1936	2,019	1,107	743	1,606	1,375	9,529	202
1937	2,067	994	643	1,858	1,555	9,133	300
1938	2,071	1,222	886	1,787	1,504	9,367	236
1939	2,212	1,357	1,031	1,800	1,475	7,787	284
1940	1,917	1,233	913	1,756	1,328	7,009	205

TABLE E-22. DUAL PURPOSE CATTLE AND HOG FARMS
PRINCIPAL ELEMENTS OF INCOME AND EXPENSE PER 100 ACRES, 1922-1940.

Year	Dairy & poultry products	Live-stock sold	Crops sold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1922	\$155	\$2,226	\$213	\$614	\$688	\$202	\$495	\$104
1923	193	2,309	199	373	587	252	313	98
1924	180	2,065	215	456	427	336	227	99
1925	236	1,713	306	497	322	129	110	77
1926	263	2,318	96	474	339	322	222	151
1927	271	2,368	110	419	331	385	211	122
1928	265	1,956	101	333	301	323	169	126
1929	363	2,400	95	444	337	349	153	143
1930	338	2,211	95	468	362	308	154	103
1931	201	1,487	86	346	368	200	95	72
1932	124	988	55	240	310	148	67	96
1933	150	1,017	57	199	243	148	68	146
1934	176	1,183	97	265	247	284	66	133
1935	227	1,574	108	362	263	314	98	149
1936	208	1,794	100	448	286	394	133	131
1937	273	2,091	84	506	261	468	235	125
1938	222	1,827	96	476	260	250	245	158
1939	143	1,570	115	457	262	298	303	142
1940	158	1,245	201	377	239	204	317	140

TABLE E-23. COMMERCIAL CATTLE-FEEDING FARMS
INCOME AND CAPITAL PER 100 ACRES, 1922-1940.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$2,801	\$1,932	\$1,354	\$1,869	\$1,144	\$20,318	\$ 50
1923	2,303	1,308	718	2,506	1,301	19,462	182
1924	3,025	1,787	1,322	2,822	1,061	18,274	90
1925	3,877	2,325	1,536	3,745	1,259	19,172	278
1926	2,959	1,968	1,525	2,740	1,040	18,477	185
1927	2,952	1,804	1,344	2,648	1,028	15,676	122
1928	3,754	1,951	1,320	3,354	1,290	15,904	330
1929	3,400	2,078	1,527	3,400	1,412	15,553	301
1930	2,489	984	425	3,640	1,512	14,810	259
1931	926	-145	-605	2,918	1,465	12,137	101
1932	982	223	-177	1,782	1,208	10,577	70
1933	1,842	1,300	904	1,202	1,013	10,113	121
1934	2,259	1,421	1,055	1,581	882	8,905	134
1935	3,131	1,758	1,335	2,172	1,106	9,842	293
1936	2,783	1,606	1,170	2,178	1,218	10,193	302
1937	3,140	1,487	1,055	2,717	1,338	10,303	412
1938	2,854	1,525	1,122	2,463	1,376	9,789	322
1939	3,417	1,824	1,396	2,966	1,414	9,763	384
1940	3,852	2,074	1,606	3,575	1,468	10,041	378

TABLE E-24. COMMERCIAL CATTLE-FEEDING FARMS
-PRINCIPAL ELEMENTS OF INCOME AND EXPENSE PER 100 ACRES, 1922-1940.

Year	Dairy & poultry products	Live-stock sold	Crops sold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1922	\$157	\$2,658	\$234	\$452	\$471	\$268	\$1,342	\$131
1923	143	2,676	187	522	486	355	777	112
1924	144	3,785	136	408	347	712	1,353	116
1925	394	4,222	228	636	625	807	1,527	91
1926	243	3,490	129	415	334	481	939	140
1927	223	4,050	115	492	392	566	1,744	110
1928	241	4,694	165	576	517	1,100	1,871	118
1929	317	4,231	221	586	478	614	1,362	127
1930	239	3,940	157	601	448	760	1,281	102
1931	169	2,640	60	452	372	490	619	75
1932	131	1,878	77	354	293	280	592	106
1933	141	1,501	90	286	312	181	540	155
1934	117	1,912	106	338	294	433	389	142
1935	198	3,177	159	621	342	778	1,011	148
1936	210	2,741	211	531	343	569	718	124
1937	234	3,545	253	644	333	868	1,151	121
1938	200	3,267	145	606	324	579	1,228	161
1939	156	3,847	181	614	342	845	1,937	146
1940	255	4,529	234	678	368	924	2,596	147

TABLE E-25. INCOME AND CAPITAL ON FARMS
PER 100 ACRES, BY SIZE OF FARM
UNDER 140 ACRES, 1922-1939.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$3,099	\$2,356	\$1,867	\$1,955	\$1,235	\$21,096	\$ 39
1923	2,250	1,588	1,009	2,141	1,038	18,895	84
1924	2,840	2,030	1,441	2,342	1,090	19,637	30
1925	3,317	2,386	1,739	2,274	1,205	18,793	46
1926	3,054	2,379	1,774	2,287	924	16,272	203
1927	2,747	1,825	1,270	2,174	956	15,109	238
1928	3,394	2,394	1,842	2,119	1,018	13,294	183
1929	3,461	2,521	1,904	2,358	1,204	14,934	292
1930	2,458	1,473	930	2,459	1,193	14,006	192
1931	1,109	298	-270	2,187	1,210	12,286	141
1932	1,090	397	-95	1,385	1,066	10,274	70
1933	2,023	1,417	951	1,050	1,087	9,775	85
1934	2,621	1,767	1,280	1,478	1,064	10,367	122
1935	2,702	1,812	1,410	1,362	1,100	9,798	297
1936	2,732	1,498	1,119	1,582	1,196	9,967	318
1937	2,876	1,498	1,030	1,743	1,268	9,232	296
1938	2,935	1,651	1,170	1,740	1,361	9,410	394
1939	2,932	1,740	1,291	1,830	1,320	8,849	364

TABLE E-26. PRINCIPAL ELEMENTS OF INCOME AND EXPENSE ON FARMS
PER 100 ACRES, BY SIZE OF FARM
UNDER 140 ACRES, 1922-1939.

Year	Dairy & poultry products	Live-stock sold	Crops sold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1922	\$400	\$1,739	\$270	\$346	\$343	\$230	\$231	\$154
1923	533	1,743	208	303	435	208	175	126
1924	808	2,126	167	421	469	341	103	125
1925	824	2,430	181	438	512	341	244	135
1926	807	2,559	197	381	482	207	214	179
1927	836	2,367	226	392	400	428	291	131
1928	953	2,575	259	400	396	527	224	140
1929	996	2,804	309	461	464	370	299	146
1930	895	2,468	207	477	415	381	209	119
1931	741	1,876	115	407	434	257	133	88
1932	464	1,402	101	302	371	264	155	106
1933	581	1,504	133	294	349	201	265	130
1934	648	1,850	176	356	372	413	230	144
1935	776	1,946	133	409	321	384	260	162
1936	838	2,448	158	474	353	561	284	137
1937	873	2,593	165	633	365	607	380	128
1938	941	2,562	107	671	364	444	417	168
1939	752	2,405	131	563	344	481	467	148

TABLE E-27. INCOME AND CAPITAL ON FARMS,
PER 100 ACRES, BY SIZE OF FARM
140-219 ACRES, 1922-1939.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$2,559	\$1,856	\$1,286	\$1,754	\$1,140	\$19,378	\$ 43
1923	2,068	1,455	785	2,355	1,012	19,664	62
1924	2,558	1,809	1,234	2,334	1,068	19,540	70
1925	2,891	2,041	1,607	2,326	987	17,343	36
1926	2,796	2,018	1,507	2,129	897	15,919	187
1927	2,581	1,748	1,279	2,173	903	15,665	141
1928	3,052	2,121	1,683	2,019	975	13,833	194
1929	3,051	2,150	1,693	2,197	959	14,066	265
1930	2,196	1,201	720	2,469	1,056	13,816	226
1931	988	187	- 263	2,139	1,040	12,688	101
1932	796	241	- 153	1,251	960	10,263	41
1933	1,818	1,367	964	877	880	9,751	85
1934	2,347	1,649	1,255	1,333	867	10,193	138
1935	2,406	1,596	1,223	1,661	916	10,151	238
1936	2,549	1,581	1,201	1,643	1,021	10,020	311
1937	2,534	1,377	963	1,926	1,148	10,005	361
1938	2,640	1,569	1,156	1,992	1,230	10,126	333
1939	2,916	1,735	1,344	2,048	1,203	9,576	362

TABLE E-28. PRINCIPAL ELEMENTS OF INCOME AND EXPENSE ON FARMS
PER 100 ACRES, BY SIZE OF FARM
140-219 ACRES, 1922-1939.

Year	Dairy & poultry products	Live-stock sold	Crops sold	Operat- ing expense	Fixed expense	Feeds bought	Live- stock bought	Returns per \$100 feed fed
1922	\$291	\$1,501	\$394	\$366	\$461	\$161	\$319	\$ 61
1923	380	1,899	225	337	541	170	290	66
1924	409	1,879	288	377	441	252	326	66
1925	478	2,278	144	386	344	373	328	82
1926	485	2,372	191	408	384	298	291	88
1927	602	2,347	211	415	363	321	372	77
1928	595	2,335	279	395	331	451	382	84
1929	662	2,529	332	488	363	312	378	90
1930	533	2,428	242	495	374	363	439	68
1931	407	1,822	131	380	353	278	267	48
1932	271	1,094	97	272	296	166	164	56
1933	310	1,134	129	260	276	147	177	82
1934	373	1,466	219	329	294	301	170	82
1935	456	1,820	201	422	277	325	276	91
1936	438	2,066	218	482	290	388	313	79
1937	495	2,302	217	572	313	448	380	75
1938	507	2,338	158	576	312	353	469	97
1939	436	2,319	166	574	302	453	634	86

TABLE E-29. INCOME AND CAPITAL ON FARMS
PER 100 ACRES, BY SIZE OF FARM
220-339 ACRES, 1922-1939.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$2,339	\$1,723	\$1,205	\$1,787	\$ 997	\$19,764	\$ 48
1923	1,951	1,215	705	2,336	890	19,076	84
1924	2,722	1,741	1,267	2,332	899	17,345	59
1925	2,587	1,852	1,329	2,345	919	16,137	108
1926	2,702	1,915	1,403	2,186	818	15,507	198
1927	2,522	1,633	1,166	2,245	747	15,653	140
1928	2,790	1,835	1,359	2,158	823	14,645	167
1929	3,159	1,946	1,477	2,356	874	14,078	205
1930	1,942	1,030	572	2,433	954	13,428	176
1931	878	40	- 414	2,214	1,001	11,793	85
1932	770	228	- 154	1,214	834	9,361	57
1933	1,673	1,177	818	908	771	9,089	92
1934	2,283	1,537	1,199	1,404	776	9,097	112
1935	2,366	1,446	1,108	1,632	772	9,148	238
1936	2,530	1,471	1,117	1,736	862	9,488	259
1937	2,455	1,285	928	1,966	927	9,372	334
1938	2,367	1,362	1,014	1,909	997	9,551	282
1939	2,780	1,638	1,275	2,050	991	9,066	339

TABLE E-30. PRINCIPAL ELEMENTS OF INCOME AND EXPENSE ON FARMS
PER 100 ACRES, BY SIZE OF FARM,
220-339 ACRES, 1922-1939.

Year	Dairy & poultry products	Live-stock sold	Crops sold	Operating expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1922	\$177	\$1,815	\$257	\$376	\$409	\$121	\$580	\$ 44
1923	290	1,930	268	416	431	212	341	38
1924	349	2,358	300	477	386	402	517	38
1925	355	2,271	181	411	435	307	494	45
1926	350	2,636	173	410	388	300	658	55
1927	366	2,404	297	431	371	382	437	48
1928	373	2,176	338	421	395	342	541	49
1929	410	2,698	320	490	382	403	609	51
1930	332	2,190	263	477	376	318	424	41
1931	275	1,847	120	374	378	329	305	29
1932	208	1,140	85	282	301	158	207	38
1933	210	1,109	141	256	278	168	210	52
1934	239	1,506	244	325	274	358	242	50
1935	328	1,937	238	465	267	390	382	54
1936	313	2,178	217	474	277	499	511	51
1937	356	2,311	215	539	276	525	607	47
1938	305	2,294	162	539	273	360	670	58
1939	292	2,307	172	540	286	482	787	56

TABLE E-31. INCOME AND CAPITAL ON FARMS
PER 100 ACRES, BY SIZE OF FARM
340 ACRES AND ABOVE, 1922-1939.

Year	Gross income	Net operating income	Net farm income	Liquid assets	Working assets	Fixed assets	New capital invested
1922	\$1,976	\$1,478	\$ 887	\$1,137	\$ 802	\$20,423	\$ 51
1923	1,855	1,174	412	2,148	793	21,025	92
1924	2,194	1,356	812	1,875	818	18,581	76
1925	2,092	1,340	1,120	1,591	567	12,574	118
1926	2,497	1,607	1,085	2,432	645	14,540	164
1927	2,508	1,572	1,159	2,121	719	14,033	120
1928	2,610	1,574	1,126	1,973	690	12,390	188
1929	2,616	1,582	1,079	2,391	769	13,869	220
1930	1,795	784	223	2,600	869	12,753	162
1931	612	-78	-509	2,022	898	12,039	99
1932	691	161	- 183	1,250	710	8,911	43
1933	1,469	1,030	693	955	587	8,258	78
1934	2,036	1,266	939	1,306	567	8,055	117
1935	2,231	1,329	957	1,580	644	9,117	219
1936	2,436	1,383	1,001	1,756	775	9,290	251
1937	2,379	1,089	722	2,104	818	8,796	327
1938	2,284	1,171	817	1,982	866	8,447	272
1939	2,588	1,423	1,083	2,066	845	8,254	308

TABLE E-32. PRINCIPAL ELEMENTS OF INCOME AND EXPENSE ON FARMS
PER 100 ACRES, BY SIZE OF FARM,
340 ACRES AND ABOVE, 1922-1939.

Year	Dairy & poultry products	Live-stock sold	Crops sold	Operat-ing expense	Fixed expense	Feeds bought	Live-stock bought	Returns per \$100 feed fed
1922	\$202	\$ 855	\$365	\$304	\$505	\$120	\$ 291	\$ 29
1923	210	1,721	365	460	672	116	401	23
1924	176	1,903	248	402	411	332	460	23
1925	144	1,608	217	162	178	517	856	28
1926	291	3,036	165	363	459	467	956	34
1927	182	3,073	162	409	338	462	1,149	27
1928	327	2,479	225	485	379	501	531	29
1929	265	2,757	249	530	428	431	784	29
1930	221	2,331	247	522	466	382	477	22
1931	188	1,478	149	401	343	167	321	16
1932	111	1,235	70	263	274	173	325	21
1933	105	1,069	108	257	271	139	379	33
1934	118	1,575	189	324	263	410	418	29
1935	187	2,058	203	452	313	396	661	33
1936	235	2,178	259	495	313	483	620	28
1937	193	2,734	239	550	303	629	916	27
1938	195	2,410	182	532	289	463	924	35
1939	184	2,430	161	524	280	532	1,133	32