

A Study of Farms in Oklahoma By Size and Economic Class

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Two recent publications of the 1945 Census of Agriculture contain social and economic data on sampled farms in Oklahoma classified by total acres per farm and by economic class. This information is important because it shows the distribution of population, production, wealth, income, and certain level of living items among various size and economic groups of farms. Since farms with 500 acres and over in Oklahoma increased in number from 6,057 to 11,832 between 1920 and 1945, and land in these farms increased from 22 to 41 percent of the total acreage in farms, the significance of large farms in the agricultural economy of the State should be studied (Table I).

Farms Classified by Size

Total acres per farm is the most common measure of farm size. Table II shows the percentage distribution of specified items into various size groups of farms and the proportion of farms in each group possessing certain level of living items.

Of the 165,000 farms in the State in 1945, 25 percent contained fewer than 50 acres of land, 68 percent fell in the size group ranging from 50 to 499 acres, and 7 percent had 500 acres and over. The farm population of the State was distributed in about the same proportions as farms.

Farms with 500 acres and over, hereafter referred to as large farms, accounted for 41 percent of the total farm acreage, 30 percent of the value of all land and buildings, and 26 percent of the value of farm implements and machinery in Oklahoma.

The one-fourth of the farms in the State having fewer than 50 acres included 2 percent of all land in farms, 6 percent of the total value of land and buildings, and 4 percent of the value of implements and machinery.

Nearly one-third of the cropland harvested in the State, including 42 percent of the wheat acreage, was on large farms. On the

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TABLE I.—Changes in Number of Farms and in Acreage of Farms, Oklahoma, 1920 and 1945.

Acres per Farm	Number of Farms (Thousands)		Percent Change	Number of Acres (Thousands)		Percent Change
	1945	1920		1945	1920	
All farms	165	192	- 14	36,162	31,952	+ 13
Under 10 acres	15	2	+644	54	10	+423
10-259	113	162	- 30	12,619	17,565	- 28
260-499	25	22	+ 12	8,801	7,458	+ 18
500 and over	12	6	+ 95	14,688	6,939	+112

other hand, cotton, which is heavily dependent upon hand labor in the cultivating and harvesting stages, was concentrated on middle-size farms, a large proportion of which can be classed as family farms. Small farms play a very small role in the production of wheat and cotton in this State.

Large farms or ranches accounted for 46 percent of the value of all livestock and livestock products, excluding dairy products, in Oklahoma.

The distribution of gross farm income in 1944 shows that the large farms in the State produced 29 percent of the total farm income, middle-size farms 64 percent of total farm income, and small farms contributed 7 percent of the total value of farm products sold or used by households.

As expected, subsistence farming is found to be important on small units. This can be seen from the fact that on small farms 44 percent of the value of all farm products was used by farm households. At the other extreme, only 4 percent of the farm products raised on large farms was consumed by occupant households.

Practically no cash wages were paid for hired labor by operators of small farms. In 1944, the wage bill for hired labor, excluding room and board, amounted to 8 percent of the value of all farm products on middle-size farms and 12 percent on large farms.

There is a relationship between the age of farm operator and size of farm. As the ages of farmers increased, larger proportions lived on small farms. The proportion of farmers residing on middle-size farms tended to decrease as age increased. Relatively fewer farmers 55 years old and over were on large farms. Presumably, older farmers gravitate to smaller farms for security reasons.

Also, they have reached the age when most of their children have left home, and smaller farms are in keeping with the contracted needs of the family and the smaller number of family laborers.

Families on small farms move more frequently than those on large farms. Twenty-nine percent of all families with less than two years' occupancy on their present farms were on small farms. Twenty percent having 10 years or more of residence on their present farms were on small units. At the other extreme, only 3 percent of the families with less than two years' occupancy were on large farms. Eleven percent of those with 10 or more years' occupancy were on large farms.

The data in Table II show that there were fewer tractors and motor trucks per farm on small farms than on the middle-size and large farms. This distribution is to be expected as small farms do not have as much need for these items as larger farms. However, automobiles are found nearly as often on small as on larger farms.

Relatively more dwellings with running water and electricity were on small farms than on middle-size farms. With respect to other items, homes on small farms compared favorably with those on middle-size farms but not with dwellings on large farms. Because many homes on small farms are located near cities and have access to urban conveniences, they frequently are better equipped than dwellings on middle-size farms.

Farms by Economic Class

The distribution of farms into economic classes, as is shown in Table III, indicates the predominance of family farms, subsistence farms, and part-time units in Oklahoma. Nearly one-half, 49 percent, of the farms—those in Classes III and IV—can be considered as family farms. Another 44 percent of the farms, including nearly all those in Class V, VI, and VII, can be termed as subsistence and part-time farms. The remaining seven percent of farms—those in Classes I and II—may be designated properly as large-scale units.

These large farms had approximately one-third of all farm resources of the State and produced about two-fifths of all farm products sold as determined by value. The average gross income of Class I farms in 1944 was \$35,400 and of Class II farms, \$10,200.

The small subsistence and part-time units, consisting of 44 percent of all farms, had about one-sixth of the farm resources of the

State. They contributed 7 percent of the total value of all farm products sold in 1944. The average gross income per farm ranged from \$300 in Class VII to \$800 in Class VI.

TABLE II.—Selected Social and Economic Data on Farms in Oklahoma Classified by Acres Per Farm, 1945.¹

Item	Acres Per Farm		
	Under 50	50-499	500 and over
Number of farms, in hundreds	407	1122	118
Percentage distribution:²			
Farms	25	68	7
Farm population	23	68	9
Farm operators by age, years:			
Under 35	18	75	7
35-54	22	70	8
55 and over	32	62	6
Families by years on farm occupied:			
Under 2	29	68	3
10 and over	20	69	11
Value of land and buildings	6	64	30
Value of implements and machinery	4	70	26
Acres in farms	2	57	41
Acres of cropland harvested, 1944	2	67	31
Acres of wheat threshed, 1944	0.2	58	42
Acres of cotton harvested, 1944	3	83	14
Value of livestock and livestock products sold exclusive dairy, 1944	4	50	46
Value of farm products sold or used, 1944	7	64	29
Value of farm products used by farm households, 1944	21	70	9
Farms reporting cash wages paid for hired labor, 1944	11	76	13
Cash wages paid to hired labor, 1944	3	60	37
Percent cash wages for hired labor was of value of all farm products, 1944	4	8	12
Percent of value of all farm products used by farm households, 1944	44	15	4
Percentage distribution of farms with:			
Tractor	3	80	17
Truck	9	70	21
Automobile	21	69	10
Percent of farms in each acreage group with:			
Running water	30	13	40
Electricity	43	25	41
Telephone	24	25	52
Radio	75	79	98
Kitchen sink	32	25	52
Power-driven washing machine	35	40	66

¹ U. S. Census of Agriculture, 1945, Farms and Farm Characteristics By Size of Farm.

² Each line of percentages adds to 100.

The farms in Economic Classes III and IV, which have been designated as family farms in this study, vary widely in the degree of resources controlled. The data in Table III suggest that probably many farms in Class IV do not provide occupant families with a decent level of living and relative full employment of family labor. The average gross income per farm in Class IV was \$1,900 in 1944 as compared with \$4,600 per farm in Class III. Farms in Class IV were much less commercialized than those in Class III.

The high degree of mechanization on farms in Classes I, II and III is indicated by the presence of tractors on 80 percent or more of the farms, and the proportions of farms in these classes with trucks greatly exceeded those in the remaining economic classes.

The percent of farms in each economic class with specified farm and level-of-living items reflect wide variations. Automobiles were reported on 88 percent of the Class I farms, 60 percent of the Class IV farms, and 36 percent of the Class VII farms. Fifty-five percent of the farms in Class I possessed running water in the farm dwelling as compared with 10 percent of the farms in Class VI.

"Large" Farms

The Census tabulated for 1945 on specific items relating to those farms in Oklahoma that met any of these requirements: (1) at least 4000 acres of land in farm, (2) 1000 acres or more of cropland harvested and crop failure, (3) 800 head or more of cattle and calves, (4) 600 head or more of sheep and lambs, or (5) \$40,000 value of farm products sold or used by farm households. A farm that met any of the requirements was classed as an extra large farm. There were 1101 of these in the State.

These very large farms, constituting 0.7 percent of all farms in the State, accounted for 14 percent of the total acreage in farms, 6 percent of all cropland harvested, and 11 percent of all cattle and sheep (Table IV). Ten percent of the value of all farm products sold in the State in 1944 came from this small group of farms.

Most of these large farms are ranches, but with 5 percent of all farm implements and machinery in the State, by value, and 11 percent of the State's farm labor costs paid by this group of farms, there is a probability that crop farming forms an important part of the operations on many of these units.

Table III.—Selected Social and Economic Data on Farms in Oklahoma Classified by Economic Class, 1945¹

Item	Economic Class of Farms ²						
	I	II	III	IV	V	VI	VII
Number of farms, in hundreds	14	95	305	501	184	280	268
Percentage distribution: ²							
Farms	1	6	19	30	11	17	16
Farm population	2	7	19	31	12	16	13
Value of land and buildings	10	23	30	22	4	5	6
Value of implements and machinery	6	22	37	25	3	4	3
All acres in farms	13	19	27	25	2	8	6
Acres of cropland harvested, 1944	7	23	34	26	1	6	3
Value of farm products sold or used, 1944	12	23	33	22	3	5	2
Value of farm products sold, 1944	14	25	35	20	1	5	1
Percent of value of all farm products which was sold, 1944	98	96	91	78	43	59	45
Average value of farm products sold or traded per farm, in thousands of dollars, 1944	35.4	10.2	4.6	1.9	0.6	0.8	0.3
Percent of farms in each economic class with:							
Tractor	88	92	80	41	6	11	7
Truck	92	72	45	23	13	12	8
Automobile	88	84	74	60	65	42	36
Running water in dwelling	55	42	21	12	33	10	15
Electricity	52	58	39	21	46	15	24
Telephone	62	61	40	20	27	12	13

¹ U. S. Census of Agriculture, 1945, Special Report 1945 Sample Census of Agriculture, Table 29.

² Each line of percentages adds to 100.

(Table continued on next page.)

* The composition of various economic classes of farms was as follows:

Class I:

- (a) Value of products \$20,000 or more; value of real estate at least \$15,000.
- (b) Value of real estate \$70,000 or more; value of products \$8,000 to \$19,999.

Class II:

- (a) Value of products \$8,000 to \$19,999; value of real estate less than \$70,000.
- (b) Value of real estate \$30,000 to \$69,999; value of products \$8,000 to \$7,999.
- (c) Value of products \$20,000 and over; value of real estate \$5,000 to \$14,999.

Class III:

- (a) Value of products \$8,000 to \$7,999; value of real estate less than \$30,000.
- (b) Value of real estate \$20,000 to \$29,999; value of products \$1,200 to \$2,999.
- (c) Value of products \$20,000 or more; value of real estate less than \$5,000.

Class IV:

- (a) Value of products \$1,200 to \$2,999; value of real estate less than \$20,000.
- (b) Value of real estate \$8,000 to \$19,999; value of products \$500 to \$1,199.

Class V:

- (a) Value of products of \$250 to \$1,199; value real estate less than \$8,000; farm operator working off the farm 100 days or more in 1944.

Class VI: Value of products \$500 to \$1,199; value of real estate less than \$8,000; farm operator working off the farm less than 100 days in 1944.

Class VII:

All farms not included in Class I to VI, and includes:

- (a) Farms with a value of products of less than \$250.
- (b) Farms with a value of products of \$250 to \$449; value of real estate less than \$8,000, farm operator working less than 100 days off the farm in 1944.
- (c) Farms with value of real estate \$70,000 or over; value of products of less than \$8,000.
- (d) Farms with value of real estate \$30,000 to \$69,999; value of products less than \$8,000.
- (e) Farms with value of real estate \$20,000 to \$29,999; value of products less than \$1,200.
- (f) Farms with value of real estate \$8,000 to \$19,999; value of products under \$500.

Factors Associated With Increase of Large Farms

The question can be raised: Why has the number of large farms in Oklahoma increased 95 percent during the past 25 years?

There is no simple answer to this question, but farm mechanization is perhaps the most important factor contributing to the increase in size of farm. Other factors which probably are associated with expansion of farm size are (1) the improvement of plants and livestock, (2) the increased ability to control insects, pests, and diseases, (3) the increase in knowledge relating to fertilizing soils, (4) the improvement in managerial and marketing techniques,^a (5) the more rapid adoption of these advances in technology by farmers with adequate capital and above-average ability, and (6) such factors as the drouth, low prices for farm products, and alternative opportunities for employment which led population to leave farms of this State. The latter factor resulted in the consolidation of acreages into larger farms.

The importance of farm mechanization in growth of large farms can be shown by comparing the number of tractors on farms classified by total acreage. In Table V it can be seen that 37 percent of the farms in Oklahoma had tractors in 1945. Farms having tractors ranged from 2 percent of those with less than 10 acres to more than 80 percent of those with 500 acres and over.

Many farms have more than one tractor. The intensity in use of machines is reflected by the regular increase in number of tractors per 100 farms from 2 among farms having less than 10 acres to 141 among units having 1,000 acres and over. Also, the average number of tractors per farm was much higher on larger than on smaller farms.

Conclusions

The significant conclusions of this study can be summarized briefly. First, a relatively few large farms, approximately 7 or 8 percent of the total, include from 30 to 40 percent of the total farm resources and account for more than one-third of the total farm production of the State.

^a *Technological Trends and National Policy*, Reports of the Subcommittee on Technology to the National Resources Committee, U. S. Government Printing Office, Washington, D. C., 1957, p. 97.

Second, 44 percent of the farms in Oklahoma, with 10 to 16 percent of the total farm resources, produce one-tenth of the total gross farm income.

Third, despite broad gains made in the level of living during World War II, 83 percent of the farm families are without running

*Table IV.—Selected Social and Economic Data on Designated Large Farms in Oklahoma, 1945.**

Item	Percent
Number of large farms**	(1101)
Percent of Total for all farms which was accounted for by large farms:	
Farms	0.7
All farm population	1
All acres in farms	14
Acres of cropland harvested, 1944	6
Value of land and buildings	7
Value of implements and machinery	5
Trucks	4
Tractors	3
Automobiles	2
All horses	3
All mules	3
All cattle	11
All hogs	3
All sheep	11
Value of farm products sold or used, 1944	9
Value of farm products sold, 1944	10
Cash wages paid for hired labor, 1944	11

* U. S. Census of Agriculture, 1945, Special Report 1945 Sample Census of Agriculture, Table 28.

** See text for description.

*Table V.—Distribution of Tractors By Size of Farms, Oklahoma, 1945.**

Acres per Farm	Percent of Farms With Tractors	Number of Tractors Per 100 Farms	Average No. Tractors Per Farm With Tractors
All farms	37	43	1.2
Under 10 acres	2	2	1.0
10-49	5	5	1.0
50-99	15	15	1.0
100-179	39	41	1.0
180-259	58	63	1.1
260-499	75	88	1.2
500-999	89	125	1.4
1000 and over	82	141	1.7

* U. S. Census of Agriculture, 1945, Vol. 1, Part 25, Oklahoma, Farms and Farm Characteristics By Size of Farm.

water in the home, 75 percent have no telephones, 71 percent lack electricity, 39 percent do not have automobiles, and 26 percent possess no radios.* Most families without these items live on small farms.

Fourth, from the data available it is apparent that the type and organization, and consequently the problems, of small farms differ greatly from the corresponding characteristics of middle-size and large farms. Therefore, in planning programs for agriculture, federal, state, and local administrative officials of public agencies should give consideration to the diverse character of farms and farmers.

* A recent report from the U. S. D. A. estimates that of the farms in Oklahoma at mid-year of 1947, 48 percent have electricity, 32 percent telephones, and 34 percent radios.