

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS

STATE OF OKLAHOMA

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OKLAHOMA AGRICULTURAL AND
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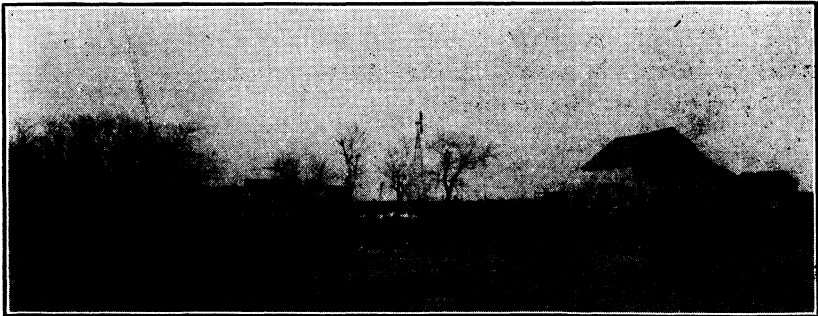
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Lessons From
Oklahoma Farm Accounts

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Extension Economist



LESSONS FROM OKLAHOMA FARM ACCOUNTS

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PART I—GENERAL STATE SUMMARY

Introduction

Each year a large number of Oklahoma farmers, who are enrolled with the Extension Division of the A. and M. College as account demonstrators, send their account books to the central extension office at Stillwater to be summarized and analyzed. In 1929, 164 demonstrators sent their account books in for analysis*¹. This circular is in the nature of a report of the analysis made for that year.

The men who are enrolled as farm account demonstrators represent the most progressive farmers of the state. The results here presented are therefore not representative of all the farms of the sections from which records are secured. They should be regarded rather as standards which farmers in general should be able to use to advantage as guides in the planning of their own business operations.

All the account records contain valuable information regarding many of the important business operations of the farms on which they were kept. Some, however, are more complete than others. For this reason not all the records furnish the necessary information for making certain comparisons. One hundred and twenty-two contain all the data required by the account book used that year and 72 of the demonstrators filled out certain extra questionnaires requesting information regarding family labor and landlord's investments, receipts, and expenses on rented farms.*²

Distribution of Records

The accompanying map (Fig. 1) indicates the location of the farms from which the records came. It will be noted that they tend to be concentrated in three rather widely separated areas of the State, one in the northwest part with Garfield county as the center, a second embracing eight counties of the southwest, and the third in the northeast with the point of greatest concentration in Wagoner and Mayes counties.*³

For convenience in discussing these three areas they will be referred to in the following pages as the Northwest, Southwest and Northeast District respectively. They conform essentially to type-of-farming areas 2, 3, and 8 as determined by the Experiment Station of the A. and M. College.*⁴

*¹Except for the cooperative spirit of the farmers enrolled as account demonstrators in this State, it would not be possible to carry on the project. Much credit is also due the county agents employed in the various counties for their help in maintaining interest in the project and for assistance in collecting the records.

*²The account book used in 1929 provided space for little more than a record of receipts, cash expenses, and inventories. With the aid of the information secured through the questionnaire it was possible to make a more complete analysis of the 72 records and study some of the factors which influence farm profits.

*³Records in other parts of the State are too widely scattered to justify assembling them as a separate summary.

*⁴See Oklahoma Experiment Station Bulletin No. 181, P. 13.

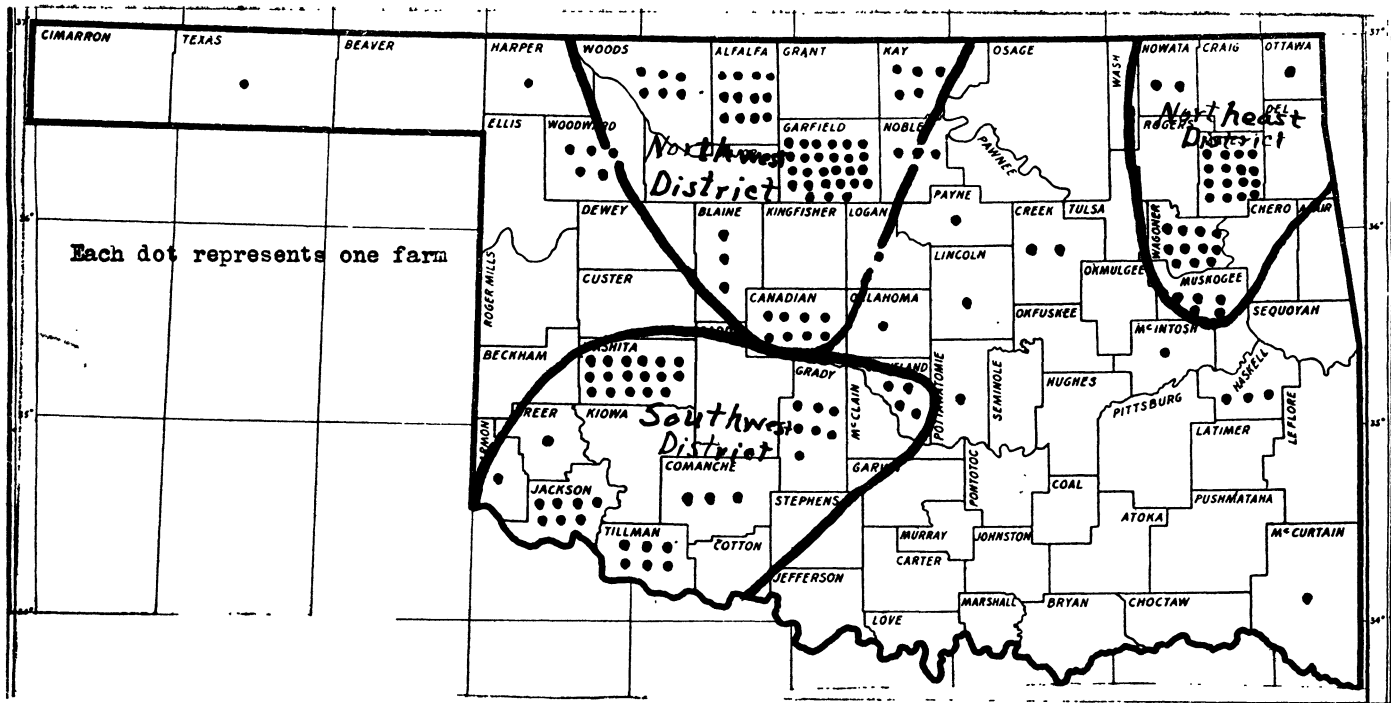


Figure I—Distribution of Completed Farm Account Records in Oklahoma, 1929.

Types of Farming

The records from each of the three areas referred to are summarized in a separate group. This is made necessary because of the wide variation in types of farming between the different parts of the State. Some of the differences in types of farming in the three areas represented in this analysis are brought out in the following comparisons.

Size of Farms and Uses of Land. For example, in 1929 the average farm investment on account keeping farms in the Northwest district was larger than that of the Southwest by 35 per cent, and exceeded that of the Northeast by 60 per cent. Land represented 71 per cent of the total farm investment in the Northwest district, 67 per cent in the Southwest, and 58 per cent in the Northeast. The comparatively low percentage of the total farm investment in land in the Northeast district was due largely to the fact that the farms were smaller and a larger proportion of the land was suited only for pasture than was the case in the other two areas. (Table 1).

Table I—Average Farm Investment and Percentage of Total Investment in Land on Account-keeping Farms in Three Areas of Oklahoma, 1929.

| | Northwest 60 farms | Southwest 33 farms | Northeast 29 farms |
|----------------------------------|-----------------------|-----------------------|-----------------------|
| Average farm investment..... | \$28,074 | \$17,910 | \$11,257 |
| Percentage invested in land..... | 71% | 67% | 58% |
| Average acres per farm..... | 346 | 222 | 210 |

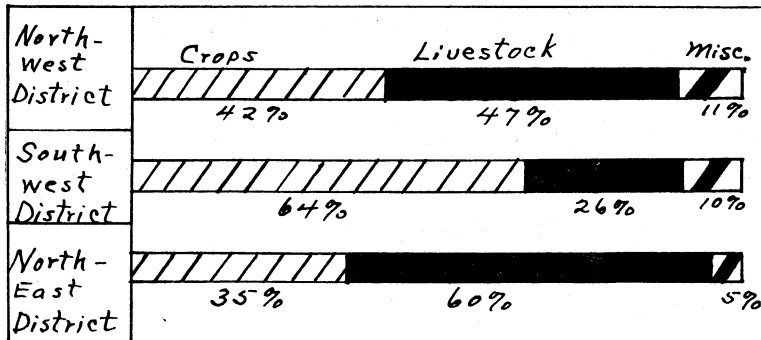


Figure 2—Percentage Distribution of Farm Returns on Account-keeping Farms in Three Areas of Oklahoma, 1929.

Sources of Income. Figure 2 shows the proportionate returns from crops, livestock, and miscellaneous farm receipts in each of the three districts in 1929. Cash crops, with wheat predominating, were important sources of income in the Northwest, but returns from livestock exceeded those from crops by five per cent. Crops represented 64 per cent of the total farm returns in the Southwest where cotton is the chief crop. On the other hand, in the Northeast only 35 per cent of the total farm returns were from crops and 60 per cent from livestock.

Comparison of Livestock Receipts in Various Districts. The income from livestock is made up of contributions from several livestock enterprises in each of the areas here reported. The dominant enterprise in one area may, however, be of little importance in another. By ranking the four most important livestock enterprises according to percentage of the

total farm income, it will be found that in the Northwest district cattle ranked highest, hogs second, dairy products third, and poultry and eggs fourth in 1929. In the Southwest district dairy products ranked first, poultry and eggs second, cattle third, and hogs fourth. Poultry and eggs ranked by far the highest in the Northeast district, with dairy products second, cattle third, and hogs fourth. (See Fig. 3).

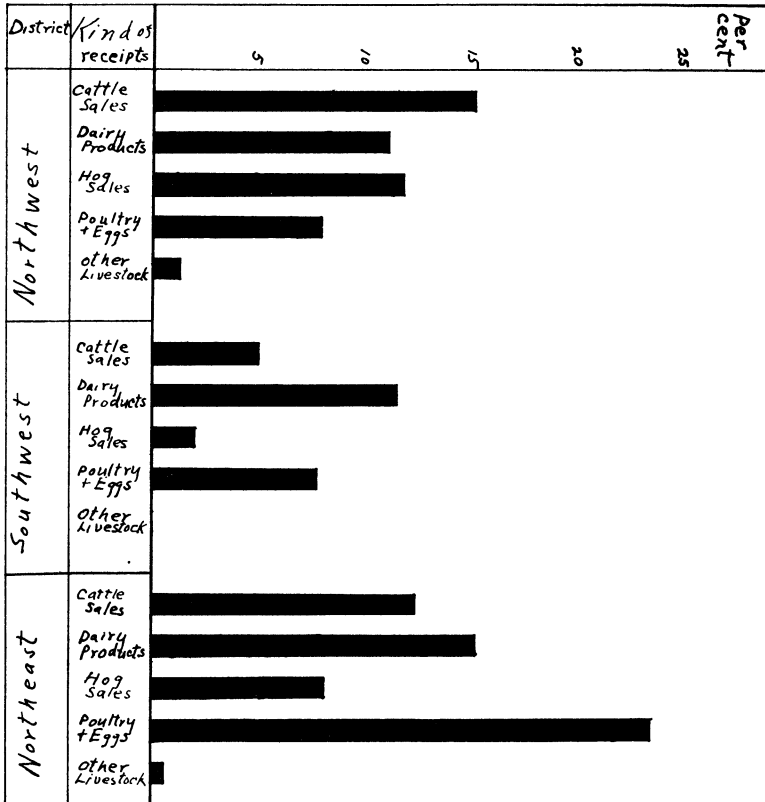


Figure 3—Percentage of Farm Returns from the Various Livestock Enterprises on Account-keeping Farms in Three Areas of Oklahoma, 1929.

PART II—ANALYSIS OF RECORDS FROM THE
NORTHWEST DISTRICT

Of the 1929 account books that were sent in, 45 especially well kept records from a section of Northwest Oklahoma are selected for this special analysis. The dominant type of farming in the area represented by these records is fairly uniform, wheat being almost invariably the major source of income.

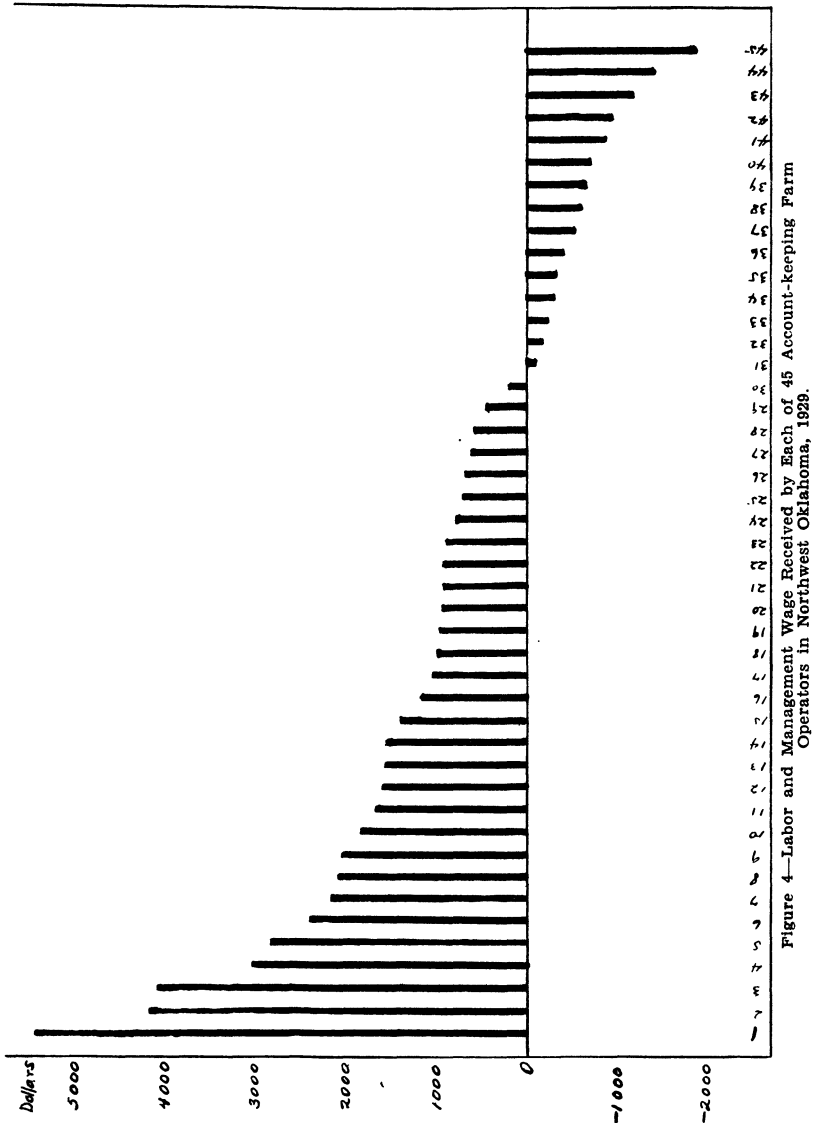


Figure 4—Labor and Management Wage Received by Each of 45 Account-keeping Farm Operators in Northwest Oklahoma, 1929.

Forty-five Farms Ranked in Order of Profitableness

By ranking these 45 records in order of the amount received by each operator for his labor and management, a noticeable variation in the profitableness of the farms on which they were kept becomes apparent. The most successful operator in 1929 received \$7347 more for his labor and management than did the least successful operator. That is, the most profitable farm paid a labor management wage⁵⁵ to the operator of \$5447, while the least profitable farm used up the operator's time and in addition caused him a loss of \$1900. The other 43 operators received amounts varying between these two extremes. (Fig. 4).

Factors Causing Variations in Farm Returns

While many factors, both controllable and uncontrollable, cause these differences the variations in returns are traceable in large measure to some or all of the following: (1) the size of the farm, (2) the organization of the business, (3) the quality of the enterprises, (4) the efficiency of operation. Each of these four factors will now be considered briefly.

Size of Farm. In Table II the 45 farms are grouped according to the number of acres per farm, and incidentally, according to the size of the farm investment. Group 1 includes all farms of 200 acres or less; group 2, all farms from 201 to 320 acres; and group 3, all farms over 320 acres in size.

It will be observed that as the acres per farm and the investment increases the operator's wage for labor and management also increases. It should be noted, however, that the investment of group 2 is \$11769 larger than that of group 1 and the labor and management wage exceeds that of group 1 by \$220. The investment of group 3 is larger than that of group 2 by \$12676, while the labor and management wage is only \$115 larger. (Table II).

Table II—Results from Forty-Five Account Keeping Farms of Northwest Oklahoma, Grouped by Acres per Farm, 1929

| | Group 1 | Group 2 | Group 3 |
|---|------------|------------|------------|
| Acres per farm | 156 | 273 | 552 |
| Average farm investment..... | \$16,330 | \$28,099 | \$40,775 |
| Gross receipts | \$ 3,517 | \$ 7,782 | \$ 6,930 |
| Cash expenses | \$ 1,885 | \$ 5,343 | \$ 3,715 |
| Operator's and family labor charge..... | \$ 737 | \$ 728 | \$ 755 |
| Rate earned on investment | 5.5% | 6.09% | 6.03% |
| Labor and management wage..... | \$ 686 | \$ 906 | \$ 1,021 |

In order to see the effect on farm returns of the factors other than size just referred to, the 45 farms are grouped on the basis of operator's returns for labor and management.⁵⁶ It will be seen that when thus arranged the three groups—the average of all the farms, the 15 most profitable and the 15 least profitable,—show little variation with respect to size of the investment or the number of acres per farm. The net returns, however, differ widely. (Table III).

⁵⁵The operator's labor and management wage is that part of the farm receipts which is left after paying all farm expenses, including a charge for unpaid family labor, and five per cent interest on the total farm investment.

⁵⁶Due to a fairly large proportion of small farms in the group it was considered that the labor and management wage would be the most desirable measure of profitableness in this analysis. Where farms are all adequate in size so a fair rate or return on the investment will support a family the rate earned is generally the most desirable measure of profitableness.

Table III—A comparison of Returns of the Average With the Fifteen Most Profitable and the Fifteen Least Profitable of 45 Account-keeping Farms of Northwest Oklahoma, Grouped by Operator's Labor and Management Wage, 1929

| Item | Average of 45 Farms | 15 Most Profitable | 15 Least Profitable |
|---------------------------------|---------------------|--------------------|---------------------|
| Investment per farm | \$28,274 | \$30,780 | \$29,905 |
| Total acres per farm | 330 A. | 333 A. | 320 A. |
| Net income on investment | \$ 1,713 | \$ 3,399 | -\$ 375 |
| Rate earned | 6% | 11% | -1.2% |
| Labor and management wage | \$880 | \$ 2,460 | -\$1,277 |

The organization of the farms, the quality of the enterprises, and the efficiency of operation are in large measure responsible for these differences in net returns as is indicated in the next three tables.

Organization of the Business. Cash crops make up an important part of the farm income in this district. On the most profitable farms in 1929 46 per cent of the farm receipts were from crops and 44 per cent from livestock. The least profitable farms, on the other hand, obtained 42 per cent of their receipts from crops and 48 per cent from livestock. A much greater proportion of farm land was tillable on the most profitable than on the least profitable farms. (Table 4).

Table IV—A Comparison of the Farm Organization on the 15 Most Profitable and the 15 Least Profitable of 45 Account-keeping Farms of Northwest Oklahoma, 1929

| Item | Average of 15 most profitable farms | Average of 15 least profitable farms |
|---|-------------------------------------|--------------------------------------|
| Farm returns from: | | |
| Crops | \$2,761 | \$1,199 |
| Per cent of total | 46% | 42% |
| Livestock | \$2,625 | \$1,385 |
| Per cent of total | 44% | 48% |
| Miscellaneous | \$ 624 | \$ 283 |
| Per cent of total | 10% | 10% |
| Acres of land per farm | 333 | 320 |
| Per cent of farm land tillable | 78% | 58% |
| Productive animal units per 100 acres of land | 9.7 | 5.9 |

Although a larger percentage of the farm receipts that year was from crops on the most profitable farms, they had about 40 per cent more productive animal units per 100 acres of farm land than did the least profitable

farms. The figures in Table IV also show that the livestock receipts of the most profitable group exceeded those of the least profitable group by nearly 50 per cent.

Quality of Enterprises. Crop production was higher on the 15 most profitable than on the 15 least profitable farms that year. There was a difference in yield of five bushels of wheat, four bushels of corn and 10 bushels of oats in favor of the most profitable farms. (Table V).

Table V—Comparative Crop Yields on the 15 Most Profitable and the 15 Least Profitable of 45 Account-keeping Farms of Northwest Oklahoma, 1929

| Item | Average of 15 most profitable farms | Average of 15 least profitable farms |
|-----------------------|-------------------------------------|--------------------------------------|
| Crop yields: | | |
| Wheat (bushels) | 15.4 | 10.5 |
| Corn (bushels) | 20.2 | 16.4 |
| Oats (bushels) | 37.7 | 44.8 |

Efficiency of Operation. Table VI shows four measures of efficiency of operation. Each of these measures account for a considerable proportion of the difference in earnings in 1929 on the most profitable and least profitable farms. For example, the least profitable farms had a machinery cost per acre which was 40 cents higher than that of the most profitable farms. If this 40 cents had been saved, the least profitable farms would have had a return of \$128 greater than they received. (Compare Table VI and Table III). Similar comparisons might be made for the other factors.

Table VI—Factors Showing Comparative Efficiency on the 15 Most Profitable and the 15 Least Profitable of 45 Account-keeping Farms of Northwest Oklahoma, 1929

| Name of Factor | Average of 15 most profitable farms | Average of 15 least profitable farms |
|--|-------------------------------------|--------------------------------------|
| Machinery cost per acre | \$ 1.71 | \$ 2.11 |
| Improvements cost acre | .23 | .52 |
| Crop acres cultivated per man | 151 A | 122 A |
| Returns per \$100 invested in productive livestock | \$137 | \$ 96 |

PART III—ANALYSIS OF RECORDS FROM THE SOUTHWEST DISTRICT

Eleven records, or one-third of the total from the Southwest district are sufficiently detailed for the more complete summary. This number is obviously too small for very significant results. The following, brief analysis does, however, support most of the facts explaining reasons for differences in profitableness of farms brought out in the summary of the Northwest district. The same four factors, namely—size of farm, organization of the business, quality of enterprises, and efficiency of operation, again become prominent.

Size of Farm. As in Part II, the labor and management wage is used as the measure of profitableness. It appears from Table VII, that the size of the farm business is noticeably larger in the most profitable than in the least profitable group. This is, however, partly because one farm in the high group is disproportionately large in comparison with the other 10 farms. Too much importance should not, therefore, be attached to the size factor in this case except as pertains to volume of business. (See Table VIII).

Table VII—Investment, Acres per Farm, and Net Returns on the Four Most Profitable and the Four Least Profitable of 11 Accounting Farms of Southwest Oklahoma, 1929

| Item | Average of 4 most profitable farms | Average of 4 least profitable farms |
|--------------------------------|------------------------------------|-------------------------------------|
| Investment per farm..... | \$25216 | \$16045 |
| Total acres per farm..... | 301 | 211 |
| Net income on investment..... | \$ 3323 | -\$330 |
| Rate earned | 13% | -2% |
| Labor and maangement wage..... | \$ 2624 | -\$532 |

Organization of Business. More productive animal units are found in the least profitable than in the most profitable column of Table VIII. But returns from livestock are considerably the highest for the most profitable group. This apparently contradictory situation can be partly explained by the fact that more cattle and hogs were purchased, fed out, and resold between inventory dates on the most profitable than on the least profitable farms during the year covered by these records. (Table VIII).

Table VIII—A Comparison of Farm Organization on the Four Most Profitable and the Four Least Profitable of 11 Account-keeping Farms of Southwest Oklahoma, 1929

| Item | Average of 4 most profitable farms | Average of 4 least profitable farms |
|---|------------------------------------|-------------------------------------|
| Farm Returns From: | | |
| Crops | \$3215 | \$1152 |
| Per cent of total | 63% | 45% |
| Livestock | \$1480 | \$1188 |
| Per cent of total | 29% | 47% |
| Miscellaneous | \$392 | \$216 |
| Per cent of total | 8% | 8% |
| Acres of land per farm | 301 | 211 |
| Per cent of farm land tillable | 71% | 66% |
| Productive animal units per 100 acres of land | 7.6 | 9.7 |

Quality of Enterprises. The quality of the farm enterprises as determined by crop yields show up very prominently in favor of the most profitable farms. (Table 9).

Table IX—Comparative Crop Yields on the Four Most Profitable and the Four Least Profitable of 11 Account-keeping Farms in Southwest Oklahoma, 1929

| Item | Average of 4 most profitable farms | Average of 4 least profitable farms |
|--------------------|------------------------------------|-------------------------------------|
| Crop Yields | | |
| Cotton | 206 lbs. | 182 lbs. |
| Wheat | 16.4 Bu. | 8.6 Bu. |
| Corn | 35 Bu. | 25 Bu. |

Efficiency of Operation. In the matter of machinery and man labor costs per acre of farm land the most profitable farms show very decidedly greater efficiency than do the least profitable farms. (Table X).

Table X—Factors Showing Comparative Efficiency of Operation on the Four Most Profitable and the Four Least Profitable of 11 Account-keeping Farms of Southwest Oklahoma, 1929

| Item | Average of 4 least profitable farms | Average of 4 most profitable farms |
|--|-------------------------------------|------------------------------------|
| Machinery cost per acre | \$.92 | \$3.83 |
| Man labor cost per acre | \$2.65 | \$7.86 |
| Returns per \$100 invested in productive livestock | \$81 | \$89 |

PART IV—ANALYSIS OF RECORDS FROM THE
NORTHEAST DISTRICT

Size of Farm. A study of the 14 most detailed 1929 records from the Northeast district indicates that the farmers who enlarged the size of their businesses that year by renting some land in addition to that they owned profited by it. Enlarging the farm acreage also made it possible for them to increase proportionately the other elements of the farm business, such as livestock, machinery, crops, and the like. (Table XI).

Table XI—Acres per Farm and Distribution of the Farm Investment on 9 Owned and 5 Partly-owned and Partly-rented Account-keeping Farms of Northeast Oklahoma, 1929

| Item | Average of 9 owned farms | Average of 5 partly- rented farms |
|---|--------------------------------|--|
| Acres of land in the farm | 101 | 309 |
| Investment in land | \$2944 | \$9668 |
| Investment in improvements | 778 | 2274 |
| Investment in livestock | 1211 | 2210 |
| Investment in machinery | 567 | 1188 |
| Investment in feeds, seeds, crops, etc. | 597 | 1511 |
| Total investment | \$6097 | 16,851 |

Efficiency of Operation. The increased size of the business unit provided a means of utilizing the available man labor and machinery more efficiently than would have been possible without the additional land. This is shown by the fact that the labor cost was more than \$5.00 higher and the machinery cost over \$1.00 higher per acre on the owner operated than on the part owner operated farms in 1929. Much more land was also cultivated per man on the partly-owned farms that year. (Table XII).

Table XII—Man Labor Cost per Acre and Crop Acres Cultivated per Man on 9 Owned and 5 Partly-owned Account-keeping Farms of Northeast Oklahoma, 1929

| Item | Average of 9 owned farms | Average of 5 partly- owned farms |
|---|--------------------------------|---|
| Man labor cost per acre | \$8.52 | \$3.46 |
| Machinery cost per acre | 1.62 | .53 |
| Crop acres cultivated per man | 44 | 131 |

Farm Returns. The more efficient use of labor and machinery together with other economies which resulted from increasing the size of the business increased the farm returns. The total farm receipts were over 40 per cent higher on the part-owner than on the owner farms, while the total farm expenses were only about 23 per cent higher. The resulting net income was therefore in favor of the part-owners by a margin of \$901. (Table XIII).

Table XIII—Farm Receipts, Expenses and Net Returns on Nine Owned and Five Partly-owned Account-keeping Farms of Northeast Oklahoma, 1929

| | Average of 9 Owned Farms | Average of 5 Partly- Owned Farms |
|--|-----------------------------------|--|
| Farm Receipts | | |
| Crops ----- | \$240 | \$1265 |
| Livestock ----- | 1281 | 1762 |
| Other ----- | 453 | 386 |
| Total receipts ----- | 1974 | 3413 |
| Total farm expenses ----- | 1840 | 2378 |
| Net income on investment ----- | 134 | 1035 |
| Rate earned ----- | 2.2% | 6.1% |
| Operator's labor and management wage ----- | \$429 | \$773 |

PART V—CONCLUSION

The facts presented in the preceding pages indicate that higher crop yields, larger returns per unit of investment in livestock, and consequently greater net profits are not the results of chance. They are rather the results of intelligent planning and deliberate action on the part of farm operators.

