August 13,1937

To the Committee on Graduate Study:

I submit herewith a thesis written by Mr. Andrew C. Robison and entitled "A Farm Management Survey of Overton County, 1936", and recommend that it be accepted for eighteen quarter hours credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

B. E. Allred

Major Professor

At the request of the
Committee on Graduate Study,
we have read this thesis,
and recommend its acceptance.

J. H. Berry

E. E. Hylie

Accepted by the Committee

W. C. Smith

Chairman

A FARM MANAGEMENT SURVEY OF OVERTON COUNTY, 1936

- o -

A THESIS

Submitted to the Graduate Committee
of
The University of Tennessee
in
Partial Fulfillment of the Requirements
for the degree of
Master of Science

By

ANDREW C. ROBISON

August 1937

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CHAPTER I

INTRODUCTION

Purpose of Study

The purpose of this study is to observe significant trends in the agricultural development of Overton County, determine present conditions and factors affecting agriculture in the area; and on the basis of the findings point out some advantageous changes in the agricultural program of the county that may also be applied to other similar areas.

Location of County

Overton County is located in the north-central part of the state. It is bounded on the north by Clay and Pickett, on the east by Fentress, on the south by Putnam, and on the west by Jackson counties (Figure 1). It lies only a short distance from the Kentucky line. The county is on the northeastern Highland Rim and Cumberland Plateau, with most of the county in type of farming area eleven. Livingston, the county seat, is located one hundred miles northeast of Nashville, one hundred twenty miles northwest of Knoxville, and one hundred thirty miles north of Chattanooga.

Topography

"The Cumberland Plateau and the mountains forming its western front occupy the southeastern third of the county, and a chain of outlying ridges extends out from the Cumberland Mountains in a northwestern course

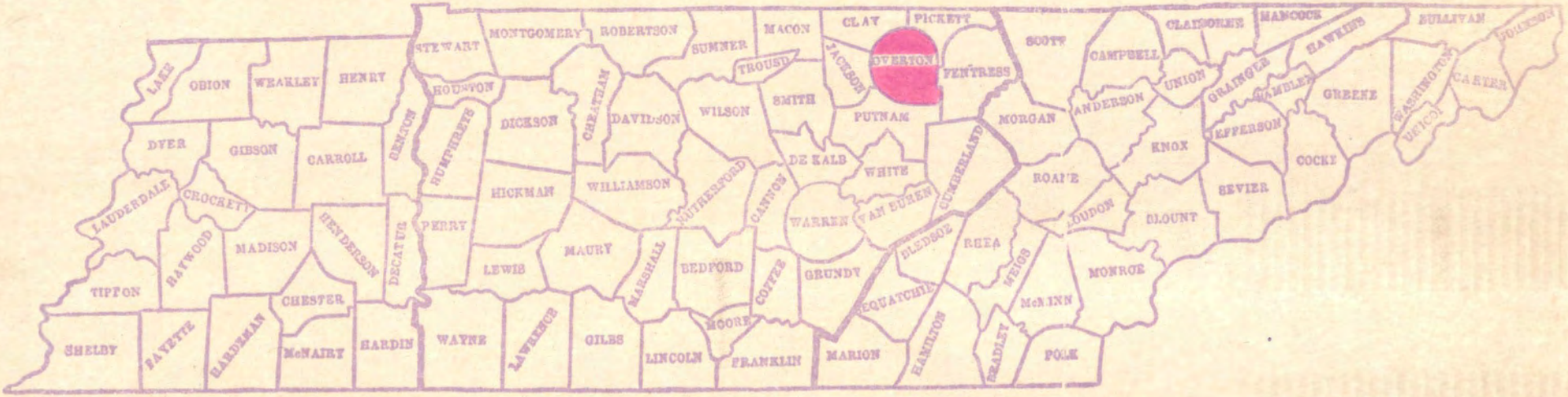


Figure 1. Location of Overton County

across the center of the county to within a few miles of the northwest boundary. This region is characterized by bold, rugged mountain topography, having a range in altitude from 700 to 2,000 feet. Lying immediately west of this, and reaching out from the foot of the mountains to the county boundary, is a broad, gently rolling plain, belonging to the Highland Rim of Tennessee and having an altitude varying from 900 to 1,000 feet. On the Highland Rim in the southwestern fourth of the county the surface is characterized by broad, level areas and low, rolling hills. Near the west line of the county, however, this plain has been dissected by the deep, narrow, v-shaped valleys of Spring Creek and Roaring River. The bottoms of these valleys approach the level of the Central Basin, which lies farther west, and their escarpments are rough and steep. To the north of this and west of the outlying mountain range previously mentioned, Mill Creek, Mitchell Creek, and their tributaries have destroyed the characteristic features of the Highland Rim, leaving a series of rough, broken ridges. North of the mountains, and along the northeastern boundary of the county, the plain of the Highland Rim again appears. This is cut by the valleys of Eagle Creek and the West Fork of Obey River and their tributaries. The drainage of the area is all toward the Cumberland River, which lies a few miles beyond the western boundary of the county. The larger streams flow through deep, narrow valleys, and have swift currents."(1)

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(1) Ayrs, Orla, and Hill, D. H., Soil Survey of Overton County, Tennessee, pp. 5-6.

Soils[2]

Overton County is located in the Appalachian province, and contains portions of two of its divisions -- the Cumberland Plateau and the Highland Rim. Much of its area has a mountainous topography as a result of erosion. During a long period of years streams have cut deep, narrow, steep-sided valleys leaving narrow ridges where once a nearly level plain existed.

The rocks in the area are sedimentary in origin and consist of sandstones, shales and limestones. With the exception of a very limited development of bottom lands, the soils consist of residual material. The boundaries of the soil types correspond closely with the boundaries of the underlying rocks from which they have disintegrated. The Highland Rim area is occupied mainly by limestone formations, some of which contain chert and siliceous impurities. Gray and red silty soils have resulted. Gray soils are included in the Clarksville series and red soils in the Decatur series.[3]

Clarksville Silt Loam

Clarksville silt loam consists of a gray to light yellow silt loam, varying in depth from 8 to 12 inches. When dry the soil has a soft

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(2) Ibid., pp. 12-22. Note: a full discussion of the soils of the county is presented in this publication.

(3) The DeKalb series as recognized in the 1908 Overton County Soil Survey by Ayrs and Hill is mapped as Muskingum and Hartsells in the U.S.D.A. 1936 Atlas of American Agriculture. The Decatur series of 1908 is probably recognized as Baxter in the 1936 Atlas. The 1908 classification is used in this study because no detailed soil map is available with the 1936 Atlas classification of soils in the county.

flourlike feel, but when wet is easily puddled and becomes almost as impervious as clay. The subsoil is a compact yellow silt loam heavier than the surface soil, and extends to a depth of 3 feet or more. Generally the soil is free from stone. It is a residual soil. The more soluble part of the rock has passed into solution and been carried away in drainage water leaving the siliceous residue to form the present soil.

The soil varies from a level to a hilly topography with an elevation of 900 to 1,000 feet. Natural drainage is usually sufficient to carry off surplus water. However, some of the larger areas are so flat and water moves so slowly that they could be improved by artificial drainage.

Clarksville silt was originally covered with a growth of white oak, post oak, red oak, hickory, black gum, sweet gum, chestnut, persimmon, dogwood and poplar, and large areas are still covered with forests. However, this type has been cleared to a considerable extent and probably accounts for 50% of the improved land area of the county.

Though only moderately productive, this soil, due to its favorable position and ease of cultivation, is one of the most desirable soils for farming in the county. The soil is usually slightly acid and is deficient in organic matter. The soil is easily compacted, and deep plowing is necessary to maintain it in an open friable condition. Subsoiling is beneficial. The application of acid phosphate is more profitable than the use of a complete fertilizer.

Decatur Loam

Decatur loam consists of a dark brown to a reddish brown to red silty loam 8 to 12 inches deep. It has a subsoil of reddish brown to red

silty loam which grades into a dark red silty clay at a depth of two feet. The Decatur grades into the Clarksville series and the transition usually extends over a wide strip. The soil is usually free from stone.

Decatur loam is similar to the Clarksville silt loam except the former is a stronger more productive soil. It is better for grass and is used more for hay and pasture.

DeKalb Silt Loam

DeKalb silt loam consists of 8 to 12 inches of gray to grayish-yellow silt loam containing a small amount of fine sand. It has a subsoil of similar texture but of a more compact and impervious structure.

This is an important Cumberland Plateau soil. The soil has an elevation from 1,300 to 1,800 feet. The surface is so nearly level that drainage is very slow and often artificial drainage would be beneficial. Frequently sink holes are found that have been formed through the falling of roofs of caverns in the underlying massive limestone.

The soil owes its origin to the disintegration of a fine-grained brownish or yellowish sandstone of the Newman series. The weathering of the sandstone has been slow with the result that the soil occurs on broad nearly level areas on isolated hills and mountain slopes.

The native growth on DeKalb silt loam consists of oak, chestnut, chinquapin, ash, hickory, poplar and dogwood. The soil is not as productive as some other types, but due to its level surface and ease of cultivation about one-half of its area was under cultivation in 1908. The soil is very low in organic matter and is defid ent in potash and phosphorous.

DeKalb Stony Loam

DeKalb stony loam is a gray to light-yellow medium to fine sandy loam containing a considerable quantity of sandstone and other rock fragments. Most of the subsoil is yellow find sandy loam or loam. This type occurs on a band just below the DeKalb silt loam. It occupies the steep rugged mountain slopes ranging in altitude from 1,000 to 2,000 feet. Surface water flows swiftly carrying large quantities of the finer soil particles. A heavy cover such as forests is essential to retention of the surface soil.

These mountain slopes were at one time covered with a heavy growth of oak, hickory, chestnut, and poplar. Small areas have been improved but much of the area has been deforested by lumber companies. Most of the soil is too rough for agricultural use and should be left in forest.

DeKalb Sandy Loam

DeKalb sandy loam is a grayish to yellowish fine to heavy sandy loam from 8 to 12 inches deep. The subsoil is a medium to fine heavy yellow sandy loam grading into a loam. The parent sandstone is found at a depth of 4 to 12 feet. The soil is usually free from stone.

This type occupies the tops of high mountain ridges. The surface is from level to gently rolling. The soil has a light texture that insures ample drainage and yet is not particularly susceptible to erosion. The soil is not retentive of moisuure and crops tend to suffer from drought.

The soil is a residual of the disintegration of the Rockcastle conglomerate. It has the same type vegetation as the DeKalb stony loam, but the growth is not as vigorous and timber is not as large. Most of the soil is still in forest.

The exposed Cumberland Plateau formations consist of sandstone and shale. These have given rise to a light gray soil with a large percentage of sand that has been mapped under the DeKalb[4] series.

While several other series were mapped in 1908 (Table I), only the Clarksville, Decatur, and DeKalb are herein described because they are the predominating soils in the county.

TABLE I. AREAS OF DIFFERENT SOILS AS MAPPED, OVERTON COUNTY, 1908

Soil	Acres	Per cent	Soil	Acres	Per cent
Clarksville silt loam	78,272	28.2	Decatur loam.....	11,584	4.2
DeKalb stony loam	67,840	24.5	Meadow	4,672	1.7
Clarksville stony loam ...	51,008	18.3	Hagerstown stony loam	1,344	.5
DeKalb silt loam	17,984	6.5	Guthrie silt loam ..	256	.1
Decatur stony loam	17,600	6.3			
DeKalb sandy loam	13,824	5.0			
Rough stony land	12,928	4.7	Total	277,312	100.0

Source: Ayrs and Hill, Soil Survey of Overton County, Tennessee, p. 13.

Clarksville Stony Loam

Clarksville stony loam consists of a gray to light-yellow or light-brown silty loam, 8 to 10 inches deep, underlain with a yellow to reddish-yellow silt loam. Considerable chert fragments are incorporated in and strewn upon the surface. The soil grades into a mass of broken rock at a depth of 2 to 10 feet. The stony character makes the soil more porous and less susceptible to erosion. A large part of the soil is covered with

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(4) See footnote 3.

forests of oak, poplar, hickory, beech, maple, elm, chestnut, and ash.

Rainfall

Normally the rainfall in Overton County is sufficient for growth of most farm crops. The annual precipitation usually ranges between 50 and 60 inches, with a mean of 55.11 inches for three nearby stations (Table II).

TABLE II. COMPARISON OF MEAN WITH 1936 MONTHLY RAINFALL AND TEMPERATURE IN OVERTON COUNTY AREA

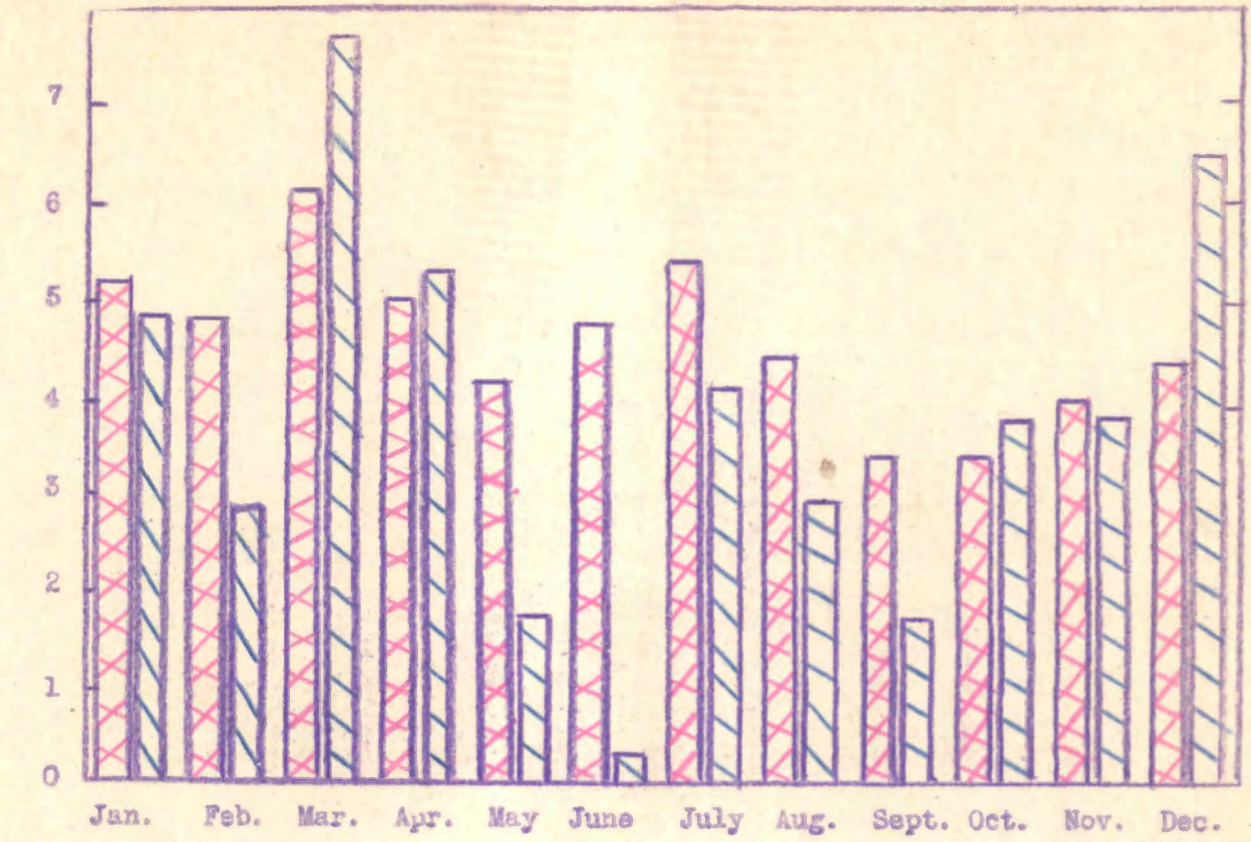
Month	Rainfall		Temperature	
	Mean[a]	1936[b]	Mean[c]	1936 Mean, Celina[d]
January	5.19	4.81	37.6	34.9
February	4.78	2.91	40.4	35.9
March	6.09	7.75	48.0	53.0
April	4.95	5.27	56.8	No data
May	4.17	1.75	64.8	72.0
June	4.84	.27	72.7	82.1
July	5.43	4.09	75.6	81.4
August	4.38	2.91	74.4	81.6
September	3.38	1.73	69.9	76.8
October	3.42	3.78	57.8	No data
November	4.05	3.80	46.7	45.2
December	4.43	6.47	38.9	41.0
Total	55.11	45.54		
Av. per month	4.59	3.80		
Av. 6 months growing season	4.52	2.67		

(a) Unweighted arithmetic average of Oak Hill 7 years, Byrdstown 29 years, and Celina 18 years. Source: Outen, D.L., et al, Inventory of Climatic and Mineral Resources of Tennessee, Table IV, p. 229.

(b) Average of Byrdstown, Monterey and Celina. Source: U. S. Weather Bureau Climatological Data, Tennessee Section, Vol XLI, Nos. 1-12.

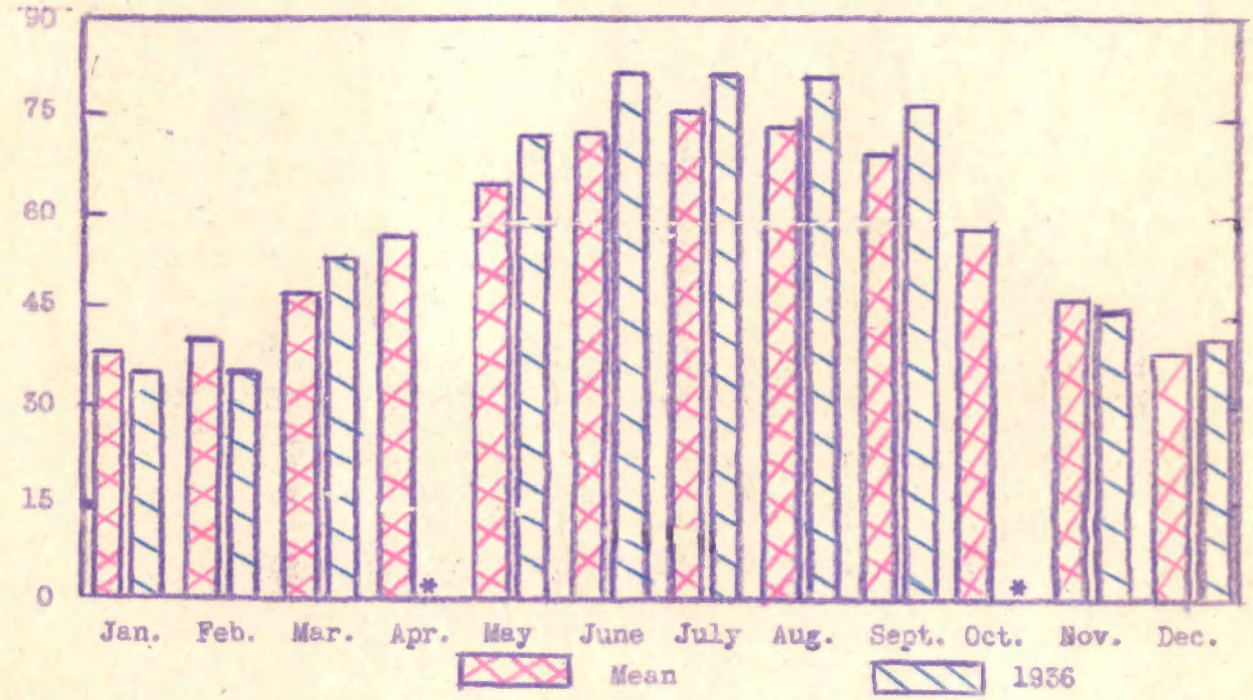
(c) Mean monthly temperature in Tennessee Climatic Area Two which includes Overton County. Source: Outen, D. L., op. cit., Table III, p. 12.

(d) Celina mean monthly temperature for 1936. Source: U. S. Weather Bureau Climatological Data, Tennessee Section, Vol. XLI, Nos. 1-12.



Source: Table II.

Figure 2. Comparison of mean with 1936 monthly precipitation in Overton County area



Source: Table II.

* No data

Figure 3. Comparison of mean with 1936 mean monthly temperature at Celina

The rainfall has a fair mean distribution throughout the year; but in 1936, the year of this study, the rainfall from April 1 to September 30 was far below average. For this six month period in 1936 the average monthly precipitation was only 2.67 inches, compared with a normal of 4.52 inches (Figure 2, Table II).

The 1936 drought caused agricultural production to be drastically reduced. On the 131 farms used as a basis of this study 89% of the lespedeza hay acreage failed and was not harvested.

Temperature

The county has a comparatively mild climate. The temperature seldom falls below zero or exceeds 90 degrees Fahrenheit. The mean monthly temperature ranges between 37.6 in January and 75.6° F. in July (Figure 3, Table II). The average length of growing season at Byrdstown, a weather station north of Overton, and at Oak Hill, a station in Overton County, is 191 days.(5) October 1 is the date of earliest frost and April 27 the latest.(6) This gives the county a minimum growing season of 156 frost free days which is sufficient for maturity of most locally adapted crops.

Markets

The only intra-county markets available for Overton County agricultural products are Livingston, the county seat with a population of about 1,500, and a few villages with populations around 500 or less.

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(5) Allred, C. E., Atkins, S. W., and Outen, D. L., Inventory of Climate and Mineral Resources of Tennessee, Table 5, p. 231.

(6) Allred, C. E., and Esry, D. H., Soil Conservation Practices in Actual Use by Farmers, p. 4.

However, the county is a deficit agricultural producing area. With the exception of a small quantity of livestock and livestock products and some wheat, practically all the agricultural products are consumed within the county. Therefore, the problem of marketing the products produced at the present time is not as serious as if the county were a large surplus producing area.

The nearest important market is Nashville which is 100 miles from Livingston. This fact, in combination with inadequate transportation, is a serious handicap to agriculture in the county. The production of highly perishable crops and livestock products on a commercial basis is practically eliminated by the marketing situation. Hence, the problem of adapting a cash crop for the area is one of great difficulty.

Transportation

The only railroad in the county is a spur line of the Tennessee Central. About 12 miles of the spur lies across the southeastern corner of Overton County. The railroad was built in 1901 to transport coal and timber from Overton and Fentress counties. There is no regular less-than-carlot traffic, hence all commercial passenger and freight service other than coal and timber must be cared for by motor vehicles.

At the present time the county has daily bus and motor truck freight service. This service is maintained over the highway passing through Livingston from Byrdstown to Cookeville. Freight may be shipped to or from Cookeville, or it may be sent directly to Nashville. However, when any considerable quantity of farm produce is to be shipped, especially if it is livestock, the usual custom is to obtain a truck load and haul

directly to Cookeville or Nashville. Truck loads for shipment are obtained by a "trader" concentrating small quantities, by a large producer having full loads, or by several smaller producers combining their produce and loading together for shipment.

Since the agricultural area of the county depends upon motor service for commercial transportation, the location of its farms with respect to improved roads is important. Overton County has a smaller percentage of farms located on hard-surfaced roads than the state average or of Putnam or Pickett, two of the surrounding counties. It has a larger percentage of its farms located on all dirt roads or on unimproved dirt roads than is true of the state average or of Putnam County; however this figure is somewhat less than that for Pickett County (Table III).

TABLE III. NUMBER AND PERCENTAGE OF FARMS LOCATED ON DIFFERENT KINDS OF ROADS (1930)

Kind of Road	State Average		Overton Co.		Putnam Co.		Pickett Co.	
	No. Farms	Pct.of Total	No. Farms	Pct.of Total	No. Farms	Pct.of Total	No. Farms	Pct.of Total
Hard surfaced	23,433	9.5	181	6.6	292	10.0	74	7.8
Gravel	56,857	23.1	279	10.2	521	17.9	36	3.8
Improved dirt	44,879	18.3	497	18.2	726	24.9	73	7.7
Unimproved dirt	104,724	42.7	1653	60.8	1238	42.5	722	76.7
All other roads (including not reported)	15,764	6.4	114	4.2	136	4.7	38	4.0
Total	245,657	100.0	2724	100.0	2913	100.0	943	100.0

Source: 1930 Census of Agriculture.

Resources

Overton County was originally covered with a heavy growth of valuable timber. The area also had a wealth of coal in the southeastern part. About

1880 the residents began the removal and sale of timber, and this continued until 1929. About 1901 they began working the coal mines, which continued until the general strike in 1931.(7)

An idea concerning the economic resources of the county may be gained from the ten selected items presented in Table IV.

TABLE IV. SELECTED RESOURCES OF OVERTON COUNTY

Item	Amount	Rank of Overton County Among the 95 Counties of the State
True wealth (per capita, 1934)	$ 194.86	93
Total income from all sources (per capita, 1925)	153.00	77
Value of land and buildings (per farm acre, 1929)	17.95	85
Motor vehicles (per 1,000 population, 1934)	43.03	92
Net retail sales (per capita, 1933)	39,66	80
Net agricultural income (per farm acre, 1929)	4.42	82
Circulation of periodicals (per 100 families, 1929)	12.10	75
Wages per farm laborer (per day, 1929)	1.06	87
Crop land harvested per male worker (in acres, 1929)	11.9	54
Crop index (1899-1929)	69.6	94

Source: Allred, C. E., et al, Rural Relief in Overton County, Tennessee, Report No. 4, Table I, p. 5.

During the boom year of 1929 there were twenty manufacturing plants in the county. These plants employed only 123 people at an average annual wage of $672. Manufacturing is restricted in the county because of inaccessibility and lack of power and transportation facilities.

Although the soils of the county at present are generally infertile, they can be made fairly productive by following the proper systems of farming. Therefore it is to be assumed that farming, under

(7) Collins, W. E., and Matthews, M. T., Local Rehabilitation Proposals for a Tennessee Rural County, Report 6, p. 607.

> proper supervision, offers the greatest possibilities for permanent rehabilitation in the county -- especially since farmers constitute the bulk of the relief population.(8)

About 59% of the land area of the county is in woodland. Until 1929 forests made a considerable contribution to farm income. It amounted to $61 per farm in 1929. At that time 144 or 2.7% of all gainful workers in the county were engaged in lumbering, in addition to the part-time farmer-lumbermen. After 1929 the demand for forest products decreased, forcing many mills to close. The timber stand has been cut so rapidly that there are only about 15,000 acres of old growth in the county according to C. T. Peterson of the State Forestry Division. This has thrown many lumbermen out of work, and depletion of the timber stand will probably prevent as extensive lumbering in the future as in the past.

Overton County has a coal field area of about 45 square miles in the southeastern corner. Some of this area has been worked, while the quality of some of the area is unknown. In 1929 the county received $548,000 for its mineral products, and for many years previous to that time mining was an important industry. However, after 1929 the demand for coal decreased, and the general coal strike in 1931 stopped all mining activities. Only a few small truck mines are now in operation. The company which operated the large mines is in receivership. The mines have been stripped of their machinery, and it is doubtful whether they will ever be reopened. The former miners do not have any work, and many of them now depend on relief for subsistence.(9)

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(8) Collins, W. E., and Matthews, M. T., op. cit., p. 8.
(9) Allred, C. E., et al, Rural Relief in Overton County, Report No. 4, pp. 8-9.

Population

In 1930 the population of Overton County was 18,079. Eighty per cent of the population was in the rural-farm group. Livingston, the county seat and largest town in the county, had a population of 1,526. There are a few other small towns with a population of 500 or less. The white race composes 99.2 per cent of the population of the county. In 1935, 44.7% of the farm operators in the county were full owners, 8.8% part owners, 10.8% share croppers and 35.7% other tenants. This gives a total of 46.5% farm tenancy.

Method of Procedure

Overton County was selected for this study at the request of the Land Use Planning Section of the Resettlement Administration, which cooperated. This cooperating agency is also making a land use study of the county.

In conducting the field survey the standard United States Department of Agriculture farm management survey schedules were used.

The survey was started in November 1936 and concluded the latter part of December. Records were taken for the 1936 crop year and inventories recorded for November 1, 1935, and November 1, 1936. Records were taken only from farm operators.(10) One hundred and thirty-seven records were taken, but only 131 are used in the study because six were incomplete.

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(10) An operator is any person owning farm work stock, or a tractor, or hires his farm power and who is actually engaged in supervision of or actual production of agricultural products. Farm records were enumerated by John E. Mason, State Land Planning Specialist, and E. L. K. Gruehn, Assistant Land Planning Specialist, both with the Resettlement Administration; D. C. Sturgis, graduate student in the Department of Agricultural Economics, and the writer.

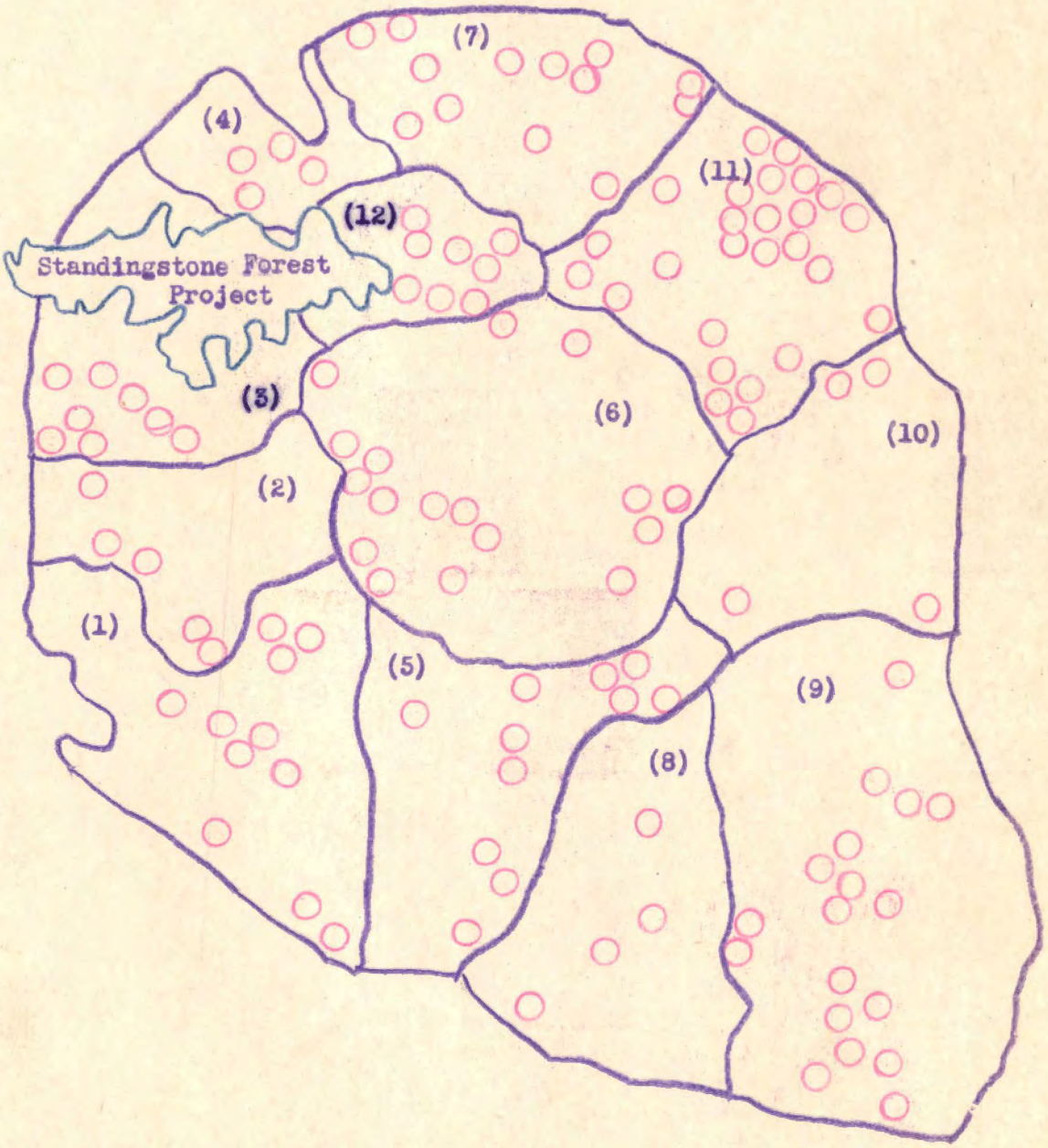


Figure 4. Location of farms by civil districts, 1936 farm management survey of Overton County

In recording the field schedules an attempt was made to get representative farms distributed over the entire county, in order to secure a fair sample of the agriculture of the county. When the farms are located on an outline map of the county they do not represent an even distribution, but show that most areas in the county are fairly well represented in the sample (Figure 4).

Reliability of Sample

To subject the sample to a test of reliability, several items taken from the 131 farm sample are compared with the same data from the 1935 agricultural census. The distribution of farm land in the sample as to soil type is compared with data from the 1908 soil survey of Overton County.

As only 131 farm records are available from the farm survey, this represents 3.9% of the 3,392 farms reported in the county in 1935. Thus the sample is small. The distribution of the farms in the sample compared with the distribution of farms in the 1935 census on a civil district basis is fairly well correlated, with the exception of two or three civil districts (Figure 5). In comparing the size of the farm in the sample with the average of the 1935 census data on a civil district basis, the size in the sample exceeded that of the census in every civil district except number ten. The average size of farm in the sample, for the county as a whole, exceeds that of the census data by about 50% (Figure 6). Hence, the size of the sample farms is considerably above average.

With the exception of civil district ten, there is a close correlation between the percentage of farm land that is tillable in the sample

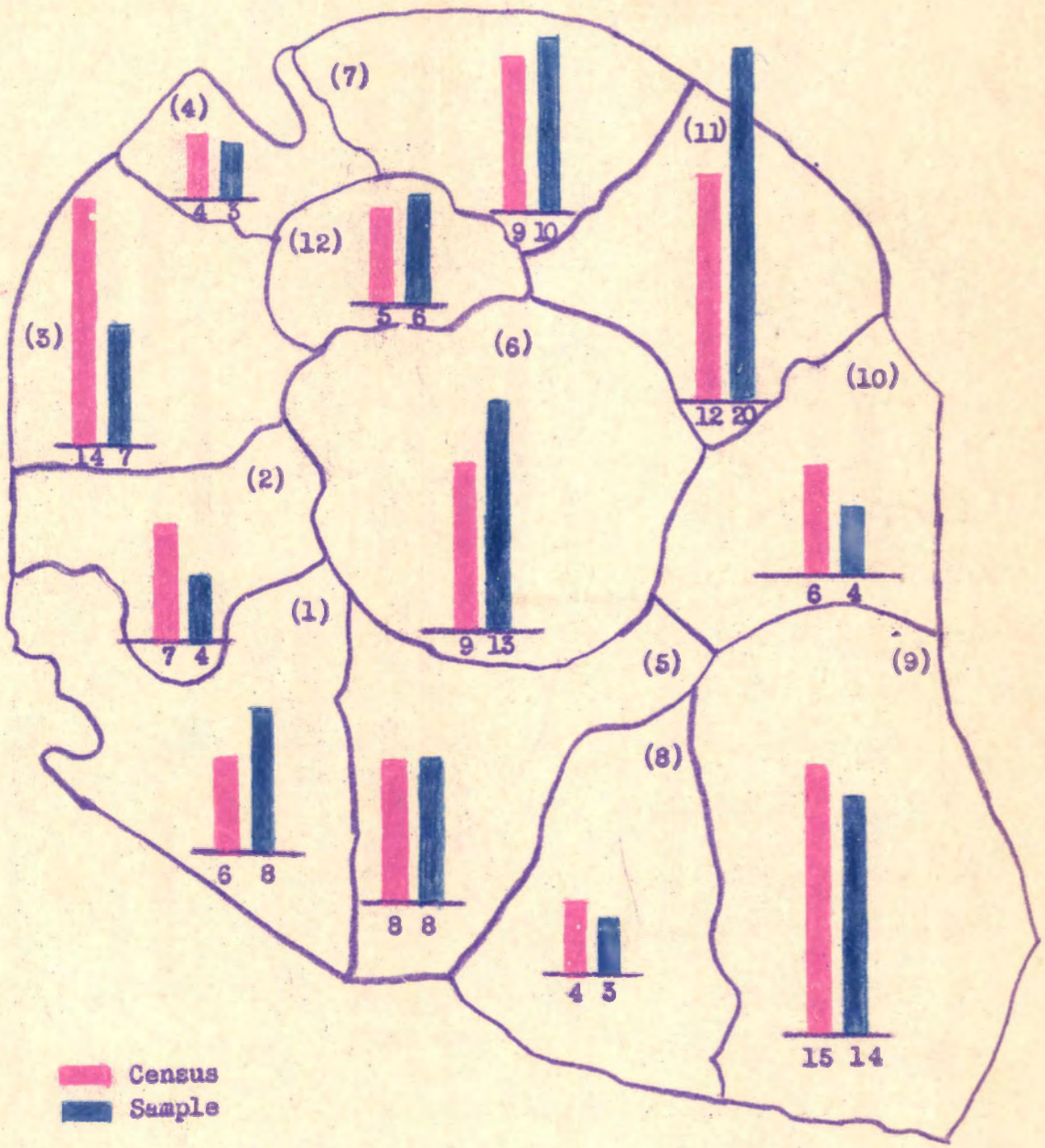


Figure 5. Comparison of percentage distribution of farms in sample and 1935 census data by civil districts, Overton County

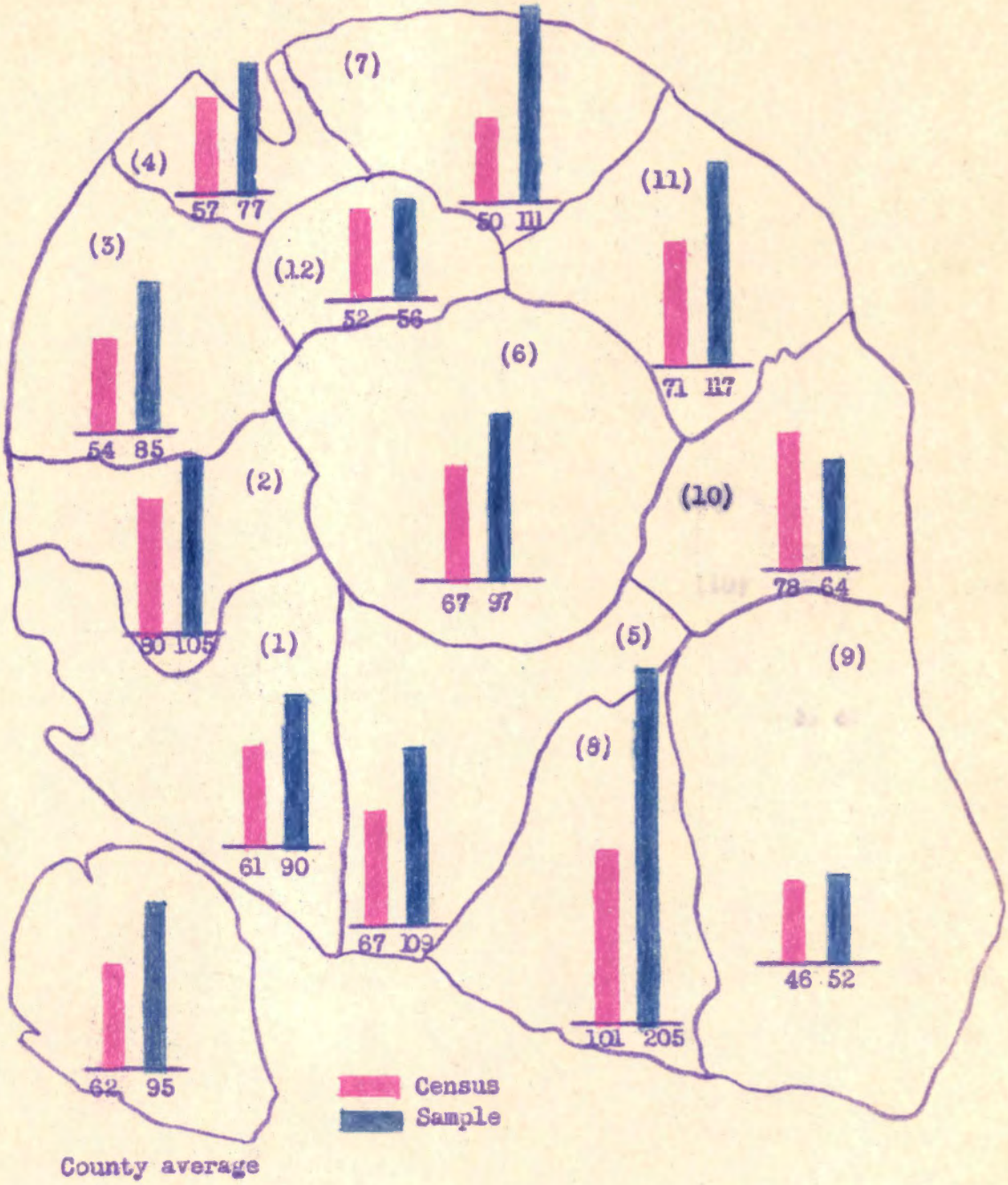


Figure 6. Comparison of size of farm in sample with 1935 census data by civil district and county average, Overton County

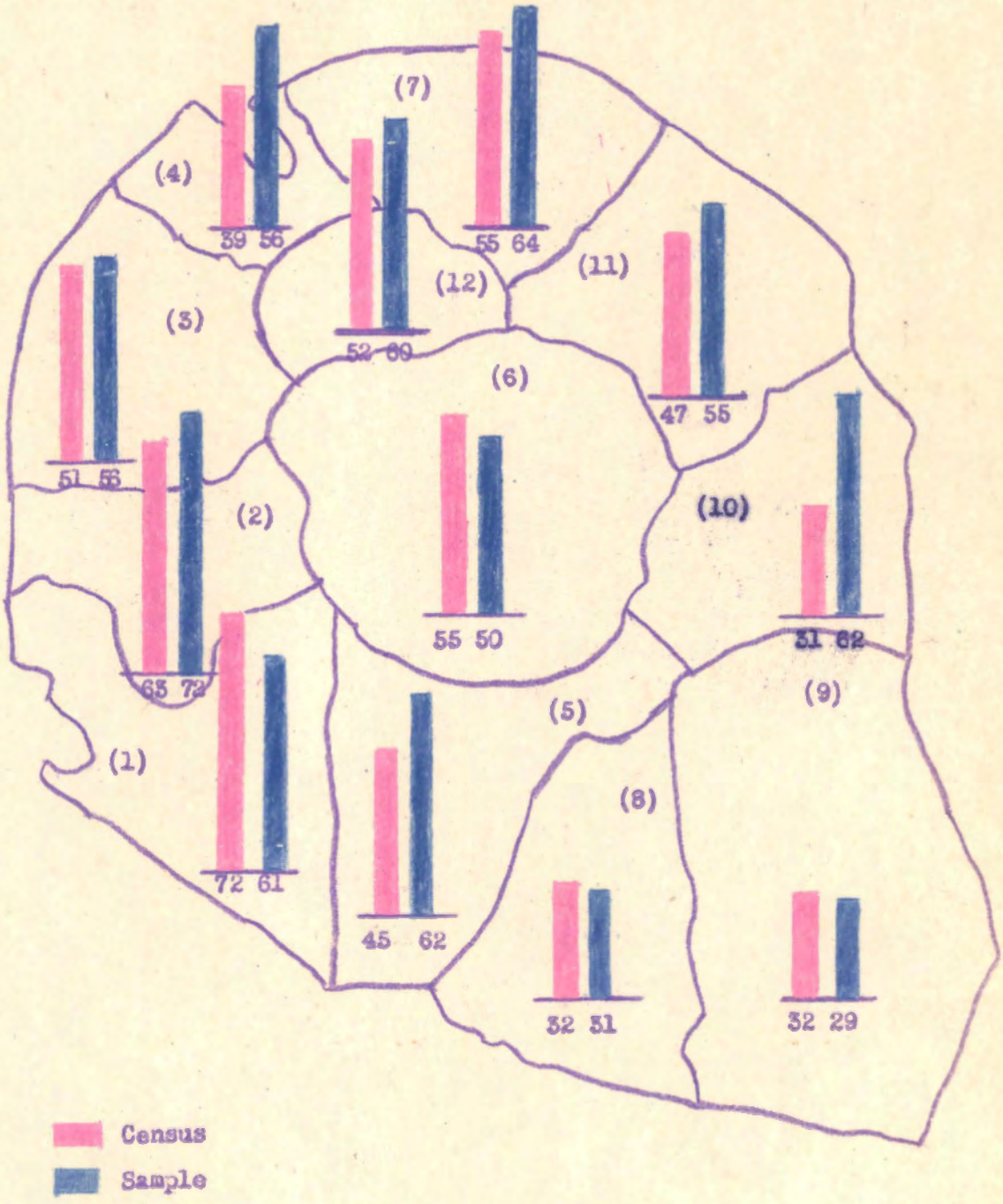


Figure 7. Comparison of percentage of farm land tillable in sample and 1935 census data by civil districts in Overton County

and in the 1935 census, on a civil district basis (Figure 7).

With reference to tenancy the sample varies considerably from the census data. The census classes croppers as farm operators, hence counts them in the tenancy column. In the sample survey croppers were not considered as operators and schedules were not taken from croppers. However, several of the schedules listed croppers as being on the farm. Therefore, to make the tenancy data of the sample and census report comparable, the nineteen croppers listed in connection with the farm schedules have been added to the twenty tenant operators to make a total of 39 tenants (Table V, Figure 8).

TABLE V. COMPARISON OF TENURE OF FARMS IN SAMPLE AND CENSUS REPORT FOR OVERTON COUNTY, 1935

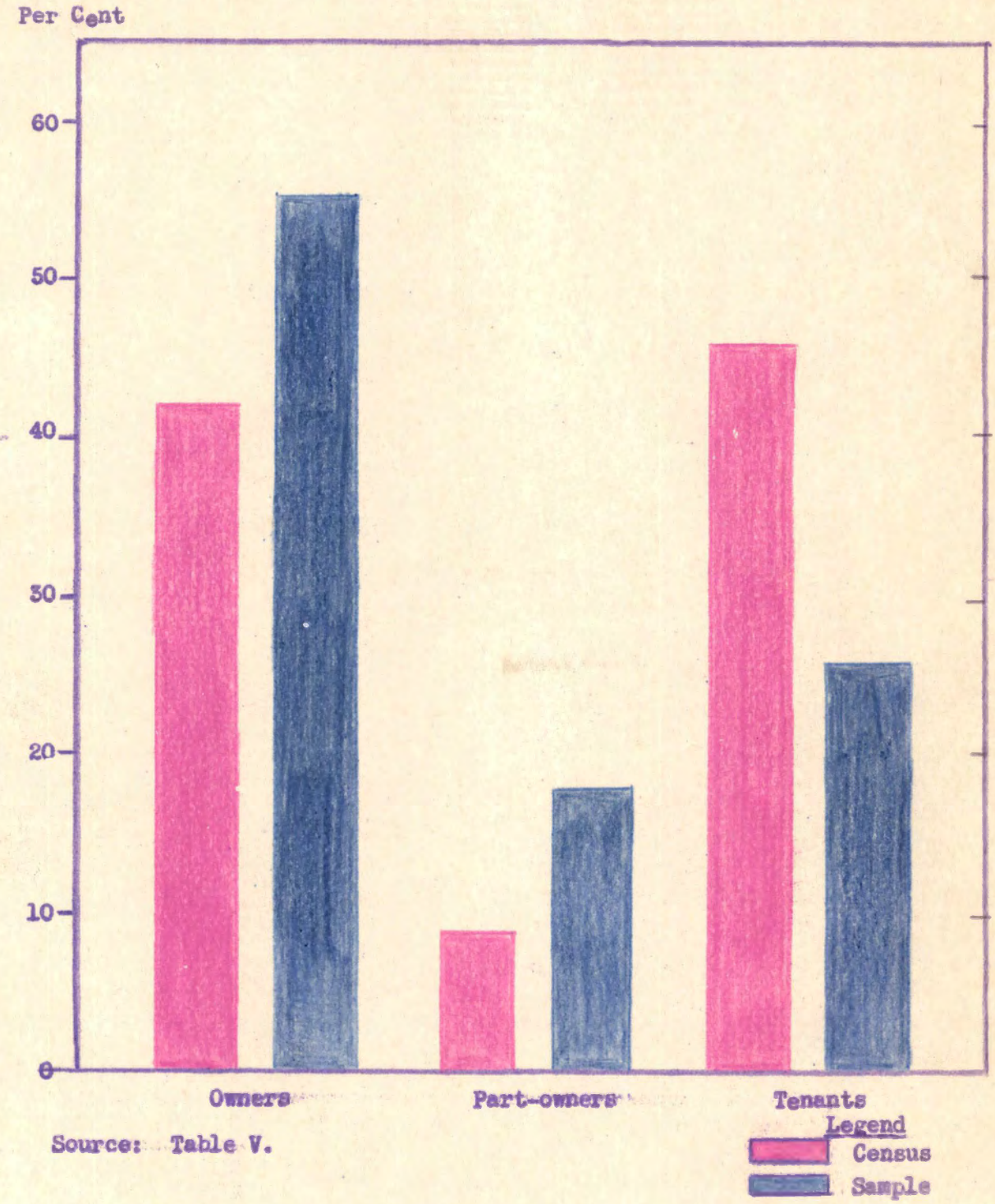
	Census data per cent	Sample per cent
Full owners	44.7	55.3
Part Owners	8.8	18.7
Tenants	46.5	26.0(a)

(a) Includes 19 croppers from whom schedules were not taken but who were reported in operator schedules.

Source: 1935 Census of Agriculture and Survey Records.

In comparison with the 1935 census data, the sample is high in the percentage of part-owner operators, is rather high in percentage of full-owner operators, and low in the percentage of tenants.

In comparing the distribution of farm land by soil types of the sample with the 1908 Soil Survey of Overton County several variations and difficulties occur. The Soil Survey data are based on the total land area of the county while the sample data covers only farm land. There are no



Source: Table V.

Figure 8. Comparison of tenure of farms in sample and 1935 census report, Overton County

available data to show the soil type distribution between farm and non-farm land. Therefore, a very general comparison is the best that can be made.

TABLE VI. COMPARISON OF PERCENTAGE DISTRIBUTION OF THE VARIOUS SOIL TYPES IN THE SAMPLE AND IN THE 1908 SOIL SURVEY, OVERTON COUNTY

Soil Type	1908 Soil Survey (Percentage)	1936 Sample Farm Survey (Percentage)
Clarksville silt loam	28.2	52.2
DeKalb stony loam	24.5	3.1
Clarksville stony loam	18.3	13.6
DeKalb silt loam	6.5	10.2
Decatur stony loam	6.3	-
DeKalb sandy loam	5.0	2.3
Rough stony land	4.7	-
Decatur loam	4.2	18.6
Meadow	1.7	-
Hagerstown stony loam	.5	-
Guthrie silt loam	.1	-
Total	100.0	100.0

Source: Ayrs and Hill, op. cit., p. 13, and 1936 Survey records.

There are eleven soil types listed in the Soil Survey only six of which are recorded as occurring in the sample. It may be noted, however, that the six recorded in the sample are the major ones in the Soil Survey, for they account for 86.7% of the total area of the county. In recording the Sample schedules several of the other minor soil types were listed in combination with the six types listed above, but in every case the entire farm is summarized under the apparently predominating type. Therefore, considerable area of minor types may be on the Sample farms and yet not appear in a summary analysis because minor combinations were dropped and

and the entire farm counted as belonging to the predominating soil type.

In comparison with the soil survey data, Clarksville Silt is extremely high in the sample for it accounts for 52% of the sample farm area. Decatur loam and DeKalb silt are also rather high in the sample when compared with the Soil Survey data. The rough and stony soils compose a low percentage of the sample.

The high percentage of silt and loam soils in the sample and the low percentage of rough and stony soils is likely due to the probability that most of the rough and stony soils of the 1908 Soil Survey occur in non-farm lands.

In the tests of reliability of the sample as outlined above, there are two cautions that should be remembered in studying the sample as representative of all farms in the county. First, the sample farms are about 50% larger than average. Second, the sample farms have a higher percentage of owner and part-owner operators, and hence a low percentage of tenant operators.

CHAPTER II

AGRICULTURAL DEVELOPMENT OF OVERTON COUNTY

Overton County was occupied by hunters as early as 1770, but they made no permanent settlements for several years. Hilham, the oldest town in the county, was settled in 1800.(1) Overton was formed from a part of Jackson County in 1806.(2) At that time Overton contained territory now comprised in the counties of Fentress and Pickett and parts of Clay, Putnam, Cumberland, Morgan, and Scott.(3)

Since the first settlement in the county the development of agriculture has been greatly hampered by inaccessibility. The early roads were rough and mountainous, making travel very difficult. In addition, all markets were at a great distance. Frequently supplies had to be brought from Baltimore on wagons. Surplus products were loaded on flat boats and floated down the Cumberland, Ohio, and Mississippi Rivers to New Orleans.(4)

With the advent of railroads the county was avoided because of the mountainous topography. At present there is only a spur line railroad

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(1) Ayrs, O. H., and Hill, D. L., Soil Survey of Overton County, Tennessee, p. 6.
(2) Foster, A. P., Counties of Tennessee, p. 76.
(3) Ayrs, op. cit., p. 6.
(4) Ibid., p. 8.

in the county. This branch line was constructed in the southeastern part of the county for the purpose of removing timber and coal, with which the county was originally well supplied.

Improved highways were developed rather slowly. While at present there are several hard surface roads in the county there are no widely traveled highways passing through the county.

These conditions, together with the fact that the nearest large city is one hundred miles distant, led to early adoption of a self-sufficing type of agricultural program. This type of farming was early emphasized by the production of (1) raw materials such as flax, hemp, wool, and cotton for making cloth; (2) substitutes for sugar, (3) home manufactured products, and (4) other crops used principally for home consumption.

The production of flax was at one time relatively important, amounting to nearly 15,000 pounds in 1850. Its production declined rapidly, and it had practically disappeared in 1890. The production of hemp was discontinued soon after the Civil War. Cotton was produced for home use and is still grown to a limited extent largely for local consumption. The production of wool was important and did not register a sharp decline until after 1900. Substitutes for sugar, consisting of maple sugar, maple syrup, and sorghum molasses were produced in relatively large quantities until after the Civil War. Much of the household and farming equipment was manufactured at home, its value amounting to $52,000 in 1870. In addition, the production of other crops was largely limited to that used by the family.

With the development of the timber and coal industries, which led to the construction of a branch railroad into the southeastern part of the county in 1901,[5] the agricultural program changed from a strictly self-

(5) Ibid., p. 6.

sufficing type to a part-time self-sufficing basis in a large part of the county.

In its early development Overton County compared favorably with other areas of the state. Despite its physical inaccessibility, it experienced a relatively satisfactory degree of progress during the self-sufficing stage in agricultural development. But, with the advent of the railroads, the development of highways and general transportation, and with the growth and accessibility of markets in other areas, the agriculture of these areas had a decided advantage over that of Overton County.

Land Area

Since Overton County was formed in 1806, it has been greatly reduced in size. It originally contained land now comprised in the counties of Fentress and Pickett, and parts of Clay, Putnam, Cumberland, Morgan, and Scott.(6) Since 1850, the earliest census data cited in this report, the county has contributed 69,120 acres to Clay County in 1870 and 76,800 acres to Pickett County in 1879.(7) Hence, the census figures, as given in the census reports through 1880, would be for an area much larger than the present county. The data as given in the following tables has been reduced through 1880 in the same proportion that the improved acreage of the county has been reduced in the formation of other counties. As a result, the early census data herein cited should be approximate for and comparable with the census data since 1880 which is given for 285,440 acres, the present

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(6) Ibid., p. 6.
(7) Foster, op. cit., pp. 50, 78.

area of the county.

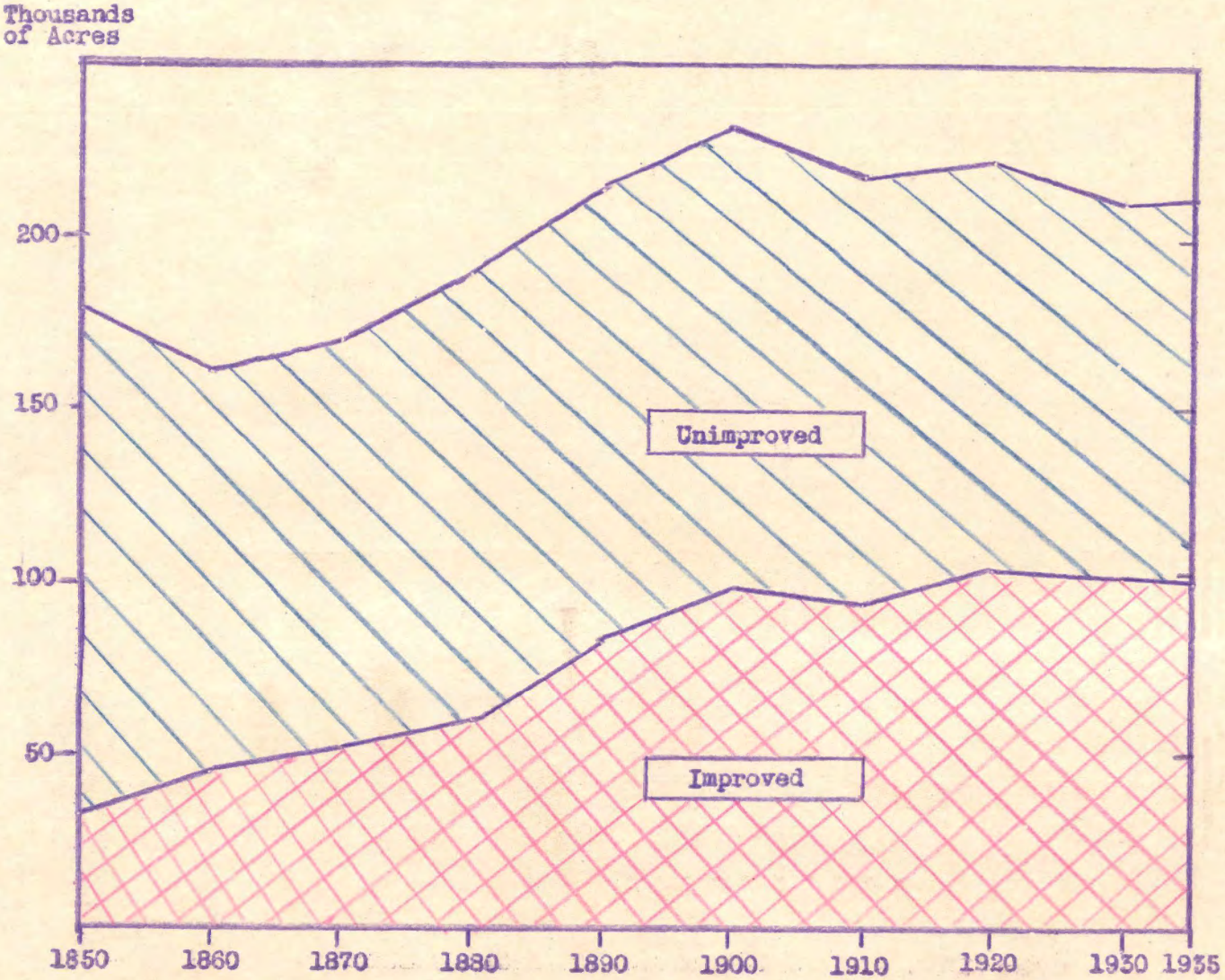
As is substantiated by data in Table VII, the acreage in farm land only increased from 180,414 acres in 1850 to 211,675 acres in 1935 or an

TABLE VII. LAND AREA AND TREND IN FARM AREA, IMPROVED AND UNIMPROVED LAND IN OVERTON COUNTY, 1850-1935 (a) (b)

Census Period	Total Area Acres	Farm Area Acres	Improved Acres	Unimproved Acres	% of Total Area That is in Farms	% Total Farm Land Improved
1850	285,440	180,414	35,600	144,814	63.3	19.7
1860	"	163,962	46,711	117,251	56.8	28.4
1870	"	170,352	52,840	118,512	59.0	31.0
1880	"	190,000	60,320	129,680	66.6	31.7
1890	"	213,829	81,547	132,282	75.0	38.1
1900	"	235,615	99,419	136,201	82.0	42.2
1910	"	214,801	95,321	129,478	75.0	44.3
1920	"	218,782	104,297	114,485	76.0	47.7
1930	"	208,924	100,668	108,256	73.2	48.1
1935	"	211,675	100,272	111,403	74.2	47.3

(a) Source: Unless otherwise stated, data for all tables in this series taken from U. S. Census of Agriculture and An Economic Analysis of Farming in Overton County, by C. E. Allred and S. W. Atkins.
(b) The data in these tables are based on the present area of the county.

increase of about 17%. During the same time improved farm land acreage increased from 35,600 acres to 100,272 acres which is an increase of nearly 200%. It may be noted that improved acreage had a rapid increase from 1850 to 1900 since which time it has been fluctuating around 100,000 acres (Figure 9). Thus, while the farm area has had only a slight increase the improved land area had a very large increase especially before 1900. The cessation of the rapid increase in improved land about 1900 may be due to more or less exhaustion of the lands better suited to improvement and



Source: Table VII.

Figure 9. Trend in improved and unimproved land in farms, Overton County, 1850 - 1935

cultivation. The unimproved farm land had a sudden fall from 144,814 acres in 1850 to 117,251 acres in 1860. Since then the unimproved farm acreage has not changed materially, and in 1935 there were 111,403 acres reported. The percentage of the total area that is in farms has followed the trend of the total farm area, and thereby has increased from 63.3% in 1850 to 74.2% in 1935. The per cent of total farm land that is improved has had a decided increase, climbing from 19.7% in 1850 to 47.3% in 1935.

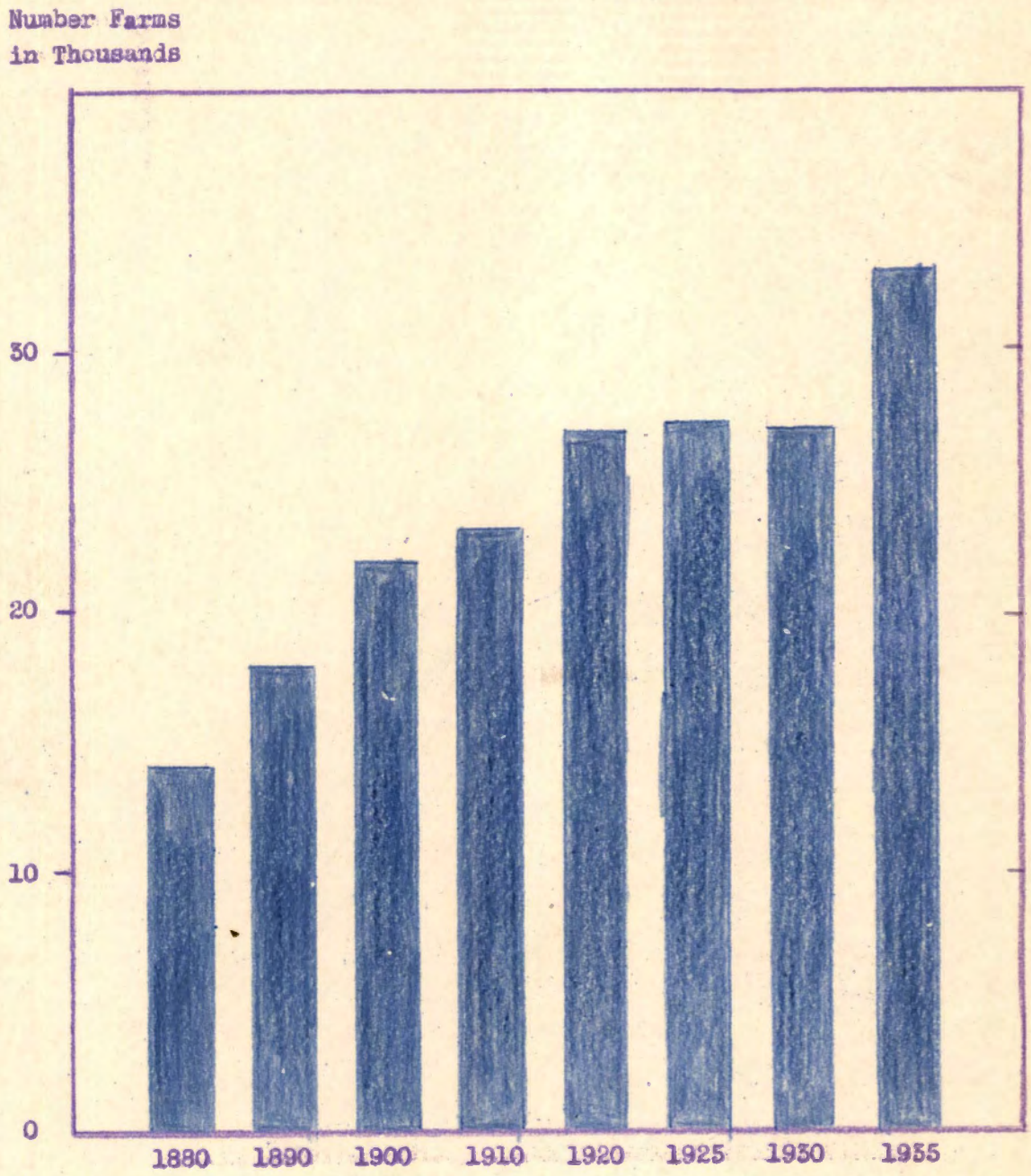
Number and Size of Farms

With some increase in farm land and a decided increase in improved land, one might expect an increase in the number of farms. As may be

TABLE VIII. TREND IN NUMBER AND SIZE OF FARMS, OVERTON COUNTY, 1880-1935

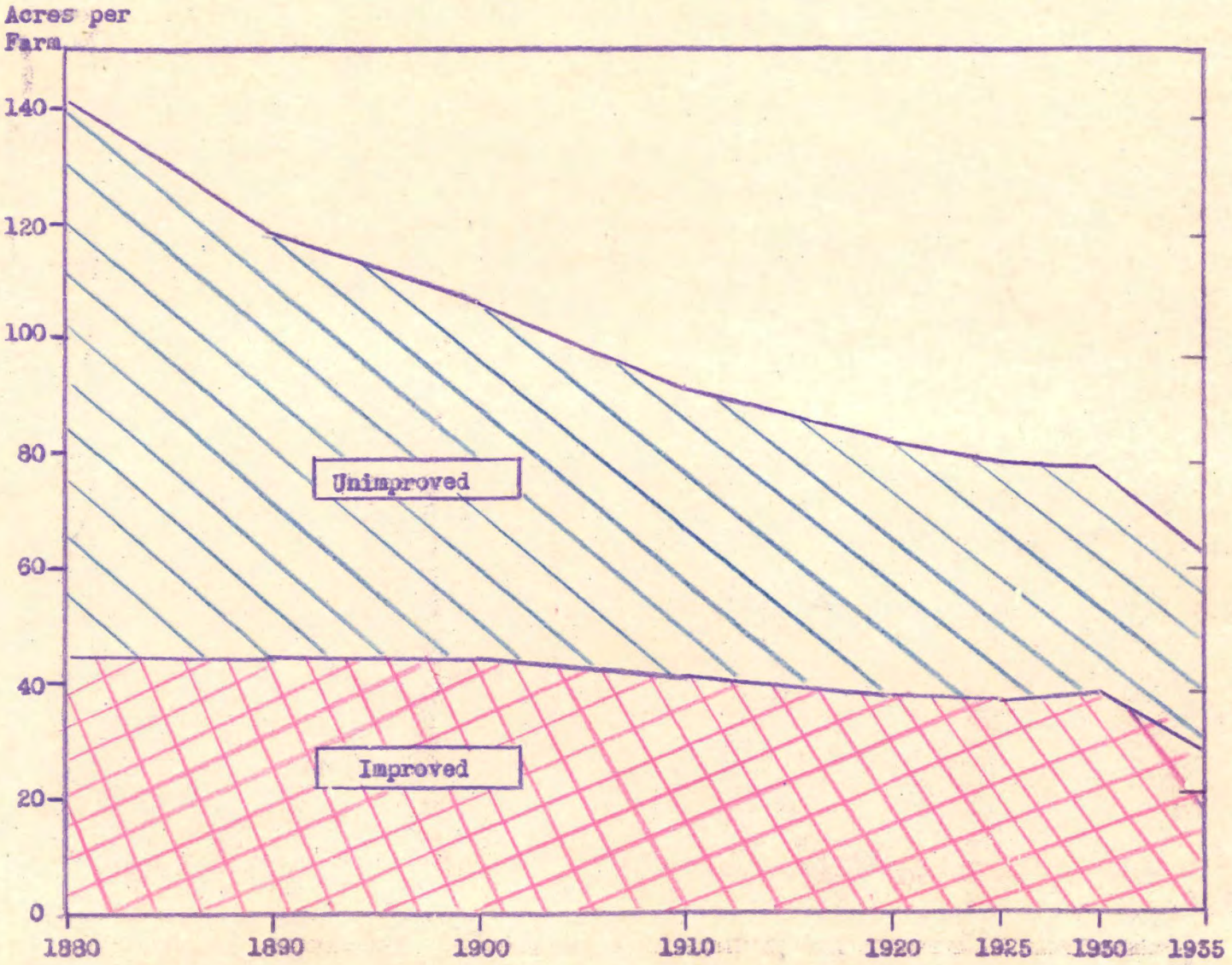
Census Period	Number of Farms	Average Total Acreage	Average Improved Acreage
1880	1352	140.5	44.6
1890	1830	117.0	44.0
1900	2214	106.0	44.0
1910	2371	90.6	40.0
1920	2714	80.6	38.0
1925	2778	77.9	36.0
1930	2724	76.7	36.9
1935	3392	62.4	29.6

seen in Table VIII the number increased from 1352 in 1880 to 3,392 in 1935 which represents an increase of 2040 farms or about 151% increase (Figure 10). The average size of farm has decreased from 140.5 acres to 62.4 or about 56%, while the improved acres per farm has decreased about one-third, dropping from 44.6 to 29.6 acres per farm (Figure 11). There appears to be a rather high degree of inverse correlation between the number and average



Source: Table VIII.

Figure 10. Trend in number farms, Overton County, 1880-1935



Source: Table VIII.

Figure 11. Trend in number of improved and unimproved acres per farm, Overton County, 1880 - 1935

size of farm. The improved acreage per farm does not decrease as rapidly as the size of farm. Therefore, as the number of farms increase and the size of farm decreases, a larger portion of land which is probably less suitable for agricultural purposes is cleared for cultivation and pasturage.

Value of Farms and Farm Machinery

The value of farm real estate and machinery has had a tremendous increase since 1850. But this increase has been accompanied by considerable fluctuations (Table IX). The value of farm real estate increased from $389,700 in 1850 to $996,111 in 1860 representing an increase of about

TABLE IX. TREND IN VALUE OF FARM REAL ESTATE AND MACHINERY IN OVERTON COUNTY, 1850-1935

Census Period	Value of Real Estate	Machinery Value	Value of Machinery per 100 Acres Improved Land	Value of Machinery per 100 Crop Acres
1850(a)	$389,700	$28,740	$ 47	No data
1860(a)	996,111	32,086	44	" "
1870	800,000	38,750	46	" "
1880	653,380	37,000	46	" "
1890	1,238,910	51,280	63	102
1900	1,277,000	82,640	84	155
1910	2,570,711	111,805	118	221
1920	4,265,499	256,503	240	368
1925	3,824,918	203,747	200	363
1930	3,750,831	217,811	216	399
1935	2,807,944	No data	-	-

(a) Includes value of slaves.

150%. Due to effects of the Civil War, the value then declined to $653,380 in 1880. After this the value increased with each census period reaching a

maximum of $4,265,499 in 1920. Since 1920 the value has declined with each census period, and by 1935 had dropped to $2,807,944, a decrease of over one-third in comparison with the 1920 valuation.

The value of machinery has not fluctuated as much as real estate. Machinery value increased from $28,740 in 1850 to $217,811 in 1930. A rapid rise came in machinery value following 1880. The value increased from $37,000 in 1880 to $256,503 in 1920 which was the peak value. The only substantial decrease in value of machinery during the entire 85-year period came between 1920 and 1925 when the value fell from $256,503 to $203,747.

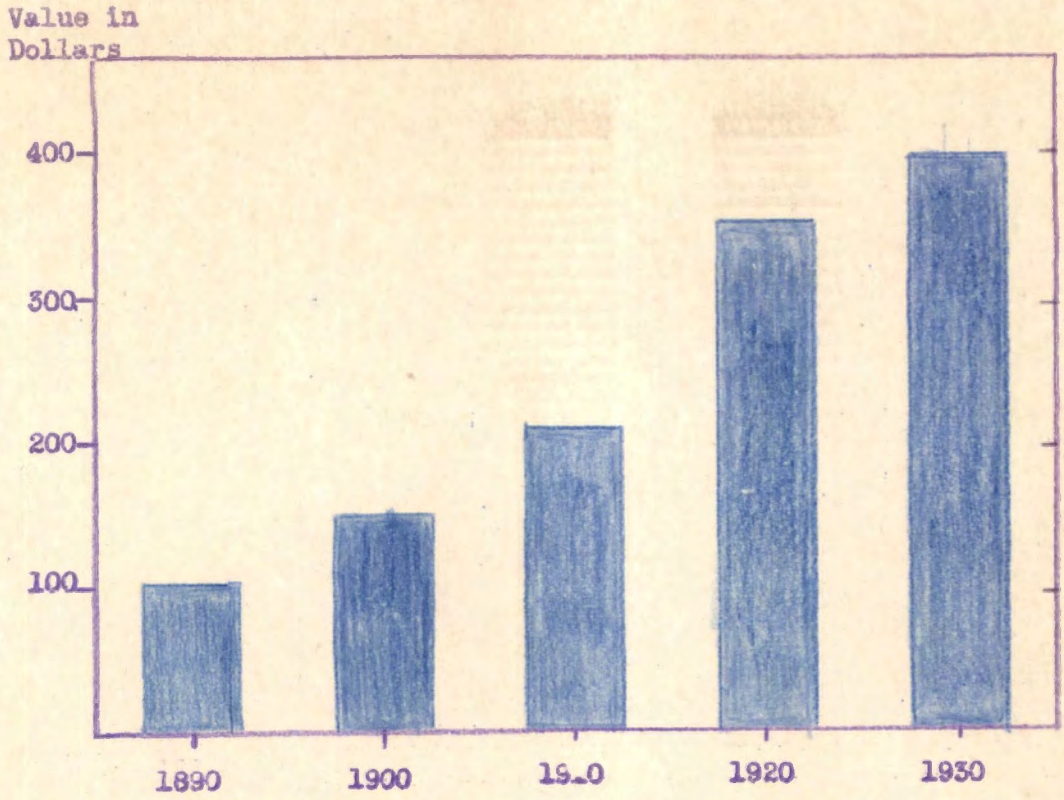
The value of machinery per 100 acres of improved land appears to be rather closely correlated with the total value of machinery, increasing from $47 in 1850 to $216 in 1930, after reaching a peak of $240 in 1920. The value of machinery per 100 acres in crops increased from $102 in 1890 to $399 in 1930 (Figure 12).

Livestock and Livestock Products

Since Overton County is situated a long distance from market, and transportation facilities are inadequate, the problem of reducing agricultural products to a concentrated form for shipment is one of great importance. To meet this challenge farmers largely ship livestock as a means of marketing the products of their farms. Table X shows the trend in number of animal units[8] in

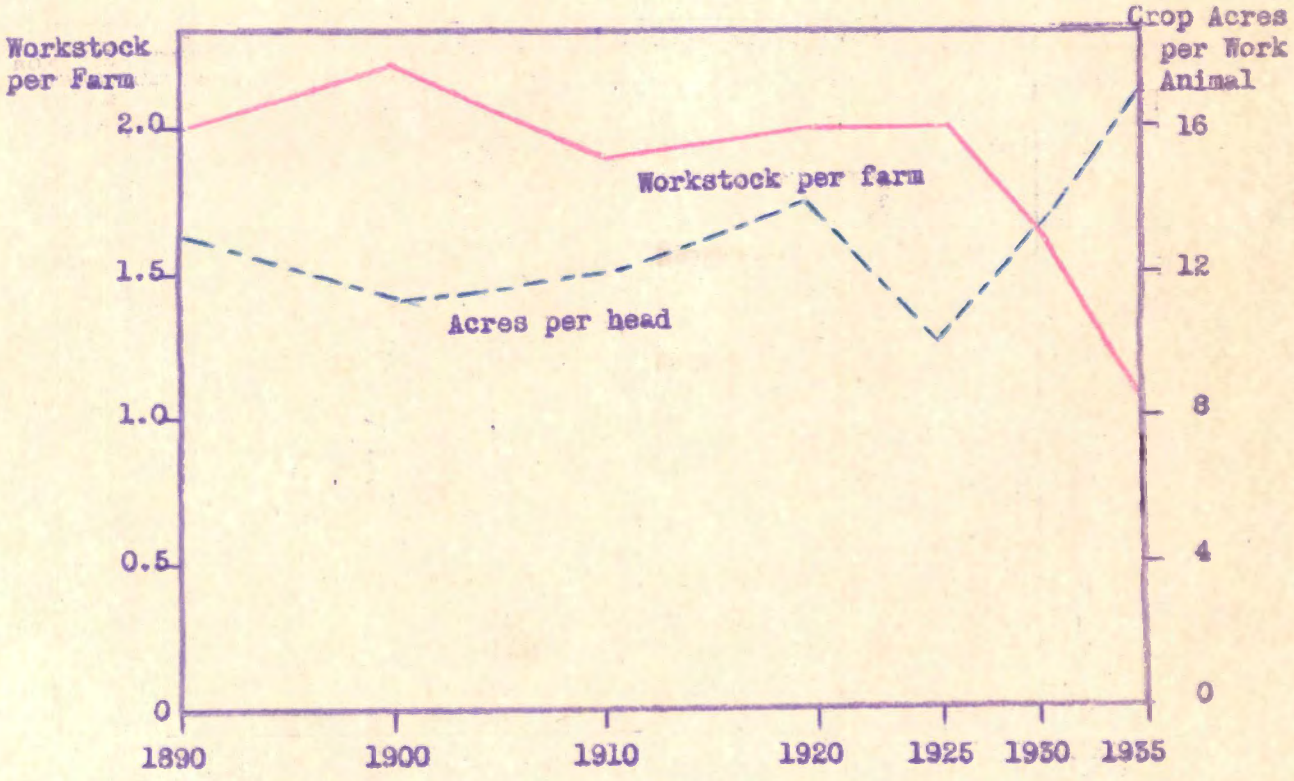
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(8) An animal unit is equal to either 1 mature work animal, 2 colts, 1 mature cow, 2 heifers, 4 calves, 7 ewes, 14 lambs, 5 hogs, 10 pigs or 100 chickens. Early census reports did not separate mature from young animals and hence animal units in this chapter are all figured on a mature animal basis.



Source: Table IX.

Figure 12. Trend in value of machinery per 100 crop acres, Overton County, 1890-1930



Source: Table XI.

Figure 13. Trend in number of workstock per farm and crop acres per work animal, Overton County, 1890-1955

the county from 1850 to 1935.

The total number of animal units reported by the Bureau of the Census for Overton County for the past 85 years has been characterized by fluctuations rather than a definite trend in either direction. There were 17,347 animal units reported in 1850, but this number was reduced considerably at each of the next three census periods. In 1890 there were 20,581 animal units reported, which was the highest figure during the entire 85 year period. This number dropped to nearly 15,000 in 1900 and 1910. The only other times the number of units has approached 20,000 were in 1920 and 1925. The total number of units fell considerably in 1930 when it dropped to 12,537, which was the lowest figure reported during the 85 year period. A substantial increase occurred in 1935 when 15,940 units were reported.

Work Stock. As the number of farms, and total improved acreage, increased considerably after 1850, one might expect an increase in the number of work stock. The number of horses experienced a severe decline after 1900, dropping from 2725 to only 786 in 1935 (Table X). Until 1925 the number of mules underwent a sharp increase, in contrast with the declining number of horses. The number of mules increased from 385 in 1850 to 2911 in 1935. It may be noted that the rapid increase in mules occurred between 1880 and 1925, increasing from 615 to 4423, or nearly 500%. However, the number has had a sharp decrease since 1925.

From data in Table X it appears that oxen were quite important work animals in 1860 and 1870 when there were over 1000 head, representing

about one-third of all work animals.

TABLE X. TREND IN NUMBER AND RELATIVE IMPORTANCE OF WORK STOCK COMPARED WITH TOTAL ANIMAL UNITS IN OVERTON COUNTY, 1850-1935

Census Period	Number of Horses	Number of Mules	Number of Oxen	Total Work Stock	% of Total Animal Units	Total Animal Units (000)
1850	2043	385	789	3217	18.5	17.3
1860	1902	455	1121	3478	26.4	13.2
1870	2197	276	1047	3520	25.0	14.1
1880	2162	615	698	3475	18.1	13.9
1890	2423	1270	824	4517	23.7	20.6
1900	2725	2152	None rptd.	4877	27.7	17.8
1910	1910	2674	" "	4584	29.9	15.3
1920	1565	3867	" "	5432	27.3	19.8
1925	1192	4423	" "	5615	29.6	19.0
1930(a)	793	3504	" "	4297	34.2	12.5
1935	786	2911	" "	3697	23.2	15.9

(a) Number on farms April 1, 1930, born before January 1, 1930.

The total number of work stock had a definite upward trend until 1925, increasing from 3217 in 1850 to 5615 in 1925. After that a severe drop occurred, falling from 5615 in 1925 to 3697 in 1935. This represents a decrease of over one-third in a ten-year period, and places the number of work animals down nearly as low as it was in 1850.

The percentage that workstock are of all animal units fluctuates throughout the period, rather than having a definite trend. There appears to be an inverse correlation between the total number of animal units and the percentage represented as work stock. In 1930, the year lowest in total number of animal units, work stock represented 34.2% of all animal units, which was the highest percentage during the 85-year period.

There was no substantial change in the number of work stock per farm until 1925 when it dropped from two head per farm to 1.1 head in 1935 (Table XI, Figure 13).

TABLE XI. TREND IN NUMBER OF WORK STOCK PER FARM AND CROP ACRES PER WORK ANIMAL IN OVERTON COUNTY, 1890-1935

Census Period	Number of Work Stock per Farm	Crop Acres per Work Animal
1890	2.0	13.7
1900	2.2	11.1
1910	1.9	12.0
1920	2.0	14.3
1925	2.0	10.5
1930	1.6	13.0
1935	1.1	16.6

Efficiency in the use of horse labor, as measured by the number of crop acres per head of work stock, has fluctuated considerably with no consistent trend. But it increased from 10.5 acres per head in 1924, the lowest year, to 16.6 acres per head in 1934, the highest figure for the 45 year period.

Since the number of work stock has been decreasing so rapidly during the past ten years, it is interesting to note what the farmers are doing in the way of raising colts to maintain the present supply, or to check the rapid decline. The number of both horse and mule colts raised in Overton County in 1910 exceeded the number needed for replacement by a considerable margin (Table XII). There were 187 mule colts raised in 1909, and this number increased to 299 in 1919, both numbers being larger than that needed for replacement. As a result, the number of mules continued

to increase through 1924. However, beginning with 1924 the number of colts raised declined sharply, so that only 37 were raised in 1934 when

TABLE XII. TREND IN NUMBER OF COLTS RAISED AND NUMBER NEEDED FOR REPLACEMENT OF SUPPLY IN OVERTON COUNTY COMPARED WITH THE AVERAGE OF ALL COUNTIES IN TENNESSEE, 1910 - 1935

Census Period	County Average in Tennessee				Overton County			
	Mule Colts 1 Year Old and Under		Horse Colts 1 Year Old and Under		Mule Colts 1 Year Old and Under		Horse Colts 1 Year Old and Under	
	Number Raised	No. Needed for Replacement (a)	Number Raised	No. Needed for Replacement (a)	Number Raised	No. Needed for Replacement (a)	Number Raised	No. Needed for Replacement (a)
1910	279	154	344	231	187	141	155	119
1920	350	204	172	220	299	212	61	103
1925	114	204	77	168	100	243	23	78
1930	59	183	43	120	29	193	13	52
1935	55	176	56	97	37	160	27	52

(a) Number needed for replacement based on estimate of Wayne Dinsmore in Horse and Mule Association of America, Leaflet No. 211. He states that 66 yearling horses or 55 yearling mules per 1000 head are needed to maintain a given supply. This considered the average life of a horse to be 15 years and average life of a mule 18 years.

160 were needed to maintain the supply at that time, or less than 1/4 the number needed for replacement. This reduction was accompanied by a sharp decline in number of work stock. The number of horse colts raised has also declined very rapidly, dropping from 155 in 1909 to 27 in 1934, which is only about one-half the number needed for replacement. The number of both horse and mule colts raised in Tennessee as a whole has also declined very rapidly, but is not so far from maintaining the supply as is Overton County.

There were only 64 colts of all kinds raised in Overton County in 1934 when 212 were needed to maintain the supply at that time.

Cattle. The trend in the number of milk cows has been distinctly upward, increasing from 2,172 in 1850 to 4,464 in 1935 (Table XIII). During the 85-year period a few small declines occurred, but the only severe drop came between 1920 and 1925 when the number fell from 4,168 to 2,614. The percentage that milk cows are of all animal units has had a

TABLE XIII. TREND IN NUMBER OF MILK COWS AND OTHER CATTLE AND PERCENTAGE EACH IS OF ALL LIVESTOCK UNITS IN OVERTON COUNTY, 1850 - 1935

Census Period	Milk Cows			Other Cattle	
	Total Number	% of Total Livestock Units	Number of Persons per Cow	Total Number	% of Total Livestock Units
1850	2172	12.5	No data	4512	26.0
1860	1830	14.0	" "	3820	27.0
1870	2127	15.0	3.5	3132	22.0
1880	2294	15.9	4.0	3742	25.9
1890	3414	16.6	3.5	6167	34.0
1900	3026	17.0	3.6	4348(a)	24.5
1910	3293	21.5	4.0	3332(a)	21.7
1920	4168	21.0	4.2	5192(a)	26.2
1925	2614	23.5	4.0	6741(a)	25.7
1930	3086(b)	26.4	5.5	2711(b)	19.8
1935	4464(c)	32.6	4.2 (d)	4807	25.5

(a) Includes beef cows milked.
(b) Number on farms April 1, 1930, born before January 1, 1930.
(c) All cows milked.
(d) Population used is farm population for 1935 plus non-farm population for 1930.

persistent increase throughout the period. In 1850 milk cows represented only 12.5% or one-eighth of all livestock units, while in 1935 they represented 32.6% or nearly one-third of all livestock units. The number of

of persons per cow has fluctuated around four, with the only substantial deviation occurring in 1930 when there were 5.5 persons per cow.

The number of other cattle for each census period has been characterized by violent fluctuations rather than a definite trend. It is interesting to note that the two extreme numbers came only five years apart. There were 6,741 head in 1925 and only 2,711 in 1930. A direct correlation is found between the number of "other cattle" and the total number of animal units. In 1890, 1920, and 1925 when the total units of livestock ran high there were also large numbers of "other cattle". The percentage that "other cattle" are of the total animal units appears to be directly correlated with total animal units and with the number of head of "other cattle". The number of "other cattle" fluctuates more, and has a greater tendency to vary with the total number of animal units probably because they are least essential in the maintenance of the family in a self-sufficing agricultural community.

Sheep and Hogs. The recent trend in number of sheep, as cited in Table XIV, has been definitely downward. The number increased from 8,132 in 1850 to 11,011 in 1870, then started a decline that dropped to only 1,664 head in 1935. The percentage that sheep are of all animal units has also declined since 1850, dropping from 7.0% at that time to only 1.5% in 1935. Sheep have not represented as much as 3% of all units since 1910.

The number of hogs had a severe drop from 31,350 in 1850 to 15,765 in 1860, then varied between 12,000 and 19,000 until it fell to 4,845 in 1930 (Table XIV). However, this number increased to 7,137 in 1935. The percentage that hogs are of all livestock units has suffered a severe

decrease, and has had a definitely declining trend. It dropped from 36% in 1850 to 7.7% in 1930, with a slight rise in 1935.

TABLE XIV. TREND IN NUMBER AND RELATIVE IMPORTANCE OF SHEEP AND HOGS IN OVERTON COUNTY, 1850-1935

Census Period	Sheep		Hogs		
	Total Number	% of Total Livestock Units	Total Number	Number per Farm	% of Total Livestock Units
1850	8,132	7.0	31,350	No data	36.0
1860	7,532	8.4	15,765	" "	24.0
1870	11,011	11.5	18,550	" "	26.5
1880	7,497(a)	7.4	17,000	12.6	23.6
1890	9,636(a)	6.7	18,309	10.0	17.8
1900	8,912	7.2	18,806	8.5	21.3
1910	5,689	5.5	13,695	5.7	17.6
1920	3,835	2.9	15,795	5.8	15.8
1925	1,716	1.5	12,496	4.5	13.0
1930	2,515(b)	2.9	4,845(c)	1.8	7.7
1935	1,864	1.5	7,137	2.1	9.0

(a) Excludes spring lambs.
(b) Number on farms April 1, 1930.
(c) Number on farms April 1, 1930, born before January 1, 1930.

Poultry. The number of chickens exceeded 80,000 only one time preceding 1920 (Table XV). Beginning with 1920 the number has not fallen below 105,000 in any period. While the number at the past few census periods does not equal the 140,401 reported in 1880, there is a consistently much higher number than was reported for other early periods. Chickens have probably registered a substantial increase in importance. The percentage that chickens are of all animal units increased from 3.8% in 1880 to 8.2% in 1935.

The number of dozens of eggs produced has had an upward trend, increasing from 86,376 in 1879 to 357,760 dozen in 1934 (Table XV). Produc-

tion reached a peak in 1929 when 580,667 dozen were produced. In all but three census periods the eggs from other poultry were included with chicken

TABLE XV. TREND IN NUMBER OF CHICKENS, OTHER POULTRY, AND EGGS PRODUCED IN OVERTON COUNTY, 1880-1935

Census Period	Chickens(a)				Other Poultry
	Total Number	Number per Farm	% of Total Livestock Units	Dozen Eggs Produced	Total Number
1880	51,978(b)	38	3.5	86,376	--
1890	140,401(c)	77	6.8	182,537	--
1900	41,800	18	2.5	235,270	--
1910	56,200	24	3.6	241,269	--
1920	124,500	46	6.6	415,957(d)	6,400
1925	126,600	46	6.6	518,330	--
1930	105,382(e)	39	8.8	550,667(d)	2,796
1935	129,892(f)	38	8.2	357,760(d)	222

(a) Other poultry included every year except 1920, 1930, and 1935.
(b) Exclusive of spring hatching.
(d) Probably includes chickens raised from January 1 to June 1.
(d) Hen eggs.
(e) Over 3 months old April 1st.
(f) Over 3 months old January 1st.

eggs, so in those cases the number of other poultry is reported with the number of chickens. The number of other poultry has decreased from 6,400 in 1920 to 222 in 1935 (Table XV). The number of chickens per farm has fluctuated considerably, with no definite trend.

Efficiency in Production of Livestock Products. The number of pounds of wool produced per sheep increased from 1.7 pounds in 1850 to 3.3 pounds in 1935 (Table XVI).

The number of eggs produced per hen, and the amount of milk produced per cow have both been characterized by fluctuations rather than by a

definite trend. It may be noted, however, that the production of both are rather low (Table XVI).

TABLE XVI. TREND IN PRODUCTION PER SHEEP, HEN, AND COW IN OVERTON COUNTY, 1850-1935

Census Period	Pounds Wool per Sheep	Dozen Eggs per Hen(a)	Gallons Milk per Cow
1850	1.7	No data	No data
1860	1.5	" "	" "
1870	1.5	" "	" "
1880	2.0	3.5	" "
1890	2.2	1.5	280
1900	3.1	5.6	355
1910	--	4.5	245
1920	2.7	3.3	244
1925	2.9	2.5	318
1930	3.5	5.2	348
1935	3.3	2.8	307

(a) In studying these figures it should be remembered that the Census was taken at different times of the year and that the number of chickens on the farms at that time was used in this calculation.

Dairy Products. Milk production has been characterized by fluctuations. The number of pounds of butter made has had a definitely increasing trend, increasing from 104,885 pounds in 1849 to 353,437 pounds in 1934. The number of pounds of cheese made has decreased from 1,435 in 1849 to 467 in 1919, the last data available.

Practically no milk was sold before 1919 (Table XVII). The amount of butter sold increased from 3,623 pounds in 1899 to 9,362 pounds in 1929. Also, 1929 is the only year in which any considerable amount of cream or butterfat was sold. Therefore, it appears that practically all dairy products are used at home. This is especially true of the periods preceding 1919.

TABLE XVII. TREND IN PRODUCTION AND SALE OF DAIRY PRODUCTS IN OVERTON COUNTY, 1850-1935

Census Period	Milk		Butter		Cheese	Cream	Butterfat
	Gals. Produced	Gals. Sold	Lbs. Made	Lbs. Sold	Lbs. Made	Gals. Sold	Lbs. Sold
1850	No data	No data	104,886	No data	1435	No data	No data
1860	" "	" "	87,071	" "	1581	" "	" "
1870	" "	10	121,582	" "	455	" "	" "
1880	" "	66	171,248	" "	623	" "	" "
1890	943,601	--	247,672	" "	743	" "	" "
1900	1,314,336	4,114	254,086	3,623	No data	" "	" "
1910	977,304	6,374	264,231	8,724	" "	" "	" "
1920	1,079,933	21,976	296,293	9,236	467	43	549
1925	1,253,238	7,951	281,044	No data	No data	80	No data
1930	1,114,522	27,829	284,016	9,362	" "	709	10,977
1935	1,371,503	No data	353,437	No data	" "	No data	No data

Bees. The number of hives of bees, and the production of honey has fluctuated considerably. The peak in honey production was reached in 1919 when 49,909 pounds were reported (Table XVIII). This high production was

TABLE XVIII. TREND IN BEE PRODUCTION IN OVERTON COUNTY, 1850-1935

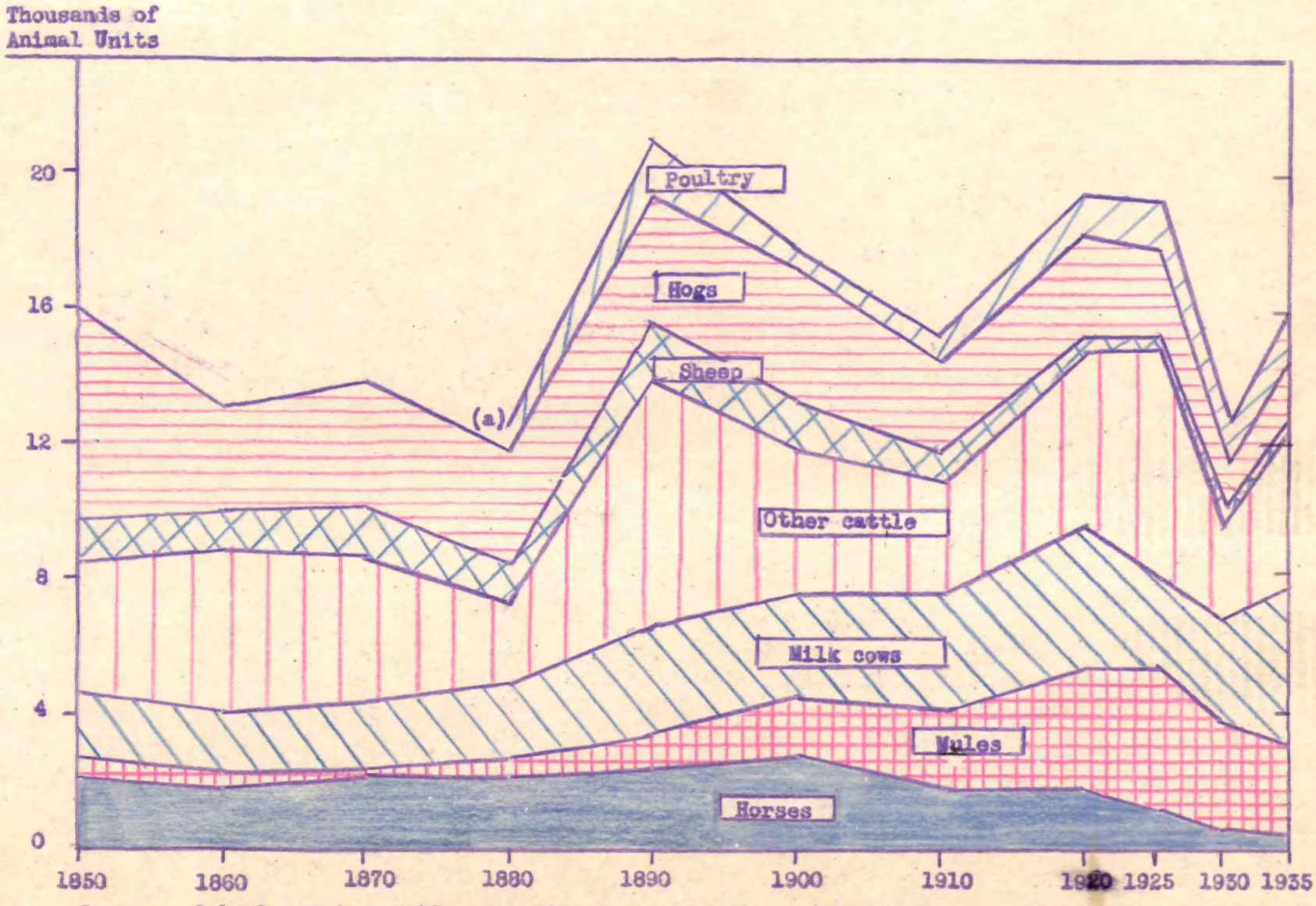
Census Period	Number of Hives	Pounds Honey Produced (a)	Pounds Wax Produced	Value	Value of Hives	Pounds Honey Per Hive
1850	No data	16,455	--	No data	No data	No data
1860	" "	31,046	2356	" "	" "	" "
1870	" "	22,610	1161	" "	" "	" "
1880	" "	39,934	1354	" "	" "	" "
1890	" "	25,359	747	" "	" "	" "
1900	3014	36,720	1070	" "	$7,972	12
1910	1462	14,306	556	$2,161	3,714	10
1920	3295	49,909	535	13,137	13,040	15
1925	No data	No data	No data	No data	No data	No data
1930	2098	17,928	" "	$3,586	$7,028	8
1935	No data	No data	" "	No data	No data	No data

(a) This includes both the pounds honey and the wax produced.

preceded in 1909 by a production of only 14,306 pounds, the lowest figure reported, and was followed by 17,928 pounds in 1929. Production of wax has declined, dropping from 2,356 pounds in 1859 to 535 pounds in 1919. The value of hives and the production per hive varies considerably.

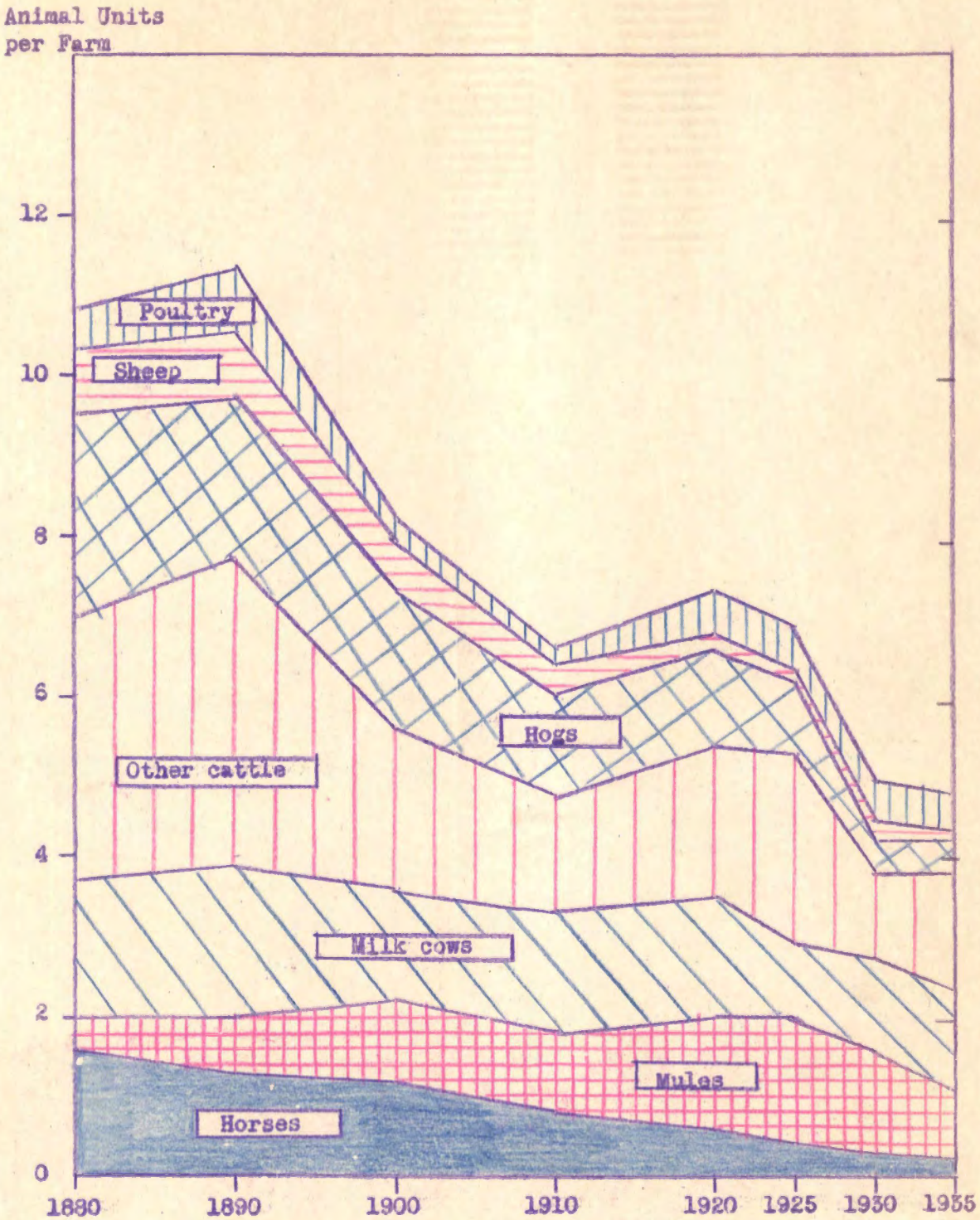
Livestock Summary. The total number of animal units in Overton County has fluctuated considerably during the 85-year period. The peak occurred in 1890 when there were 20,581 units; and the low year occurred in 1930 when only 12,537 units were reported. Apparently there is no definite trend in the number of units, but there is a tendency toward an increase in later periods. Milk cows have definitely increased. Sheep declined until they have nearly disappeared. Hogs have had a definite decrease. The number of work stock definitely increased until after 1924, when it dropped about one-third in ten years. Except for one period, chickens have had a substantial increase. Cattle other than milk cows have fluctuated considerably, with a tendency to vary with the total number of animal units (Figure 14).

Since the total number of livestock in Overton County has not had a definite upward trend, and at the same time the number of farms has increased materially, it naturally follows that the number of livestock per farm has suffered a decrease. With the exception of mules and poultry the number of every type of livestock per farm had a substantial decrease from 1880 to 1935 (Table XIX, Figure 15). The number of poultry per farm did not change materially, while the number of mules per farm increased from 0.4 in 1880 to 0.9 in 1935. However, the slight increase in number



Source: Calculated from Tables X, XIII, XIV, and XV. (a) No data preceding 1880.

Figure 14. Trend in number of animal units by classes of livestock, Overton County, 1850 - 1935.



Source: Calculated from Table XIX.

Figure 15. Trend in number of animal units per farm, by type of livestock, Overton County, 1880-1955

TABLE XIX. TREND IN NUMBER OF HEAD OF EACH CLASS OF LIVESTOCK AND TOTAL NUMBER OF ANIMAL UNITS PER FARM IN OVERTON COUNTY, 1880-1935

Census Period	Horses	Mules	Oxen	Cows	Other Cattle	Hogs	Sheep	Poultry	Animal Units per Farm
1880	1.6	.4	.5	1.7	2.8	12.6	5.5	38.4	10.7
1890	1.3	.7	.4	1.9	3.4	10.0	5.3	76.7	11.3
1900	1.2	1.0	-	1.4	2.0	8.5	4.0	18.9	8.1
1910	.8	1.1	-	1.4	1.4	5.8	2.4	23.7	6.4
1920	.6	1.4	-	1.5	1.9	5.8	1.4	48.2	7.3
1925	.4	1.6	-	.9	2.4	4.5	.6	45.6	6.7
1930	.3	1.3	-	1.1	1.0	1.8	.9	39.7	4.6
1935	.2	.9	-	1.3	1.4	2.1	.5	38.2	4.7

of mules per farm was more than offset by the decrease in number of horses, so that the total number of work stock per farm decreased about one-half. The total number of animal units per farm decreased from 10.7 in 1880 to 4.7 in 1935, a decrease of nearly 60%.

Crops

The number of acres in crops has varied greatly (Figure 16, Table XX). However, there appears to be a definite upward trend, the number rising from 50,532 acres in 1889 to 59,357 acres in 1934. The highest number of acres reported was 61,891 for 1919.

The percentage of all crop acres in corn has varied from 57.0% in 1889, which was the lowest percentage for corn, to 65.5% in 1919 and 1924. The percentage of crop acres in hay rose consistently from 5.0% in 1889 to 21.8% in 1934 (Table XXI). The proportion of the crop acres in wheat dropped from 13% in 1889 to 4.5% in 1934. The percentage in oats dropped from 20.1% in 1889 to 0.6% in 1934. The acreage in all small grains has

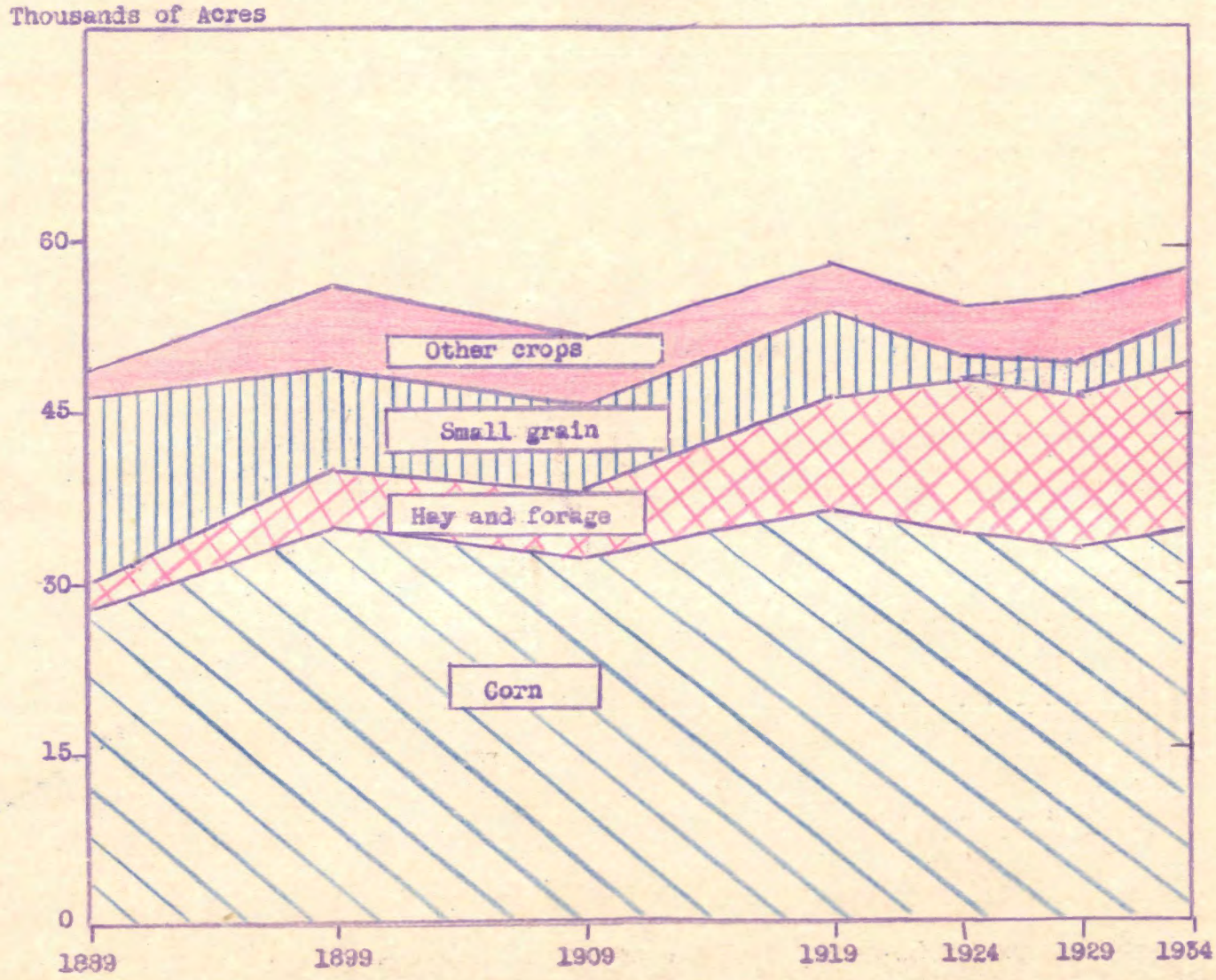


Figure 16. Trend in acres in crops, Overton County, 1889 - 1934

TABLE XX. TREND IN ACREAGE IN CROPS, OVERTON COUNTY, 1889 - 1934

Crop Year	All Crops	Corn	Hay and Forage	All Small Grains	Other Crops
1889	50,532	28,932	2,521	16,946	2,133
1899	54,184	34,449	3,823	9,505	6,407
1909	50,437	32,873	5,102	7,748	4,714
1919	61,891	40,481	10,143	6,738	4,529
1924	56,199	36,746(a)	13,429	1,334	4,680
1929	54,725	33,745(b)	13,144	1,907	5,929
1934	59,357	36,676	14,904	3,521	4,256

(a) Includes 109 acres hogged off.
(b) Includes 53 acres hogged off.

dropped from 16,946 in 1889 to 3521 in 1934, or has decreased from 33.5% of all crop acres in 1889 to 5.9 in 1934. The percentage of crop acres in vegetables has varied between 1.3% for 1889 and 3.5% for 1909. Other crops and crop failures combined have never amounted to as much as 12% of the total crop acres.

In comparing the percentage of crop acres in hay in Overton County with the same factor for Putnam, White and Pickett counties, Table XXI shows that Overton has increased the least, but at the same time has increased from 5.0% in 1889 to 21.8% in 1934. White County has increased most, climbing from 7.3% in 1889 to 38.4% in 1934. The state average increase was from 10% in 1889 to 26.0% in 1934.

The percentage of crop acres in corn has varied greatly for each of the four counties, as shown in Table XXII. Overton has a higher per cent of total crop acres in corn than other counties in each census period

TABLE XXI. COMPARISON OF THE TREND IN THE PERCENTAGE OF ALL CROP ACRES IN HAY IN SELECT COUNTIES, (a) 1889-1934

	1889	1899	1909	1919	1924	1929	1934
Overton County	5.0	7.0	8.0	14.6	19.0	20.3	21.8
Putnam County	5.0	6.7	12.2	16.0	25.0	23.1	27.0
White County	7.3	9.5	16.1	26.4	32.6	29.7	38.4
Pickett County	2.5	6.8	4.5	11.4	9.1	24.7	27.8
State Average	10.0	11.5	15.7	19.1	21.6	21.2	26.0

(a) Putnam, White, and Pickett Counties were selected for comparison with Overton because of proximity, similar physical conditions and agricultural adaptability.

except 1910 and 1925 when it was surpassed by Pickett County. The percentage of crop acres in corn in Overton varies from 57.0% to 65.5% while the average for the state has varied from 43.9% to 53.0%. It may be noted that each of these counties devotes a much larger per cent of their crop land to corn than does the state as a whole.

TABLE XXII. COMPARISON OF THE TREND IN THE PERCENTAGE OF ALL CROP ACRES IN CORN IN SELECT COUNTIES, 1889-1934

	1889	1899	1909	1919	1924	1929	1934
Overton County	57.0	63.0	65.0	65.5	65.5	61.6	61.8
Putnam County	52.0	59.0	59.0	56.0	60.0	58.7	58.1
White County	55.0	55.0	58.0	49.0	54.0	58.4	49.4
Pickett County	51.0	60.0	67.0	59.0	72.0	60.7	55.3
State Average	48.0	53.0	49.0	45.0	46.0	43.9	44.1

The percentage of crop acres in small grains in the state as a whole decreased from 25.5% in 1889 to 7.7% in 1934. Overton County dropped

from 34% to 6%. Pickett declined the least in production of small grains, and is the only one of the four counties having a higher per cent than the state average in 1934 (Table XXIII).

TABLE XXIII. COMPARISON OF THE TREND IN THE PERCENTAGE OF ALL CROP ACRES IN SMALL GRAINS IN SELECT COUNTIES, 1889-1934

	State Average		Overton County		Putnam County		White County		Pickett County	
	1889	1934	1889	1934	1889	1934	1889	1934	1889	1934
Wheat	15.2	6.7	13.0	4.6	15.2	3.8	12.0	3.6	18.1	8.1
Oats	10.2	.6	20.1	.6	16.0	.5	15.2	.5	11.0	.4
Rye	.1	.4	.4	.8	1.2	.7	1.0	.8	.5	1.3
Total	25.5	7.7	33.5	5.9	30.4	4.8	28.2	4.9	29.6	9.8

Corn, Hay, Wheat, and Oats. The production of corn has had a definite upward trend, increasing from 366,168 bushels in 1849 to 587,080 bushels in 1934 (Table XXIV). Production has varied considerably, with 1869 being the lowest year with 250,550 bushels, and 1934 highest with 587,080 bushels. While the acreage in corn shows several decreases it

TABLE XXIV. TREND IN ACREAGE AND PRODUCTION OF CORN, HAY, WHEAT, AND OATS IN OVERTON COUNTY, 1849 - 1934

Crop	Corn		Hay		Wheat		Oats	
Year	Acres	Bushels	Acres	Tons	Acres	Bushels	Acres	Bushels
1849	No data	366,168	No data	64	No data	9,739	No data	37,544
1859	" "	330,138	" "	145	" "	30,730	" "	13,509
1869	" "	250,550	" "	184	" "	27,671	" "	44,583
1879	22,700	411,240	295	302	7,183	29,969	3,135	24,635
1889	28,952	516,710	2,521	1,984	6,558	27,889	10,177	88,282
1899	34,449	469,740	3,755	3,374	5,662	29,410	3,713	28,780
1909	32,873	455,756	4,177	4,130	3,486	25,008	3,908	32,699
1919	40,481	571,000	9,086	7,721	4,152	19,594	1,742	13,967
1924	36,647	542,399	10,731	6,193	1,031	7,976	100	1,105
1929	33,692	549,912	11,100	8,275	1,391	10,270	170	2,276
1934	36,676	587,080	12,962	11,003	2,702	17,187	332	3,365

does not rise and fall so much as total production. Acreage in corn rose from 22,700 acres in 1879 to 36,676 in 1934.

Acreage in hay has been consistently increasing at each census period, rising from 295 in 1879 to 12,962 in 1934. Hay production has also increased from 64 tons in 1849 to 11,003 tons in 1934.

Acreage devoted to wheat has fallen rapidly throughout the period, dropping from 7,183 acres in 1879 to 1031 acres in 1924, but increased in 1934 to 2702 acres. Total production of wheat has varied considerably, 1924 being the low year with 7,976 bushels and 1859 the high year with 30,730 bushels.

Acreage in oats dropped from 10,177 acres in 1889 to 100 acres in 1924, with a rise to 332 acres in 1934. Total production of oats reached its peak in 1889 with 88,282 bushels and fell to its low point in 1924 with only 1,103 bushels.

Irish Potatoes, Sweet Potatoes, Tobacco, and Rye. Acreage and production of Irish potatoes has had an upward trend, rising from 328 acres in 1889, the first year reported, to 583 acres in 1934. The peak year for both acreage and production was 1929 when 716 acres produced 58,571 bushels (Table XXV). The lowest acreage reported for sweet potatoes was 302 in 1924 and the largest was 540 in 1929. Production during the past 55 years has varied between 21,200 bushels in 1879 and 79,833 bushels in 1934. It may be noted that neither the low nor the high production year was the same as the low or high acreage year. This is probably due to the influence of season on production.

TABLE XXV. TREND IN ACREAGE AND PRODUCTION OF IRISH AND SWEET POTATOES, TOBACCO, AND RYE IN OVERTON COUNTY, 1849-1934

Crop Year	Irish Potatoes		Sweet Potatoes		Tobacco		Rye	
	Acres	Production	Acres	Production	Acres	Production	Acres	Production
		Bus.		Bus.		Lbs.		Lbs.
1849	No data	11,156	No data	21,642	No data	37,501	No data	660
1859	" "	9,600	" "	17,225	" "	58,200	" "	2,351
1869	" "	11,970	" "	9,245	" "	119,230	" "	1,207
1879	" "	9,000	364	21,200	50	33,150	" "	2,191
1889	328	28,173	335	29,303	60	32,545	211	1,010
1899	237	12,264	326	24,173	97	46,780	130	490
1909	401	33,718	341	40,516	44	16,332	352	1,562
1919	423	29,258	413	57,048	34	22,170	844	2,932
1924	509	39,397	302	27,545	25	10,262	203	1,156
1929	716	58,571	540	52,386	29	12,501	706	3,773
1934	583	55,024	477	79,833	80	49,612	487	2,107

The increase in acreage of both Irish and sweet potatoes may be due to the fact that they are largely consumed at home, and there has been a rapid increase in number of farms with an increasing population in the county. The annual production of both kinds of potatoes per capita has varied considerably, with an unweighted average of 2.1 bushels of Irish potatoes and 2.6 bushels of sweet potatoes (Table XXVI).

The acreage of tobacco has never been large, varying between 25 acres in 1924 and 97 acres in 1899. Production of tobacco has varied between 10,262 pounds in 1924 and 119,230 pounds in 1869 which was the only year reporting as much as 60,000 pounds. A large part of the small production is kept for home or local consumption.

The production of rye for seed or grain has never been very important in the county. Acreage has varied between 130 acres in 1899 and 844 acres in 1919.

TABLE XXVI. TREND IN POTATO PRODUCTION PER CAPITA IN OVERTON COUNTY, 1889-1934

	1889	1899	1909	1919	1924	1929	1934	Average
Bushels sweet potatoes	1.9	1.8	2.6	3.2	1.5	2.9	4.2	2.6
Bushels Irish potatoes	1.8	.9	2.2	1.7	2.1	3.2	2.9	2.1

As may be seen in Table XXVII, reporting of census data on the production of clover and grass seed, hops, hemp, and flax were discontinued. However, since they are not now important in the county, their omission from the data does not affect the agricultural picture materially.

TABLE XXVII. CROPS DISCONTINUED AND ONLY RECENTLY REPORTED IN CENSUS FOR OVERTON COUNTY

Crops that have not been reported at recent census periods		Crops recently reported not previously reported	
Kind	Year discontinued	Kind	Year first reported
Clover and grass seed	1900	Soybeans	1920
		Alfalfa	"
Hops, hemp, and flax	1880	Silage crops	"
		Corn silage	1925

New crops introduced into the census reports for the county are soybeans, alfalfa, and silage. These crops had been produced to some extent before they were reported by the census.

Fruits. Apples and peaches are the principal tree fruits in Overton County (Tables XXVIII and XXIX). The number of apple trees definitely

declined, the smallest number reported being 44,129 in 1934, while there were 143,716 in 1899. Production of apples has declined more than the number of trees, falling from 203,556 bushels in 1899, the year with largest number of trees and highest production, to 24,839 bushels in 1934.

TABLE XXVIII. TREND IN PRODUCTION OF APPLES, PEACHES, CHERRIES, AND PEARS IN OVERTON COUNTY, 1889-1934

Crop Year	Apples		Peaches		Cherries		Pears	
	Bus. Harvested	Trees All Ages	Bus. Harvested	Trees All Ages	Bus. Harvested	Trees All Ages	Bus. Harvested	Trees All Ages
1889[a]	119,645	69,630	20,287	13,669	370	955	526	342
1899	203,556	143,716	66	19,942	44	2,297	245	1,677
1909	116,595	84,864	19,760	25,660	337	1,944	440	1,158
1919	8,852	68,996	11,172	38,123	267	3,591	433	2,359
1924	74,326	67,123	13,523	29,877	(b)	(b)	(b)	2,616
1929	24,866	62,988	12,525	40,945	261	6,367	1,935	2,459
1934	24,839	44,129	29,219	30,399	1,296	8,189	2,538	1,732

(a) Only bearing trees were reported. These figures are not comparable with those for other periods.

(b) No data.

The number of peach trees has changed from period to period. The low year (excluding 1889) occurred in 1899 with 19,942 trees reported, and 1929 was the peak year with 40,945 trees. This figure had more than a 25% decrease in the next five years, falling to 30,399 trees in 1934.

Apparently cherries are increasing in importance, the number of trees rising from 955 in 1889 to 8,189 in 1934.

Pear trees increased from 342 in 1889 to 2459 in 1929, with a decrease to 1732 in 1934. While there were fewer in 1934 than in 1929,

the number is much larger than that reported for early census periods. Production of pears reached a peak in 1934 with 2538 bushels.

The number of plum trees varied considerably. The number of grape vines has varied, but seem to be declining in importance as the second smallest number was reported in 1929. Strawberries and cultivated blackberries are apparently unimportant, for neither has exceeded 9 acres except one year each.

TABLE XXIX. TREND IN MISCELLANEOUS FRUITS IN OVERTON COUNTY, 1889-1934

Crop Year	Plums		Grape Vines	Strawberries		Blackberries(a)	
	Bus. Harvested	Trees	Number	Quarts Harvested	Acres	Quarts Harvested	Acres
1889	1,400	1,529	No data	No data	No data	No data	No data
1899	516	7,447	3,117	" "	2	" "	4
1909	2,396	7,199	1,681	" "	2	696	1
1919	702	7,932	2,732	7,227	9	10,050	13
1924	No data	8,358	4,193	No data	6	No data	No data
1929	1,243	4,070	2,511	4,729	11	322	1
1934	1,507	2,067	No data	5,663	9	No data	No data

(a) Does not include blackberries that grow wild.

Crop Yields Per Acre. Comparing yields of sweet potatoes in Overton County with that of the state average, 1929 was the only year the yield in Overton has been less than the state average (Table XXX). Yields vary greatly, but the 167 bushels per acre in Overton County in 1934 is about 50% higher than the highest state average for any year, which was 112 bushels in 1919.

Yield of Irish potatoes does not seem to have a definite trend either in Overton County or in the average for the state. Neither has a decided

TABLE XXX. TREND IN YIELD OF IRISH AND SWEET POTATOES IN OVERTON COUNTY COMPARED WITH THE STATE AVERAGE, 1889 - 1934

Crop Year	Sweet Potatoes		Irish Potatoes	
	State Average Bus.	Overton County Bus.	State Average Bus.	Overton County Bus.
1889	83	87	76	86
1899	69	74	86	52
1909	97	119	71	82
1919	112	139	86	79
1924	89	90	69	79
1929	102	97	81	82
1934	102	167	77	94

advantage over the other in yield (Table XXX).

Yields of corn (Table XXXI) changed considerably for both Overton County and the state average, while in neither has there been a definite trend. But the state average yield has exceeded that in Overton County at each period, varying from 20 to 50%.

TABLE XXXI. TREND IN YIELD OF CORN, HAY, AND RYE IN OVERTON COUNTY COMPARED WITH THE STATE AVERAGE, 1889-1934

Crop Year	Corn		Hay		Rye	
	State Average (Bus.)	Overton County (Bus.)	State Average (Tons)	Overton County (Tons)	State Average (Bus.)	Overton County (Bus.)
1889	21.9	17.9	1.1	.8	6.4	4.6
1899	19.9	13.8	.9	1.0	6.5	4.0
1909	21.5	13.8	1.0	.8	7.0	4.4
1919	21.4	14.1	.9	.9	6.1	3.5
1924	21.0	14.8	.8	.6	7.6	5.7
1929	22.7	16.3	1.0	.7	6.5	5.3
1934	21.2	16.0	1.0	.8	6.9	4.3

Hay yields and rye yields seem to be characterized by variations rather than by definite trends, in both Overton County and the state average. However, in every year except 1899 and 1919 the hay yield of the state exceeded Overton County by from 0.2 to 0.3 tons per acre.

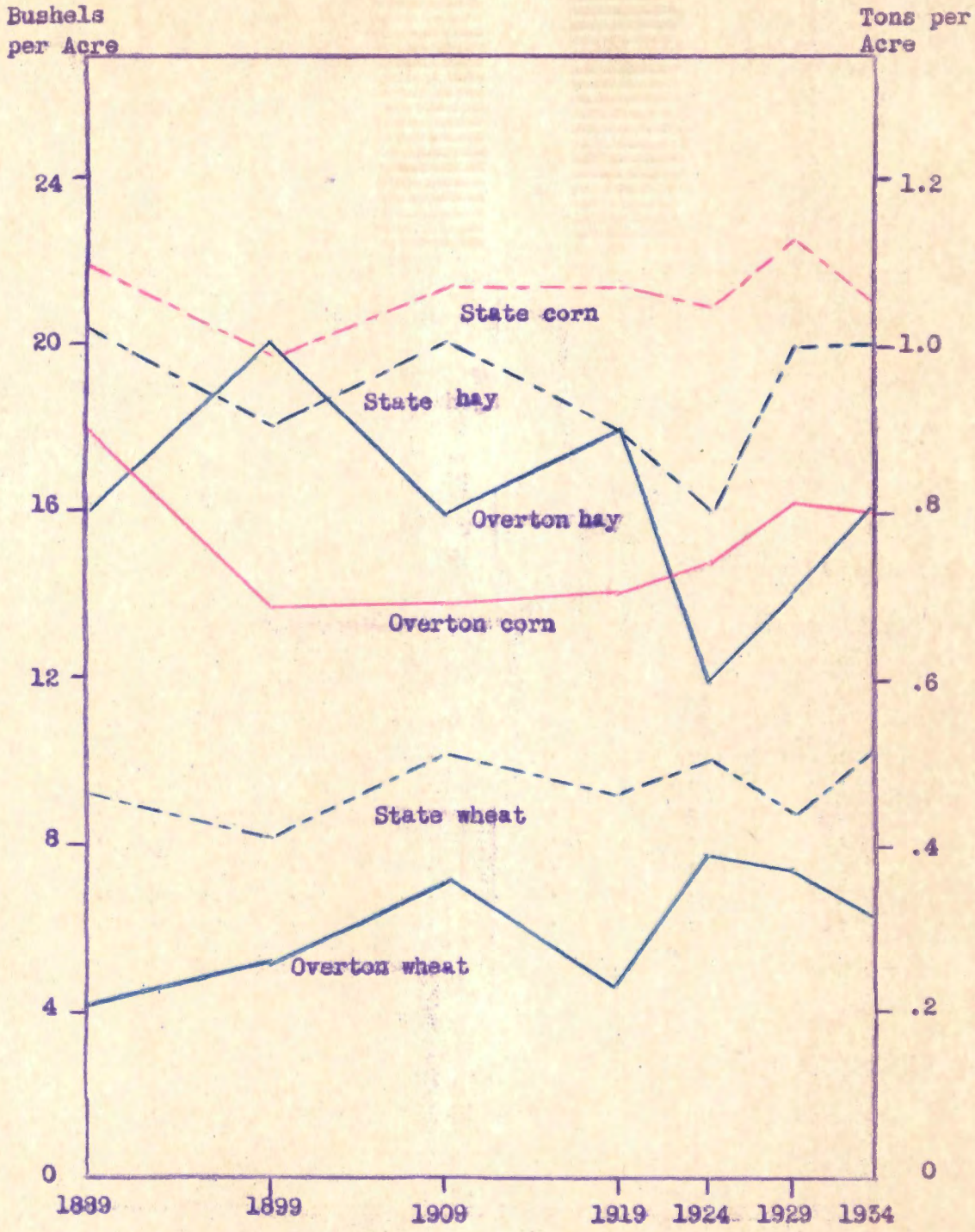
Yields of wheat, oats and barley in Overton County, and wheat and oats in the state as a whole have increased the yields in the later periods exceeding those of earlier periods in both areas. This increase

TABLE XXXII. TREND IN YIELD OF WHEAT, OATS, AND BARLEY IN OVERTON COUNTY COMPARED WITH THE STATE AVERAGE, 1889-1934

Crop Year	Wheat		Oats		Barley	
	State Average Bus.	Overton County Bus.	State Average Bus.	Overton County Bus.	State Average Bus.	Overton County Bus.
1889	9.4	4.2	12.5	8.8	17.8	7.0
1899	8.5	5.2	11.5	7.8	13.4	4.0
1909	10.5	7.1	14.0	8.2	21.0	--
1919	9.2	4.7	21.0	8.0	16.0	6.0
1924	10.0	7.8	18.2	11.0	16.6	--
1929	8.9	7.4	15.6	13.4	18.8	--
1934	10.2	6.4	16.0	10.1	15.8	8.2

in yields of small grains may be due to the fact that: first, the acreage in small grain has decreased and only the better lands are commonly used for their production; second, the rapid increase in use of commercial fertilizers; third, introduction of improved and higher yielding varieties.

From this it is seen that, with the exception of Irish potatoes in which the yield of Overton County compares favorably with the state average, and the yield of sweet potatoes which exceeds the state average, the crop



Source: Tables XXXI and XXXII.

Figure 17. Yield per acre of corn, wheat, and hay in Overton County compared with state average, 1889 - 1954

yields of Overton County are much below the average for the state (Figure 17).

Crop Summary. The number of acres in crops in Overton County has increased from 50,532 in 1889 to 59,357 in 1934, an increase of about 17%. The number of acres in corn has increased from 22,700 in 1879 to 36,676 in 1934. The hay and forage acreage has had a steady and rapid increase, rising from 2,521 acres in 1889 to 14,904 acres in 1934, an increase of 491%. At the same time small grain acreage has decreased from 16,946 to 1,334 acres in 1924, a decrease of 92%, but rose to 3,521 acres in 1934.

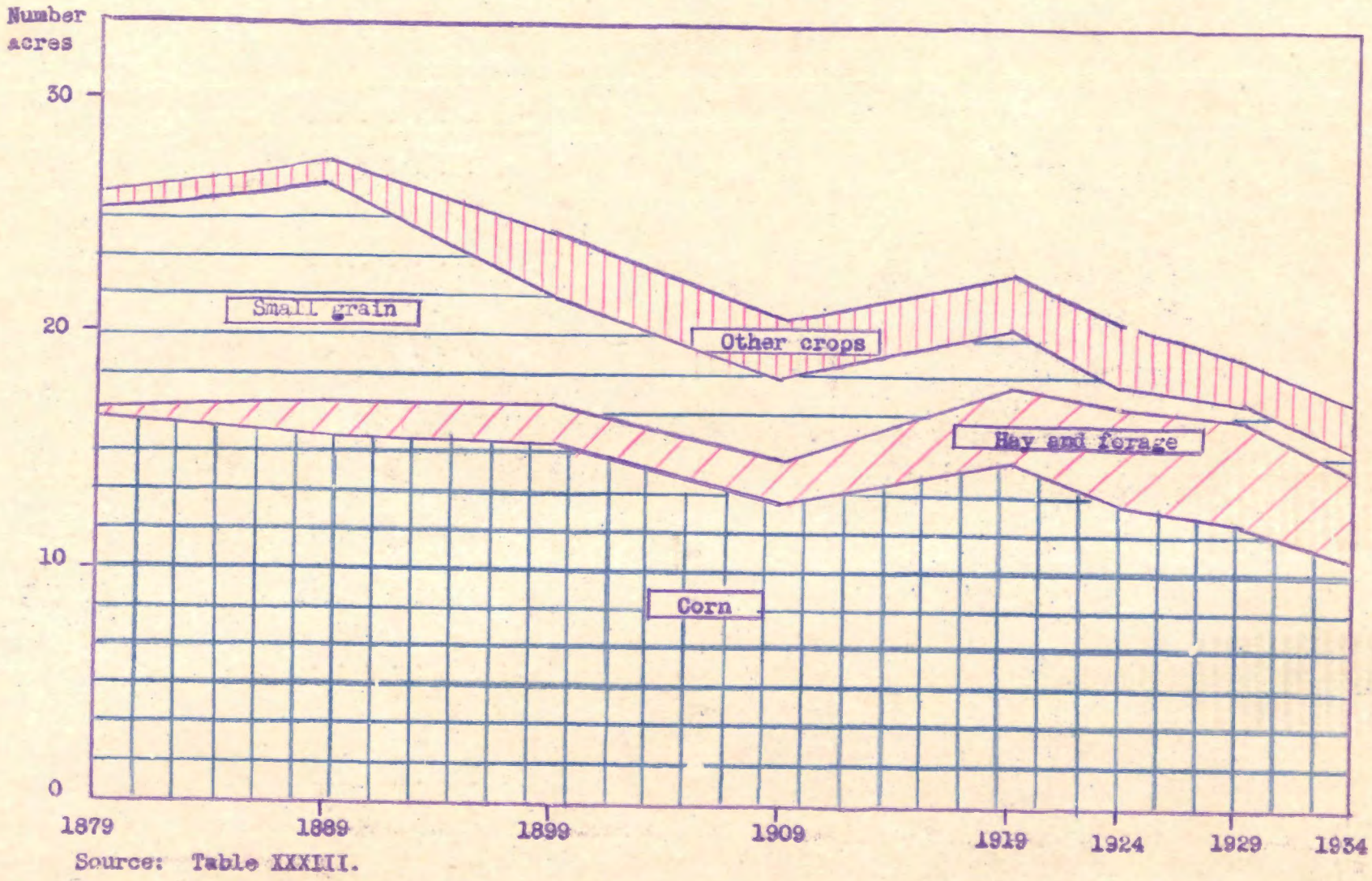
While the total acreage in all major crop divisions with the exception of small grains has had a large increase, the acreage per farm in all major crops except hay has decreased considerably (Table XXXIII, Figure 18). The hay acreage per farm has increased from 0.2 in 1879 to

TABLE XXXIII. TREND IN ACRES IN CROPS PER FARM IN OVERTON COUNTY, 1879-1934

Crop Year	Corn	Hay	Wheat	Oats	Irish Potatoes	Sweet Potatoes	Rye	Tobacco	Misc.	Acres in Crops
1879	16.8	.2	5.3	2.3	(a)	0.3	.55	.04	.06	25.6
1889	15.8	1.4	3.6	5.6	0.2	0.2	.12	.03	.65	27.6
1899	15.6	1.7	2.6	1.7	0.1	0.1	.06	.04	2.60	24.5
1909	13.9	1.8	1.5	1.6	0.2	0.1	.15	.01	2.04	21.3
1919	14.9	3.3	1.5	0.6	0.2	0.2	.31	.01	1.78	22.8
1924	13.2	3.9	.4	0.03	0.2	0.1	.07	.01	2.29	20.2
1929	12.4	4.1	.7(b)	-	0.3	0.2	-	.01	2.39	20.1
1934	10.8	3.8	.8	0.1	0.2	0.1	.14	.02	1.54	17.5

(a) No data (b) All small grains

3.8 in 1934, and all other crops have decreased. The total acres in crops has decreased from 25.6 in 1879 to 17.5 in 1934, and the total improved



Source: Table XXXIII.

Figure 18. Trend in number acres per farm in major crops and all crops, Overton County, 1879-1934.

acres per farm has dropped from 44.6 to 29.6, a decrease of 32% in crops and 34% in improved acreage per farm.

Comparison of Data from Ten Farms in 1926 with Similar Data from the Same Farms in 1936

In 1926 the University of Tennessee Department of Agricultural Economics, in cooperation with several other agencies, conducted a farm survey of 50 farms in Overton County. The data from the survey was presented in "An Economic Analysis of Farming in Overton County, Tennessee" by C. E. Allred and S. W. Atkins. Ten of the farms taken in this previous survey were also covered in the study made in 1936. A comparison of the data for these ten farms is presented in Table XXXIV to determine the trends or changes in the agricultural programs of these particular farms.

TABLE XXXIV. COMPARISON OF CERTAIN FACTORS ON TEN IDENTICAL FARMS IN OVERTON COUNTY FOR 1926 AND 1936

Item	1926	1936
Number of farms full-owner operated	6	6
Number of farms part-owner operated	3	3
Number of farms tenant operated	1	1
Average size of farm	82.9	122.9
Land use		
Acres in woodland per farm	19.2	46.8
Acres in pasture per farm	18.2	23.4
Acres in crops harvested per farm	36.8	31.7
Acres in crops failed per farm	.4	11.8
Acres in idle crop land per farm	6.3	4.1
Acres in waste land per farm	2.0	5.1
Number of acres of certain crops per farm		
Corn	19.0	18.5
Lespedeza	None	12.4
Clover and alfalfa	1.8	None
Other hays	13.0	9.9
All small grains	2.0	3.1

(continued)

TABLE XXXIV. COMPARISON OF CERTAIN FACTORS ON TEN IDENTICAL FARMS IN OVERTON COUNTY FOR 1926 AND 1936 (cont.)

Item	1926	1936
Yields per acre		
Corn in bushels	15.5	17.4
Wheat in bushels	7.2	5.9
Hay in tons	.4	.2
Number of head of livestock per farm		
Work stock	2.4	2.4
Cows	1.5	3.2
Other cattle	2.8	3.7
Hogs	3.7	5.2
Sheep	2.3	2.9
Chickens	30.2	78.9
Total number of animal units per farm	6.5	10.2
Sources of receipts		
Crop receipts per farm	$80.00	$123.00
Livestock receipts per farm	$216.00	$235.00
Receipts from "other sources" per farm	$104.00	$ 26.00
Increase in feed and supplies	$ 27.00	$ 90.00
Total receipts	$427.00	$474.00
Profitableness		
Farm income per farm	$ 92.00	$135.00
Labor income per farm	$-98.00	$-72.00
Operator's earnings per farm	$352.00	$246.00

Source: Farm Survey Records.

While there were six full-owner operated farms and three part-owner operated farms in both years, one of the full-owner farms in 1926 had changed to a part-owner in 1936, and one of the part-owners had changed to a full-owner. The tenant operated farm was under the same ownership in 1926 and 1936.

The average size of farm increased from 82.9 acres in 1926 to 122.9 acres in 1936, an increase of 40 acres or nearly 50%. This increase was due to the increase in the size of the tenant farm from 48 to 277 acres, the purchase of a total of 119 additional acres by five owners, and the renting of larger acreage by the part owners. One owner sold 14 acres

of land during the ten-year period.

The acres per farm in woodland increased from 19.2 to 46.8 acres. The tenant farm that increased from 48 to 277 acres accounted for 198 acres or an average of 19.8 acres per farm in woodland in 1936, which was the major portion of the woodland increase. The acres in pasture increased from 18.2 to 23.4 acres in 1936. The acres of crops harvested decreased from 36.8 to 31.7 acres but this decline was more than offset by the crop acreage that failed for that increased from 0.4 to 11.8 acres per farm. The big increase in crop acres that failed is attributed to the dry season in 1936 which caused a heavy crop failure all over the county. Idle crop land dropped from 6.3 to 4.1 acres per farm. Waste land acreage increased from 2.0 to 5.1 acres per farm.

There was only a slight change in corn acreage, from 19 to 18.5 acres per farm. No lespedeza was reported on the ten farms in 1926 but there was an average of 12.4 acres per farm in 1936. In 1926 there were three farms reporting a total of 18 acres of clover, to give an average of 1.8 acres for the ten farms. In 1936 there was no clover reported on any of the ten farms. The acreage in small grain increased from 2.0 to 3.1 acres per farm.

Yield of corn increased from 15.5 bushels to 17.4 bushels per acre despite the drought. Yield of wheat dropped from 7.2 to 5.9 bushels per acre. Hay yields dropped from 0.4 to 0.2 ton per acre, due to the severe drought.

The number of work stock remained at 2.4 head per farm both years. Number of cows and chickens more than doubled in the ten-year period. The number of other cattle, hogs and sheep also registered a substantial

increase. The total number of animal units per farm increased from 6.5 in 1926 to 10.2 in 1936.

It is interesting to note that while the census data for Overton County for 1925 and 1935 shows a relatively large decrease in size of farm, crop acres per farm and animal units per farm, the survey data for these ten identical farms for 1926 and 1936 show an increase of about 50% in total acres and in animal units per farm, in addition to a considerable increase in total crop acres per farm.

The average receipts from crops increased from $80 in 1926 to $123 in 1936, and the livestock receipts increased from $216 to $235. Receipts from outside sources of income decreased from $104 to $26, which indicates that farmers were depending more on the farm and less upon other sources for 1936 receipts. This is probably due in part to general economic conditions and in part to the increased size of their farming business. Receipts from increase in feed and supplies increased from $27 to $90. Total receipts increased from $427 in 1926 to $474 in 1936.

The farm income and the labor income per farm both registered a fair increase for 1936. But the operator's earnings per farm decreased from $352 to $246. This was due to the fact that the amount of perquisites furnished the family by the farm decreased from $450 in 1926 to $318 in 1936.

CHAPTER III

FARM ORGANIZATION

Organization of 131 Overton County Farms

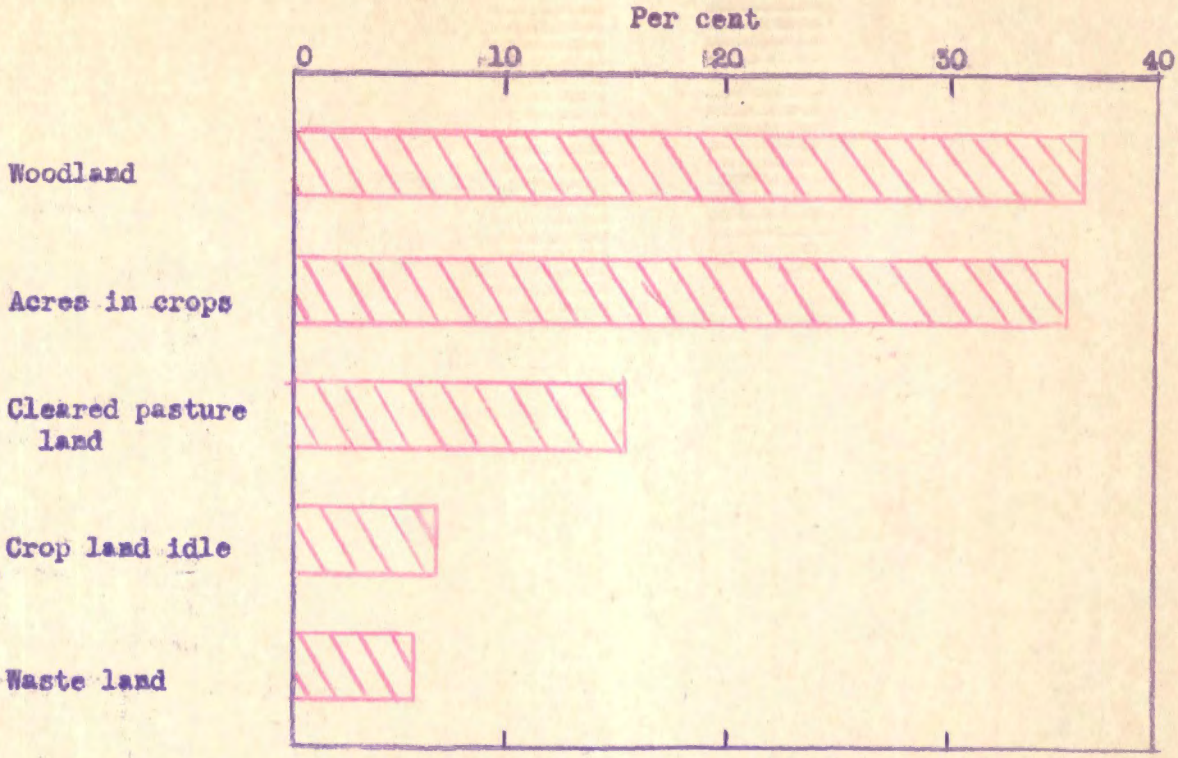
Distribution of Farm Land by Major Land Uses. The 131 farms surveyed contain a total of 12,454 acres, 36% of which is in woodland. Slightly more than one-third of the total land area is planted to crops; less than one-sixth of the farm land is in cleared pasture; and 7.4% of the total land area is in idle crop land (Table XXXV, Figure 19).

TABLE XXXV. DISTRIBUTION OF FARM LAND BY MAJOR LAND USES, 131 OVERTON COUNTY FARMS, 1936(a)

	Total Acres	Average Number Acres per Farm	Per Cent of Total Area
Woodland	4,481	34.2	36.0
Acres in crops	4,402	33.6	35.3
Crop land idle	928	7.1	7.4
Cleared pasture land	1,873	14.3	15.0
Waste land	770	5.9	6.3
Total	12,454	95.1	100.0

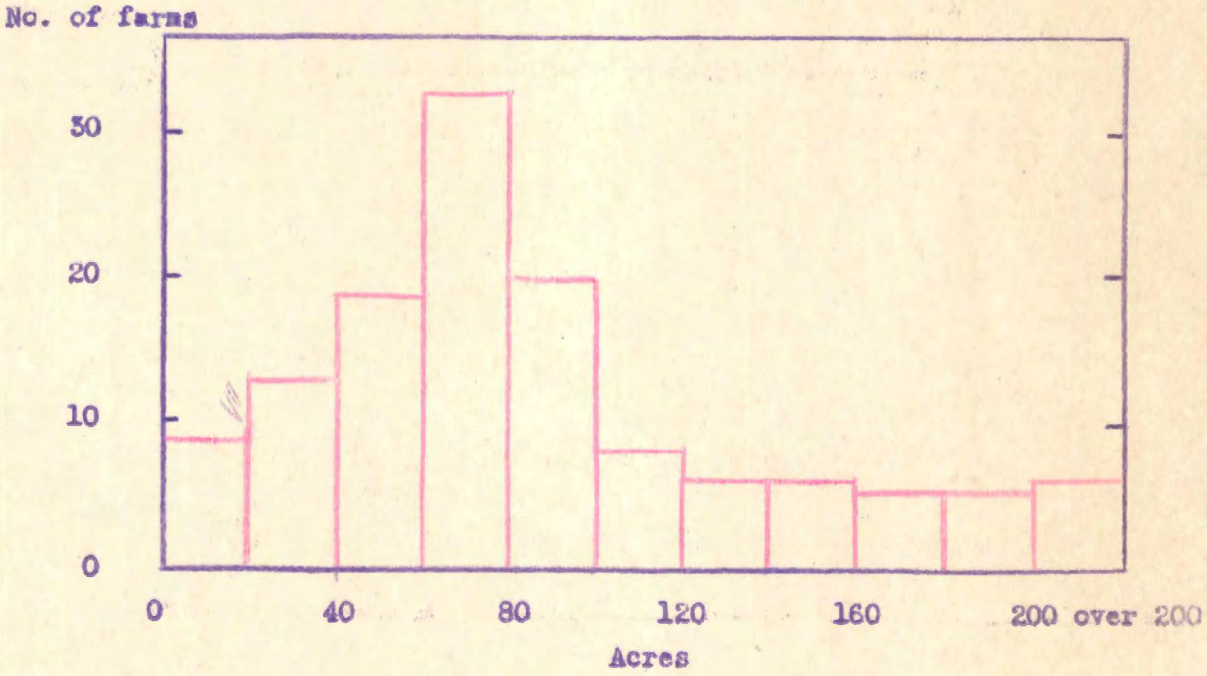
(a) Source: Unless otherwise stated data for all tables in this chapter are taken from the 131 farm survey records for Overton County, 1936.

Distribution of farms by Number of Acres per Farm. Farms included in the survey had a range of from 3 to 530 acres of total area. Nine farms had 20 acres or less, thirteen had from 21 to 40 acres, nineteen from 41 to 60 acres, and thirty-three (or one-fourth of all farms) had an area of from 61 to 80 acres. Only 37 had an area of over 100 acres, and only six had over 200 acres. The largest farm had 530 acres. Thus, nearly one-third of the



Source: Table XXXV.

Figure 19. Percentage distribution of farm land by major land uses, 151 Overton County farms, 1936



Source: Table XXXVI.

Figure 20. Distribution of 151 Overton County farms by number of acres per farm, 1936

farms had less than 60 acres, and less than 30 per cent exceeded 100 acres. The average size of all farms was 95.1 acres (Table XXXVI, Figure 20).

TABLE XXXVI. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY NUMBER OF ACRES PER FARM, 1936

Size of Farm	Number of Farms	Per Cent of 131 Farms
3 - 20 acres	9	6.9
21 - 40 "	13	9.9
41 - 60 "	19	14.5
61 - 80 "	33	25.2
81 - 100 "	20	15.3
101 - 120 "	8	6.0
121 - 140 "	6	4.6
141 - 160 "	6	4.6
161 - 180 "	5	3.8
181 - 200 "	6	4.6
201 - 530 "	6	4.6
Total	131	100.0

Distribution of Farms by Amount of Investment. The total investment in the farm business ranged from $213 to $11,035. On eleven farms it was from $213 to $500; on fourteen farms from $501 to $1,000; on eighteen from $1,001 to $1,500; seventeen from $1,501 to $2,000; and nineteen from $2,001 to $2,500. Thus 79 farms, or 60.3% of all farms, had an investment of $2,500 or less. Twenty-one farms, or 16% of all, had an investment of over $5,000; and two farms had an investment of over $9,000 (Table XXXVII, Figure 21). The average total investment per farm was $2,798.

TABLE XXXVII. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY AMOUNT OF TOTAL INVESTMENT, 1936

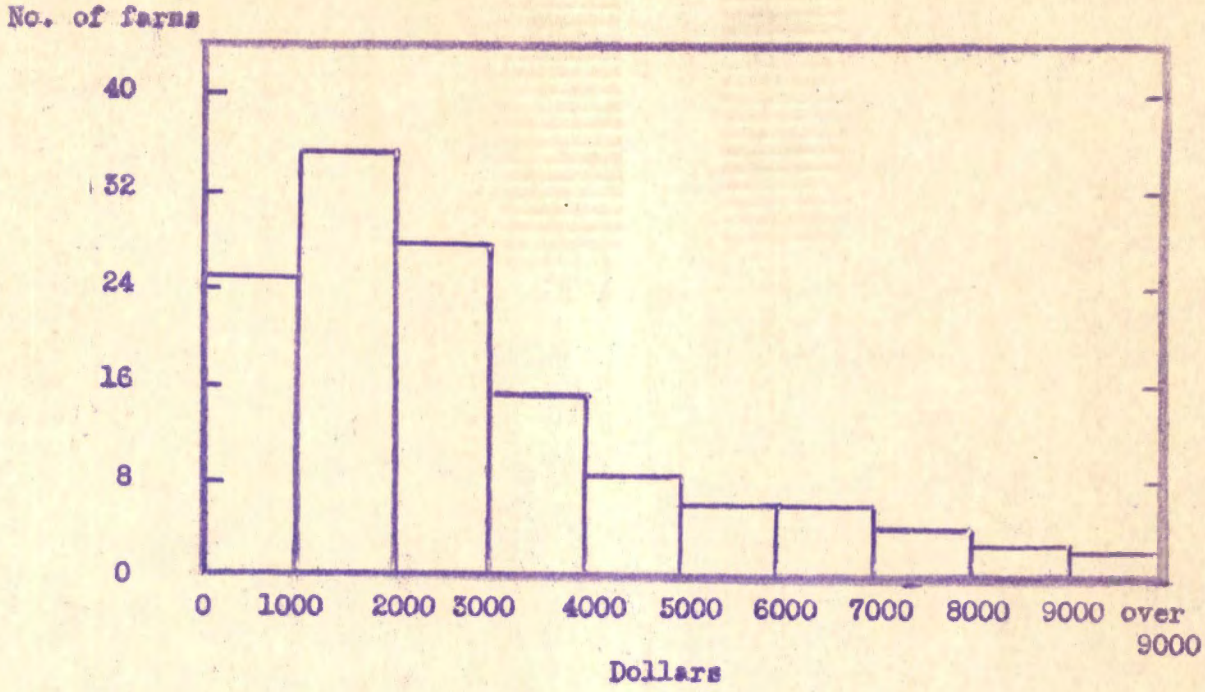
Investment	Number Farms	% of 131 Farms	Investment	Number Farms	% of 131 Farms
$ 213 - 500	11	8.4	$4001 - 4500	7	5.3
501 - 1000	14	10.7	4501 - 5000	1	0.8
1001 - 1500	18	13.7	5001 - 5500	4	3.0
1501 - 2000	17	13.0	5501 - 6000	2	1.5
2001 - 2500	19	14.5	6001 - 7000	6	4.7
2501 - 3000	8	6.1	7001 - 8000	4	3.0
3001 - 3500	8	6.1	8001 - 9000	3	2.4
3501 - 4000	7	5.3	9001 -11035	2	1.5
			Total	131	100.0

Distribution of Investment. The average total investment amounted to $2,798, of which sixty-nine per cent was in real estate, and thirty-one per cent in operating capital. The average investment in land amounted to $1,281, or 45.8 per cent of the total. The average value per dwelling was

TABLE XXXVIII. DISTRIBUTION OF INVESTMENT IN THE FARM BUSINESS, 131 OVERTON COUNTY FARMS, 1936

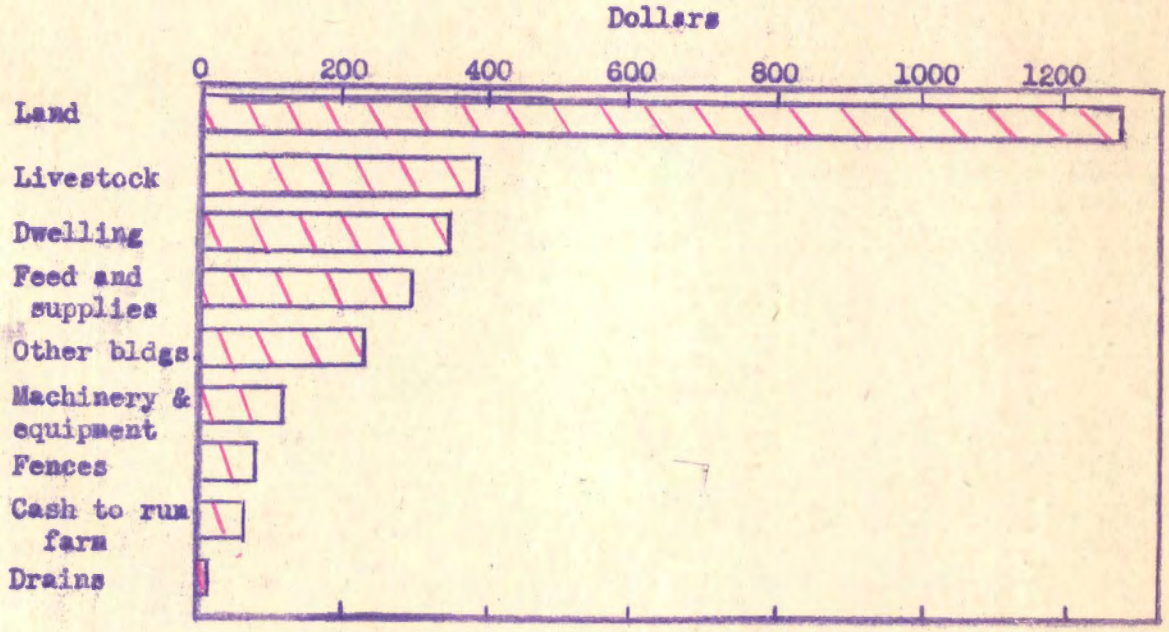
Item	Total Investment	Average Investment per Farm	Per Cent of Total Investments
Land	$167,865	$1,281.41	45.8
Dwelling (a)	44,866	342.49	12.2
Other bldgs.(a)	29,848	227.85	8.1
Fences	10,369	79.15	2.8
Drains	55	0.42	-
Machinery & equip.	15,779	120.45	4.3
Livestock	51,957	396.62	14.2
Feed and supplies	37,882	289.18	10.3
Cash to run farm	7,955	60.72	2.3
Total	366,576	$2,798.29	100.0

(a) Investment is that of the beginning inventory plus one-half the value of improvements amounting to over $100.



Source: Table XXXVII.

Figure 21. Distribution of 151 Overton County farms by amount of total investment, 1936



Source: Table XXXVIII.

Figure 22. Distribution of investment, 151 Overton County farms, 1936

$342; all other buildings $228; and fences and drains $80. Thus, land alone represented two-thirds the total value of all real estate including buildings.

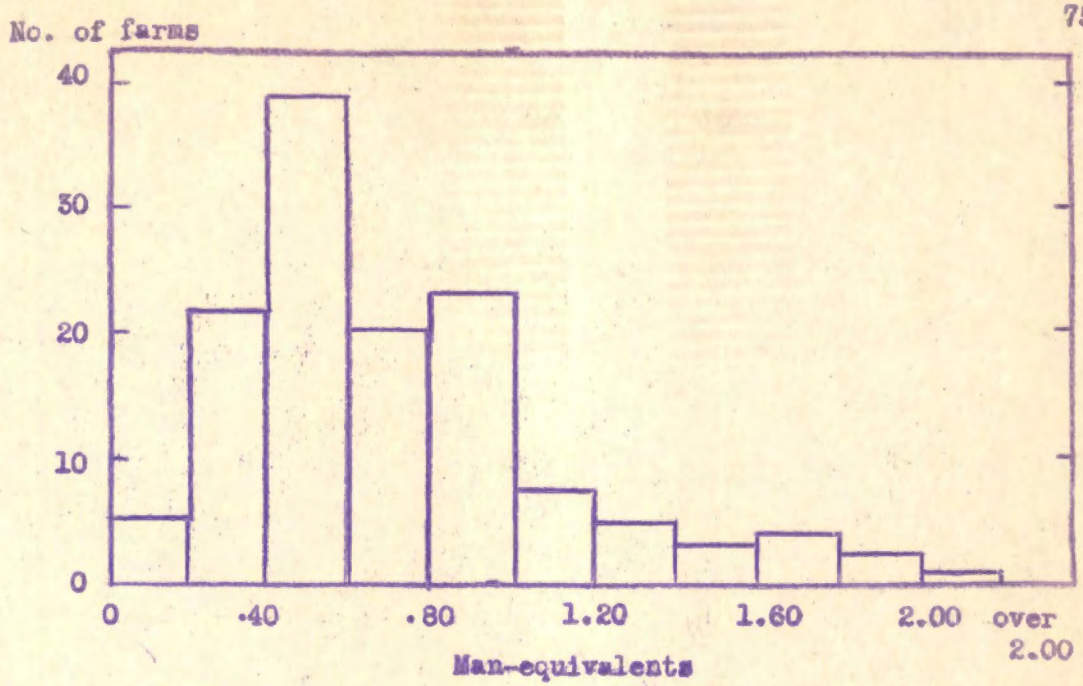
The average investment in livestock was $397, over three times the value of machinery. Investment in "feed and supplies" amounted to $289, or nearly three-fourths the value of livestock. The average amount of "cash on hand" to run the farm was $61 (Table XXXVIII, Figure 22).

Distribution of Farms by Man-Equivalents[1] per Farm. The farms included in the survey ranged in man-equivalents from 0.10 to 2.88. Five farms ranged from 0.10 to 0.20; twenty-two from 0.21 to 0.40; thirty-nine from 0.41 to 0.60; twenty from 0.61 to 0.80; and twenty-three from 0.81 to 1.00. Thus, sixty-six, or one-half of all the farms had less than 0.60; and only twenty-two, or one-sixth of all farms, had more than one man-equivalent or 12 months work per year for one man (Table XXXIX, Figure 23).

TABLE XXXIX. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY MAN-EQUIVALENTS PER FARM, 1936

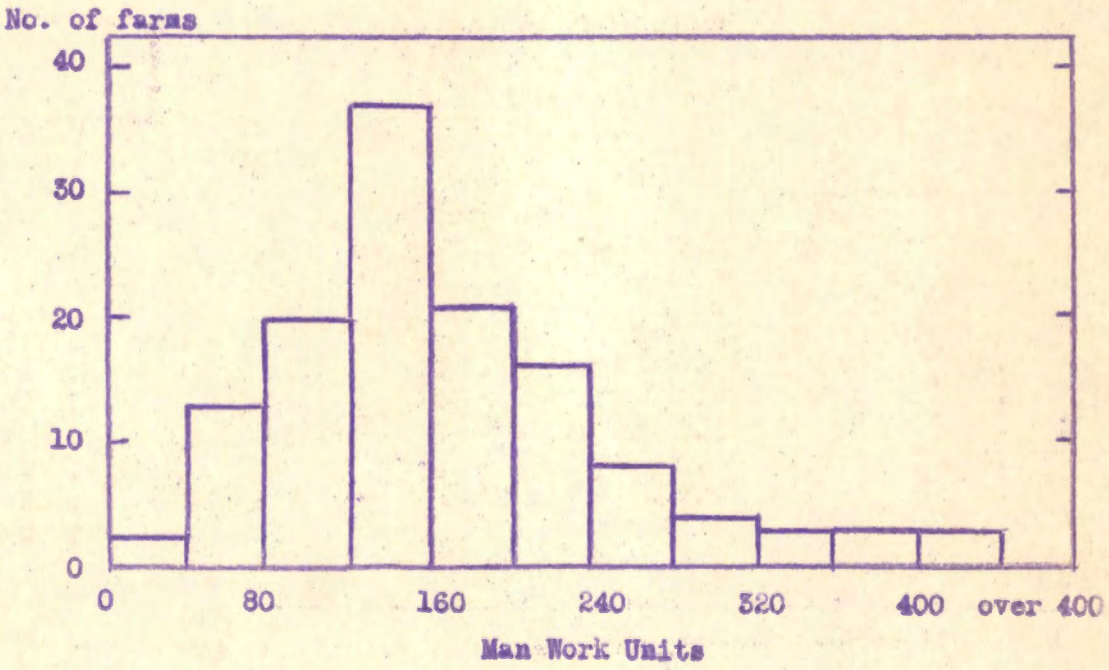
Man-Equivalents per Farm	Number Farms	Per Cent of 131 Farms	Man-Equivalents per Farm	Number Farms	Per Cent of 131 Farms
0.10 - 0.20	5	3.8	1.21 - 1.40	5	3.8
0.21 - 0.40	22	16.8	1.41 - 1.60	3	2.3
0.41 - 0.60	39	29.8	1.61 - 1.80	4	3.0
0.61 - 0.80	20	15.3	1.81 - 2.00	2	1.5
0.81 - 1.00	23	17.6	2.00 - 2.88	1	0.8
1.01 - 1.20	7	5.3	Total	131	100.0

(1) One man-equivalent is equal to the employment of one man for 12 months. To get the man-equivalent for a given farm the number of months labor required on the farm for one year, as estimated by the operator, was divided by 12. Family labor was reduced to a basis comparable with man labor.



Source: Table XXXIX.

Figure 23. Distribution of 131 Overton County farms by man-equivalents per farm, 1936



Source: Table XLI.

Figure 24. Distribution of 131 Overton County farms by number of Man Work Units per farm, 1936

Distribution of Farms by Number of Productive Man Work Units per Farm. The number of man work units[2] or horse work units for a particular farm depends upon the kind of crops and livestock, and the number of acres or head of livestock. Work unit requirements for various farm enterprises, as used in this study, are presented in Table XL.

TABLE XL. MAN AND HORSE WORK UNIT REQUIREMENTS FOR EACH FARM ENTERPRISE

Crop	M.W.U.	H.W.U.	Livestock	M.W.U.	H.W.U.
Corn	3.5	5.0	Horse or mule colts	1.8	0.1
Corn silage	5.4	6.0	Milk cows	15.0	2.0
Barley, oats, wheat, rye	1.6	2.3	Beef cows	2.0	1.0
Cowpeas, soy beans	2.0	3.0	Heifers	1.8	1.0
Grass, lespedeza	1.0	1.0	Calves	2.0	.5
Lespedeza seed (a)	2.0	1.5	Bulls	6.0	1.0
Sorghum for syrup	15.0	8.2	Steers	1.2	1.0
Burley tobacco	43.9	8.3	Ewes, rams	0.4	0.03
Sorghum stover	3.7	5.0	Brood sows	3.0	0.5
Irish potatoes	10.0	10.0	Other hogs	0.6	0.1
Sweet potatoes	13.1	6.6	Pigs	0.6	0.03
Home garden (a)	16.0	8.0	Chickens	0.15	0.02

(a) Estimated by the writer.

Source: University of Tennessee Agricultural Extension Service Mimeographed Sheet 8510.

The number of man work units per farm included in the survey ranged from 18 to 544. Three farms had between 18 and 40; thirteen from 41 to 80; twenty from 81 to 120; thirty-seven from 121 to 160; twenty-one from 161 to 200; thirty-four from 200 to 400; and three had over 400 man work units. Thus 94 farms, or 72% of the total number, had an organizational

(2) The term "man work unit" is used as being synonymous with "productive man work unit" and M.W.U. is used as an abbreviation for same.

set-up which provided for less than 200 productive man work units per year; and only three farms provided for over 400 man work units (Table XLI, Figure 24).

TABLE XLI. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY NUMBER OF MAN WORK UNITS PER FARM, 1936

Man Work Units	Number of Farms	Per Cent of 131 Farms	Man Work Units	Number of Farms	Per Cent of 131 Farms
18 - 40	3	2.3	241 - 280	8	6.1
41 - 80	13	9.9	281 - 320	4	3.0
81 -120	20	15.3	321 - 360	3	2.3
121 -160	37	28.2	361 - 400	3	2.3
161 -200	21	16.0	401 - 544	3	2.3
201 -240	16	12.2	Total	131	100.0

Distribution of Land in Crops by Types of Crops. The 131 farms included in the survey reported 4,402 acres, or 35.3% of the total land area, as being used for crops. Nine per cent of this acreage, or 393 acres, were double cropped, making a total of 4795 acres of crops. However, because of the drought and resulting heavy crop failure, only 3,423 acres, or 71% of the planted acreage, was harvested. Hay and small grain accounted for most of the complete failure of crops. Lespedeza hay alone failed to the extent of 915 acres, which amounted to 90% of the planted acreage in that crop. This accounted for 67% of the area of complete crop failure.

Corn was by far the most important single crop from either an acreage, frequency of reporting, or total value standpoint. A total of 2,236 acres was planted in corn, which amounted to 65.3% of the total area of crops harvested. It may be noted that this is a large increase over the

46.6% of the area planted, and resulted from the heavy crop failure and smaller acreage of other crops harvested. Wheat was second in importance from the standpoint of area harvested. It amounted to 9.8% of the total harvested area. No other single crop amounted to as much as 4% of the total acres harvested.

TABLE XLII. DISTRIBUTION OF LAND IN CROPS BY TYPES OF CROPS, 131 OVERTON COUNTY FARMS, 1936

Crop	Total Planted Area		Total Harvested Area		Acres Harvested per Farm(b)	No. Farms Reporting Crops Harvested
	Acres(a)	% of Area	Acres	% of Area		
Corn	2236	46.6	2236	65.3	17.07	130
Silage	21	.4	21	.6	.16	2
Corn stover	(1855)	(38.7)	(1855)	(54.2)	(14.16)	(125)
Lespedeza hay	1017	21.2	112	3.3	.85	22
Lespedeza seed	46	1.0	21	.6	.16	3
Sorghum hay	95	2.0	92	2.7	.70	61
Sorghum syrup	21	.4	21	.6	.16	30
Wheat (grain)	354	7.4	339	9.9	2.59	41
Rye "	97	2.0	47	1.4	.36	14
Oats "	92	1.9	33	1.0	.25	3
Orchard	61	1.3	47	1.4	.36	41
Potatoes	39	.8	34	1.0	.26	105
Sweet potatoes	27	.6	25	.7	.19	105
Garden	89	1.8	89	2.6	.68	128
Tobacco	4	.1	4	0.1	.03	7
Cotton	1	.02	1	.02	.01	3
Peanuts	10	.2	-	-	-	2
Soybean hay	61	1.3	40	1.2	.30	16
Cowpea hay	20	.4	10	.3	.08	5
Cowpea seed	87	1.8	45	1.3	.34	10
Red top hay	185	3.8	74	2.2	.56	19
Wild hay	44	.9	24	.7	.18	11
Millet hay	85	1.7	67	1.9	.51	22
Clover hay	17	.6	2	.06	.02	1
Wheat hay	15	.3	10	.3	.08	4
Oats hay	54	1.1	15	.4	.11	8
Alfalfa	11	.2	11	.3	.08	3
Buckwheat	5	.1	-	-	-	-
Orchard grass	3	.1	3	.1	.02	1
Total	4795	100.0	3423	100.0	26.13	131

(a) Includes double cropped acres. (b) Average figured on basis of 131 farms.

For all farms there was an average of 26 acres of harvested crops. Corn averaged 17 acres per farm. The roughage from 14 of these 17 acres of corn was saved in some form, to serve as a substitute for hay in feeding livestock. An average of 2.59 acres of wheat per farm was harvested. An average of less than one acre, but more than one-half acre per farm, was reported for lespedeza, sorghum, red top, millet, and garden. No other crop amounted to as much as one-half acre per farm. Corn and wheat were thus the only crops amounting to more than one acre per farm.

Corn was reported as being harvested on every farm except one.(3) Excepting the home garden, orchard and potato patches, sorghum was the only other crop reported on as many as one-third of the farms; and wheat was the only additional crop reported on more than one-sixth of the farms (Table XLII).

Relative Importance of Each Class of Livestock. The number of farms in the sample reporting the different classes of livestock varied from 10 farms having sheep to 129 reporting one or more cows kept for milk. Fifty-two farms reported 71 horses; one hundred ten had 187 mules; eighty-eight farms had 299 head of cattle other than milk cows; one hundred six farms had 572 hogs; and one hundred twenty-two farms had 7911 chickens. All of the farms reported a total of 898 animal units, an average of 6.85 per farm.

Workstock accounted for 29% of all animal units; cattle totaled 50%; hogs 11%; chickens 9%; and sheep only 1.5%. On the basis of number

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(3) The operator of this farm owned another farm that he rented to tenants who raised all the corn he used in 1936.

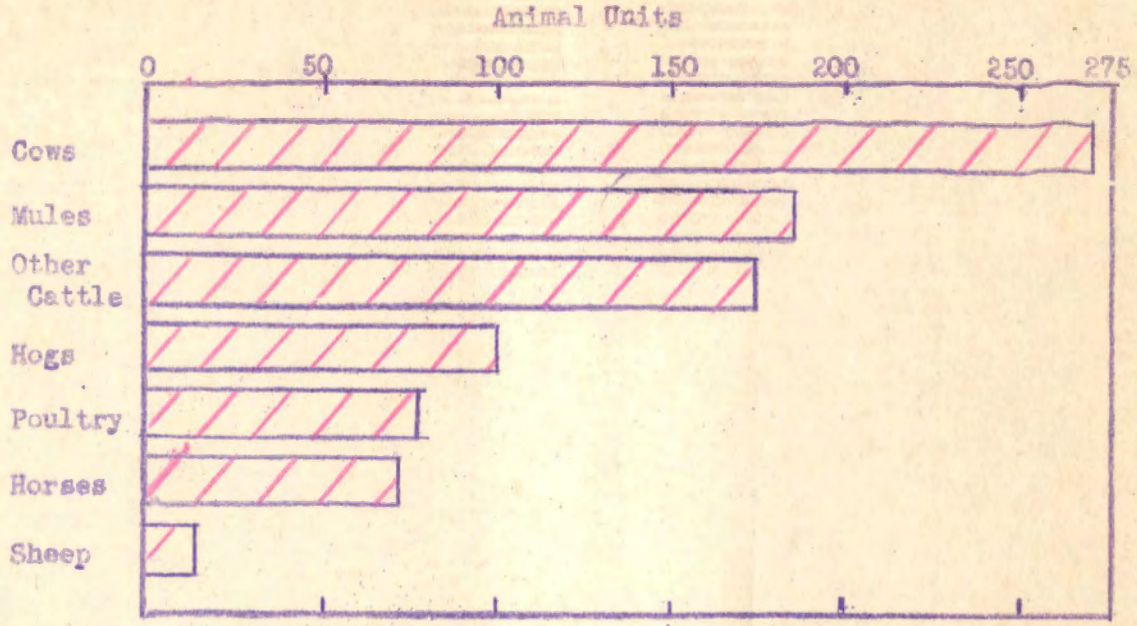
of head per farm, there were 1.97 work stock, 2.08 cows, 1.34 other cattle, 0.71 sheep, 3.82 hogs and 60 chickens. Thus the number of livestock is rather limited. On most farms the only productive classes of commercial importance are cattle and poultry (Table XLIII, Figure 25).

TABLE XLIII. RELATIVE IMPORTANCE OF EACH CLASS OF LIVESTOCK, 131 OVERTON COUNTY FARMS, 1936

Class	Number of Farms Reporting	Total			Number of Head per Farm
		Number Head	Animal Units	Per Cent of Animal Units	
Horses	52	71	71.0	7.9	.54
Mules	110	187	187.0	20.8	1.43
Cows	129	272	272.0	30.3	2.08
Other cattle	88	299	176.0	19.6	1.34
Sheep	10	97	13.3	1.5	.71
Hogs	106	572	100.0	11.1	3.82
Poultry	122	7911	79.1	8.8	60.39
Total	131		898.4	100.0	

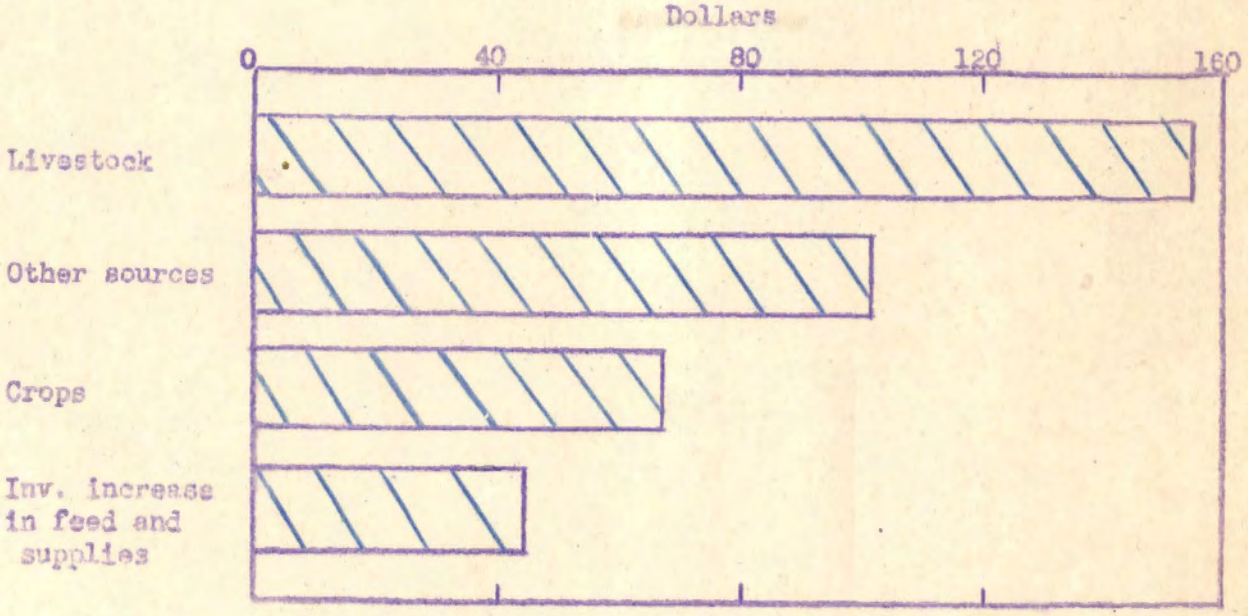
Sources of Receipts. Total gross receipts of $48,605 were reported by 131 farms. Eighty-nine farms reported crop receipts of only $8,797 or 18% of the total receipts. One hundred twenty-eight farms reported gross livestock receipts amounting to $20,410, or 42% of all receipts. Increase in the inventory of feed and supplies occurred on 54 farms, and amounted to $5,959 or 12.3% of the total. Sources of income other than the regular farm business on 76 farms amounted to $13,439 or 27.6% of all receipts on the 131 farms.

On the basis of average receipts per farm for all 131 farms, crops accounted for $67, livestock $156, increased inventory of feed and supplies $45, and other sources $102, making the total gross receipts $370



Source: Table XLIII.

Figure 25. Total animal units by type of livestock, 131 Overton County farms 1936



Source: Table XLIV.

Figure 26. Sources of gross receipts on 131 Overton County farms, 1936

per farm (Table XLIV, Figure 26).

TABLE XLIV. SOURCES OF GROSS RECEIPTS, 131 OVERTON COUNTY FARMS, 1936

Source of Receipts	Number of Farms Reporting	Total Receipts	% of Total Receipts	Average Receipts per Farm (a)
Crops	89	$8,797	18.1	$67
Livestock	128	20,410	42.0	156
Inventory increase in feed and supplies	54	5,959	12.3	45
Other sources	76	13,439	27.6	102
Total		48,605	100.0	370

(a) Average on basis of 131 farms.

Sources of Crop Receipts. All farms reported a total of $8,797 gross crop receipts, or $67 per farm. Corn and corn stover(4) accounted for $6,565 or 75% of the total. Wheat supplied $654, or 7.4%. Tobacco ranked third in importance of value, with $275 or 3.1%. Lespedeza hay accounted for $229. No other crops had receipts amounting to as much as $200.

On the basis of average receipts per farm, corn and corn stover totaled $50, and wheat $5 for each farm. No other crop had receipts of as much as $3 per farm. With the exception of corn and wheat, receipts from no other crop were reported on as many as 8% of the farms (Table XLV).

It should be remembered that while these figures represent gross crop receipts, they do not in all cases show the actual receipts to the

(4) Includes both stover and stripped fodder.

TABLE XLV. SOURCES OF CROP RECEIPTS, 131 OVERTON COUNTY FARMS, 1936

Crop	Number of Farms Reporting	Total Receipts	Per Cent of Total Receipts	Average Receipts for 131 Farms
Corn	69	$6022	68.4	45.97
Fodder	36	543	6.2	4.14
Lespedeza hay	5	229	2.6	1.75
Lespedeza seed	1	9	0.1	0.07
Sorghum hay	2	20	0.2	0.15
Sorghum syrup	8	158	1.8	1.21
Wheat	16	654	7.4	4.99
Rye	3	177	2.0	1.35
Oats	2	33	0.4	0.25
Orchard fruits	7	60	0.7	0.46
Potatoes	10	149	1.7	1.14
Sweet potatoes	8	74	0.8	.56
Truck	5	41	0.5	.31
Tobacco	3	275	3.1	2.10
Cotton	1	10	0.1	.08
Soybean hay	3	55	0.6	.42
Cowpea hay	2	44	0.5	.34
Cowpea seed	1	2	.02	.02
Red top hay	3	112	1.3	.85
Millet hay	6	130	1.5	.99
Total	89(a)	$8,797	99.9	67.15

(a) Not a total of this column because some farms had receipts from more than one crop.

operator. This is due to facts that crops valued at $3,041 were paid as rent to landlords, and crops worth $2282 were received by croppers for their labor, all of which are included in crop receipts. Thus 60% of total crop receipts, from the operator's standpoint, represented payments of either rent or for cropper labor.

Sources of Livestock and Livestock Product Receipts. All farms in the survey reported total gross livestock and livestock product receipts of $26,168. Poultry accounted for 37% of this, cattle 42.4%, and hogs 19%.

Livestock products including eggs, dairy products and honey amounted to $6,029 or 23% of all livestock receipts.

Actual sales of livestock amounted to $15,715, or 60% livestock receipts. Total increase in livestock inventories was $4,424 or 17% of livestock receipts. Thus, the sale of livestock accounted for a major portion of the livestock receipts. Eggs were the principal livestock produce, being the source of 17% of all livestock receipts.

TABLE XLVI. SOURCES OF LIVESTOCK RECEIPTS ON 131 OVERTON COUNTY FARMS, 1936

Source	Total Receipts		Average Receipts per Farm
	Amount	% of Total	
Poultry			
Egg sales	$4,445	17.0	$33.93
Poultry sales	4,593	17.6	35.06
Inventory	664	2.5	5.07
Total	9,702	37.1	74.06
Cattle			
Dairy products	1,541	5.9	11.76
Animal sales	7,854	30.0	59.95
Inventory	1,694	6.5	12.93
Total	11,089	42.4	84.64
Hogs			
Sales	3,037	11.6	23.18
Inventory	1,914	7.3	14.61
Total	4,951	18.9	37.79
Sheep			
Sales	231	0.9	1.76
Inventory	125	0.5	.95
Total	356	1.4	2.71
Goats			
Sales	-	0.0	-
Inventory	27	0.1	.21
Total	27	0.1	.21
Bees			
Sales of honey	45	0.2	.33
Summary			
Sales of products	6,029	23.0	46.02
Animal sales	15,715	60.0	119.96
Inventory	4,424	16.9	33.77
Total	$26,168	99.9	199.75 (a)

(a) Is not same as figure in Table XLIV which includes only net balance for all livestock.

On the basis of receipts per farm, the sale of eggs returned $33.93 and the sale of chickens $35.06 per farm. The sales of dairy products returned $11.76, and cattle sales totaled $59.95 per farm. Hog sales amounted to $23.18 per farm.

Total gross livestock receipts per farm were $200, of which $46 was from sale of livestock products, $120 from actual livestock sales, and $34 from increase in value of inventories (Table XLVI).

Sources of Receipts Other Than from the Farm. Eighty-one farms included in the survey reported one or more sources of receipts from other than the regular farm business. Total receipts from these other sources amounted to $13,439. Operator's and team labor accounted for $11,285, or 84% of all outside receipts; sale of forest products returned $1,035, or 7.7%; and miscellaneous items brought in 6.4%.

On the basis of average outside receipts per farm, man labor returned $77.59; man and team labor $8.56; forest products $7.90; and all other items $8.53, making a total of $102.58.

TABLE XLVII. RECEIPTS FROM OTHER THAN THE FARMING BUSINESS, 131 OVERTON COUNTY FARMS, 1936

Source	Number of Farms Reporting	Receipts	Per Cent of Receipts	Average Receipts per Farm
Man labor	52	$10,164	75.6	$77.59
Man and team labor	16	1,121	8.3	8.56
Machine work	2	11	0.01	.08
Rent	9	252	1.9	1.92
Forest products	29	1,035	7.7	7.90
Miscellaneous (a)	15	856	6.4	6.53
Total	81	13,439	99.9	$102.58

(a) Includes receipts from trading furs, 1 farm $35; sorghum mills, 5 farms $170; hauling with truck, 2 farms $250; stovewood, 1 farm $5; keeping boarders, 1 farm $120; grist mill, 1 farm $100; sale of coal, 1 farm $30; caring for Brier-Hill land, 3 farms $26; pension, 1 farm $120.

Distribution of Farms by Diversity Index.[5] The diversity index of 131 farms varied from 1.000 which indicates that all receipts are from one source, to 5.803 which is a fairly well diversified farm. Sixteen farms had a diversity index of from 1.000 to 1.499; nineteen from 1.500 to 1.999; twenty-eight from 2.000 to 2.499; eighteen from 2.500 to 2.999. Only sixteen farms had a diversity index above 4.000. Thus 26.7% of the farms had a diversity index less than 2.000, and 61.8% an index of less than 3.000. Only 12.2% had an index of over 4.000 (Table XLVIII, Figure 27).

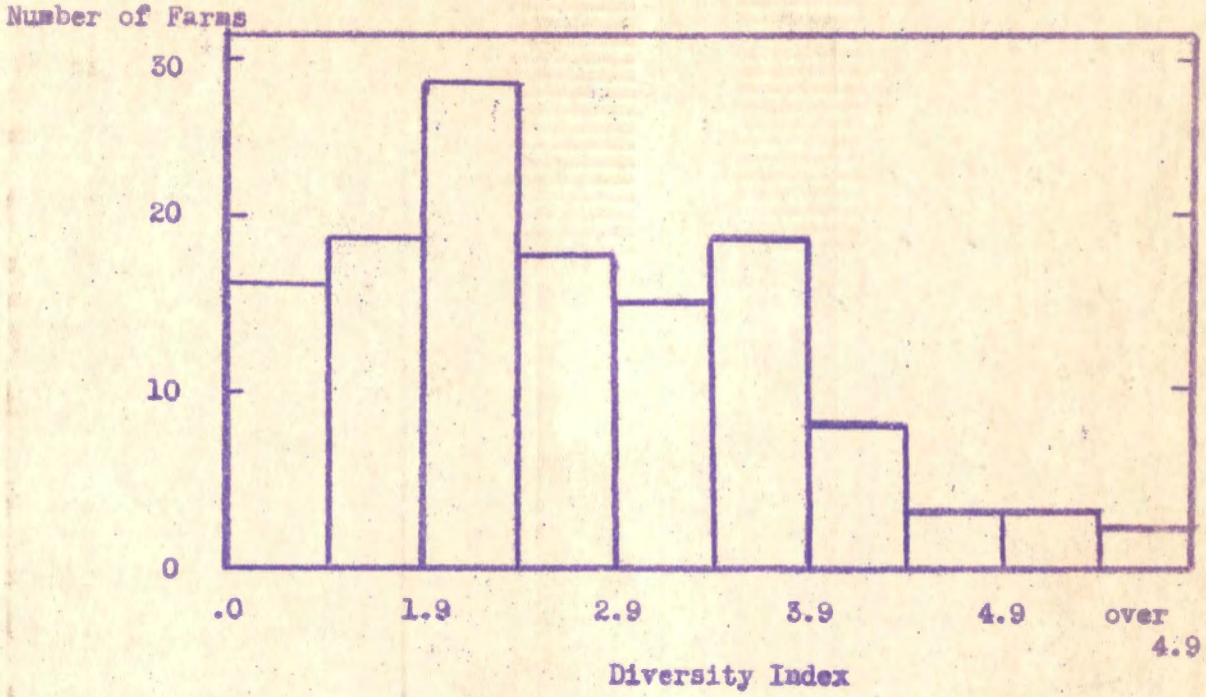
TABLE XLVIII. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY DIVERSITY INDEX

Diversity Index	Number of Farms	Per Cent of All Farms	Diversity Index	Number of Farms	Per Cent of All Farms
1.000 - 1.499	16	12.2	3.500 - 3.999	19	14.5
1.500 - 1.999	19	14.5	4.000 - 4.499	8	6.1
2.000 - 2.499	28	21.4	4.500 - 4.999	3	2.3
2.500 - 2.999	18	13.7	5.000 - 5.499	3	2.3
3.000 - 3.499	15	11.5	5.500 - 5.803	2	1.5

Distribution of Farm Expenses. All farms in the survey had some current expenses and some expense for depreciation, two of the major expense items. Unpaid family labor was reported by 101 farms; decrease in livestock inventory by 83 farms; and a decrease in feed and supply inventory by 81.

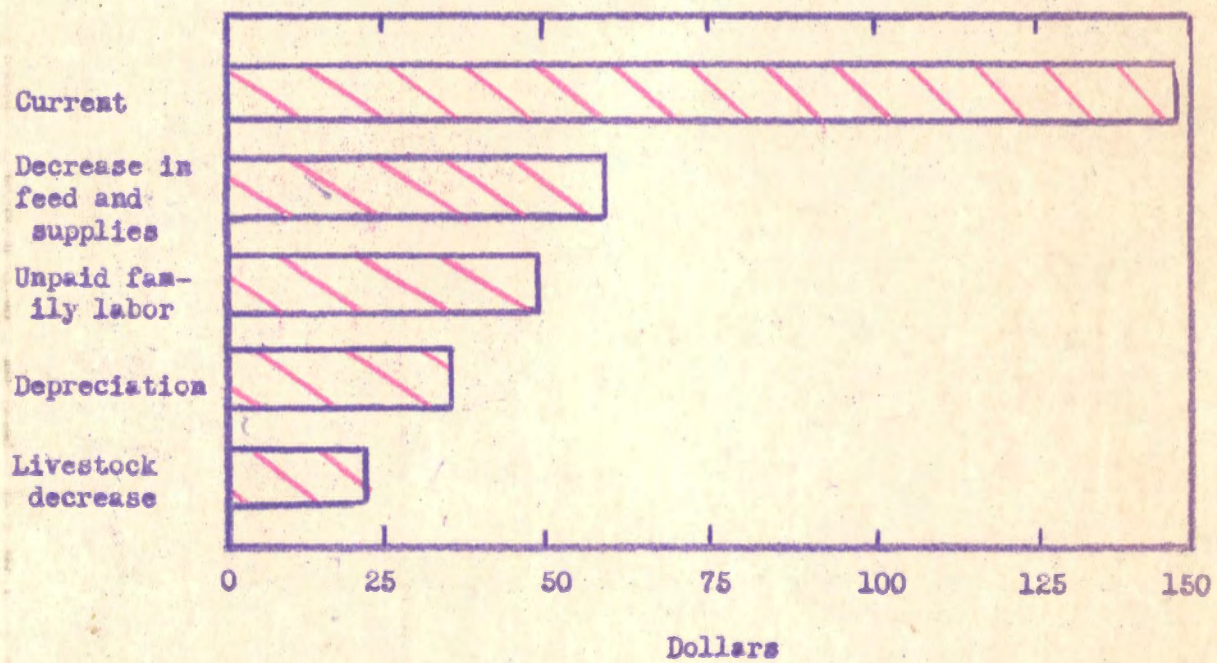
Total expenses of $39,966 were reported. Current expenses amounted to $19,275, or 48.2% of the total. Decrease in feed and supply inventories

(5) Diversity index is a measure or expression of the diversification of the sources of receipts on a particular farm, the greater the distribution of receipts the larger the diversity index. Diversification is frequently considered as being associated with greater profits and with good farm management as it permits a balanced agricultural program. Sources of receipts from other than the farm business are not considered in calculating the diversity index of farms in this report.



Source: Table XLVIII.

Figure 27. Distribution of 131 Overton County farms by diversity index, 1936



Source: Table XLIX.

Figure 28. Distribution of farm expenses, 131 Overton County farms, 1936

totaled $7,411, or 18.5%; unpaid family labor $6,118 or 15.3%; depreciation $4,484, or 11.2%; and decrease in livestock inventories $2,680 or 6.7% of all expenses.

On the basis of average expense per farm, current expenses amounted to $147.12; unpaid family labor $46.70; livestock decrease $20.46; depreciation $34.23; and decrease in feed and supplies $56.57 to total $305.08 average expense per farm (Table XLIX, Figure 28).

TABLE XLIX. DISTRIBUTION OF FARM EXPENSES, 131 OVERTON COUNTY FARMS, 1936

Item	Number Farms Reporting	Expenses	Per Cent of Total Expense	Average Expense for 131 Farms
Current	131	$19,273	48.2	$147.12
Unpaid family labor	101	6,118	15.3	46.70
Livestock decrease	83	2,680	6.7	20.46
Depreciation	131	4,484	11.2	34.23
Decrease in feed and supplies	81	7,411	18.5	56.57
Total	131	$39,966	99.9	$305.08

Relative Importance of Current Expense Items. One or more items in current expenses were reported by every farm in the survey. A total of $19,273 in current expenses was reported. Purchase of feed was the largest single item, amounting to $4,758. This is 24.7% of all current expenses, or $36.32 per farm. Taxes were the second item in importance, totaling $3,965 or 20.7%. The average is $30.27 per farm.

Cropper labor was reported on 19 farms with a total value of $2,282, or 11.8% of all current expenses. The average is $17.42 for all 131 farms. Expense of wage hands was reported on 63 farms, the total cost

being $2,287, or 11.7% of total current expenses. The average is $17.80 per farm. Expense for wage hands was reported on more than three times as many farms as cropper labor, but the total cost was slightly less, showing that less than one-third as much was spent per farm for wage hands as for cropper labor if the average were based on only the number of farms reporting each. This situation is due at least partially to the fact that many of the farms reporting wage hands hired only a few days work during the year and did not hire labor full time.

Ninety-two farms reported the purchase of fertilizer, at a total cost of $1,900 or 9.8% of all current expenses. The average was $14.80 per farm. Thus 70% of all farms reported the use of fertilizer, indicating that it is generally used. However it is used only in small quantities on many of the farms. Fertilizer cost, when considered in connection with prevailing prices indicate that on the average somewhat less than three-fourths of a ton was used per farm.

Purchase of seeds and plants was the current expense item next in importance. One hundred twelve farms reported total expenditures of $1,299, or 6.7% of all current expenses. The average was $9.92 per farm. Thus expense for seed was reported on 85% of the farms; and the cost was sufficiently large to deserve considerable attention.

Except the expenses discussed above, no single current expense item amounted to as much as $3 per farm or 2% of all current expenses (Table L).

TABLE L. RELATIVE IMPORTANCE OF ITEMS IN CURRENT EXPENSES ON 131 FARMS, OVERTON COUNTY, 1936

Item	Number of Farms	Amount of Expense	Per Cent of Total Expense	Average Expense for 131 Farms
Wage hands	63	$2257	11.7	$17.30
Cropper labor	19	2282	11.8	17.42
Meals, rations and board of hired labor	15	345	1.8	2.63
Machinery repairs	57	315	1.6	2.40
Dwelling repairs	20	335	1.7	2.56
Tenant house repairs	3	24	.1	.18
Other building repairs	9	86	.4	.66
Fence repairs	26	230	1.2	1.76
Hired hand and horse	3	53	.3	.40
Firewood	1	18	.1	.14
Salt	4	10	.05	.08
Feed; roughage	36	702	3.6	5.36
Feed; grain	67	4056	21.1	30.96
Feed grinding	1	3	.01	.02
Horseshoeing	80	309	1.6	2.36
Veterinary, dips, medicine	15	62	.3	.47
Breeding fees	75	186	1.0	1.42
Seeds, plants	112	1299	6.7	9.92
Sorghum toll	(39)	(146)	(.8)	(1.11)
Fertilizer, wage land	92	1859	9.6	14.19
Fertilizer, cropper land	3	41	.2	.31
Lime	7	119	.6	.91
Twine	27	38	.2	.29
Threshing, toll	(33)	(198)	(1.0)	(1.51)
Threshing, cash	8	30	.2	.23
Baling and wire	2	6	.03	.04
Other machine work hired	5	14	.1	.11
Fuel & oil for farm work	7	117	.6	.89
Auto for farm use	9	280	1.5	2.14
Telephone	1	1	.01	.01
Digging well	1	20	.1	.15
Insurance	10	211	1.1	1.61
Taxes	131	3965	20.7	30.27
Total	-	$19273	100.0	$147.19

Distribution of Farms by Length of Outside Employment of Operator. Sixty-three out of 131 farms, or 48.1% reported some employment off the farm by the operator. Twenty-four, or 18.4%, were employed off the farm one month or less, fourteen of which were employed less than 15 days. Five operators were employed 2 months; four operators 3 months; seven operators 4 months; two operators five months; four operators 6 months; five operators from 8 to 11 months; and 12 operators were employed 12 months. Several of the operators employed 12 months were local merchants, and had plenty of time for supervision of their farm. Several others employed for 12 months worked only short hours, and had considerable time for the supervision of or even working on the farm.

Thus 68 or 51.9% of all operators had no outside employment; 92 or 70.2% were employed only one month or less; 108 or 82.4% were employed four months or less; and only 23 or 17.6% were employed off the farm more than 4 months or one-third of the time.

While part-time farming is practiced, the extent to which outside employment may be relied upon is limited. Operators on more than 50% of the farms in the survey had no outside employment; less than 30% had more than one month employment; and only about one-sixth of the operators were employed off the farm more than four months or one-third of the time (Table LI).

TABLE LI. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY NUMBER OF MONTHS OF OUTSIDE EMPLOYMENT OF OPERATOR, 1936

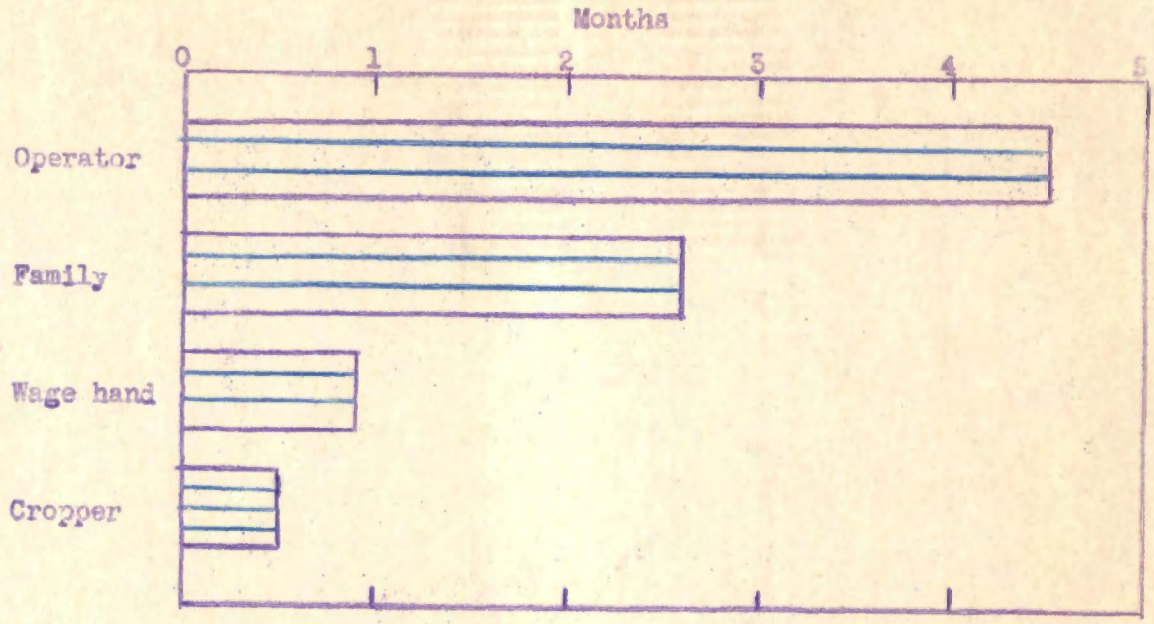
Months Employment	Number of Farms	Per Cent of 131 Farms	Months Employment	Number of Farms	Per Cent of 131 Farms
0	68	51.9	7	0	0.0
1	24	18.4	8	2	1.5
2	5	3.8	9	1	.8
3	4	3.0	10	1	.8
4	7	5.3	11	1	.8
5	2	1.5	12	12	9.2
6	4	3.0	Total	131	100.0

Sources of Farm Labor. One hundred twenty-three out of 131 farms reported a total of 587 months of operator labor, amounting to 52.5% of all labor on the farm. Seventy-eight farms reported 344 months of family labor, representing 30.8% of all labor. Nineteen farms reported 61 months of cropper labor, or 5.5% of all labor. Sixty-three farms reported 125 months of wage hand labor, or 11.2% of all labor. A total of 1117 months of labor was reported, 83% of which was represented in either operator or family labor.

TABLE LXI. SOURCES OF FARM LABOR, 131 OVERTON COUNTY FARMS, 1936 (a)

Source	Number of Farms Reporting	Months Labor	Per Cent of Labor	Average Number Months for 131 Farms
Operator	123	587	52.5	4.5
Family	78	344	30.8	2.6
Cropper	19	61	5.5	0.5
Wage hand	63	125	11.2	0.9
Total	131	1117	100.0	8.5

(a) All figures based on estimates of operators except cropper labor which was calculated on the basis of man work units.



Source: Table LII.

Figure 29. Sources of farm labor on 131 Overton County farms, 1936

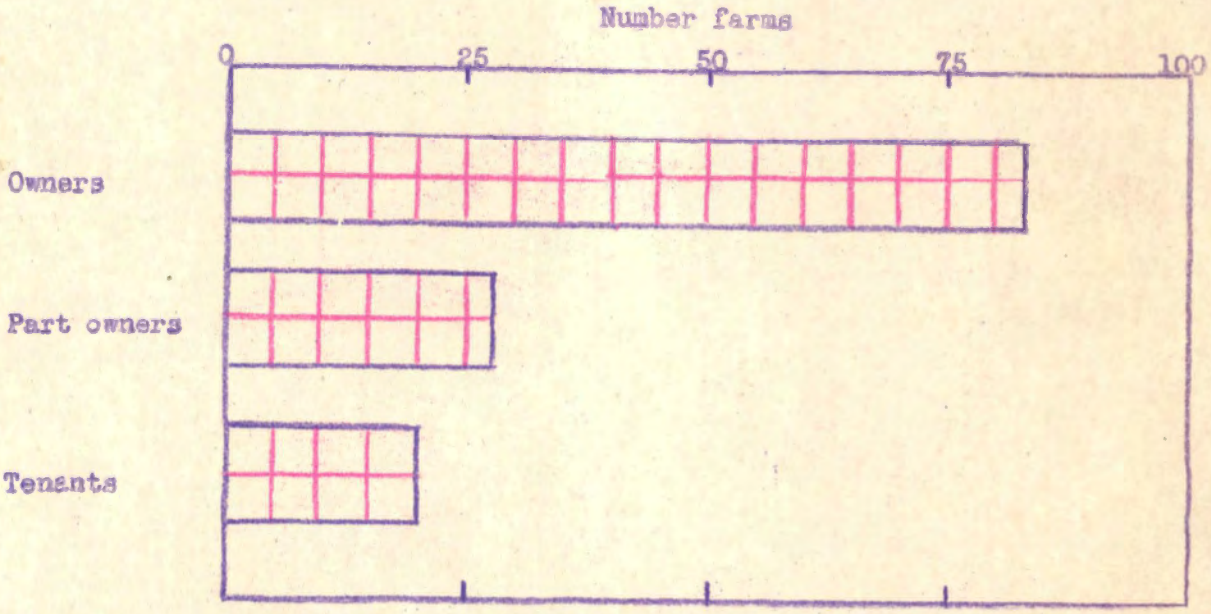


Figure 30. Distribution of 131 Overton County farms by tenure of operator, 1936

Source: Text, p. 94.

On the basis of average amount of labor per farm, the operator worked 4.5 months, family labor 2.6 months, cropper labor 0.5 months, and wage hand labor 0.9 months. This makes a total of 8.5 months of man labor per farm (Table LII, Figure 29).

Tenure of Farm Operators. Eighty-three farms, or 63.3% of all farms in the survey, were operated by full owners. Twenty-eight, or 21.4%, were operated by part-owners;(6) and 20 farms, or 15.3%, were operated by share tenants. Thus about two-thirds of all farms were operated by full owners, and about one-sixth by tenants (Figure 30).

Five of the tenants lived on Brier-Hill(7) land, had written leases on the land, but paid no cash or share of the crops for rent. In general this land is poor, rough or mountainous and is not well adapted to agricultural use. The company retains the right to collect rent, but in practice permits the tenants to retain their full agricultural production in return for their services in caring for the land and timber belonging to the company.

Only one of the remaining fifteen tenants had a written lease, and he lived on property belonging to the town of Livingston. The customary farm leases in the section are verbal agreements between the tenant and land owner.

The customary land rental basis is a share of the crop. Most of the tenants and part owners in the survey paid the land owner one-third of

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(6) A part-owner owns a tract of land, but rents a portion of his operated acreage from another land owner.

(7) Brief-Hill is a company that formerly operated coal mines and owned considerable rough land in the southeastern part of the county. It is at present in receivership.

the crop as rent for the land. However, this crop division varied, and in some cases one-half of the crop was paid the land owner for use of the land. The exact division of the crop depends on the natural productivity of the field rented, and upon the proportion of the various factors of production furnished by each party. The landlord furnishes the land and also the farmstead in case a whole farm is rented. Tenants furnish work-stock, equipment and labor. The proportion of the seed and fertilizer furnished by each varies, but are frequently furnished in the same proportions by which the crop is divided.

Summary of Organization, 151 Farms. In summarizing the organization of 151 farms on the basis of averages, the average farm contains 95.1 acres. It has 55 acres of improved land, with 36.6 acres in crops, and 14.3 acres in cleared pasture. The total investment in the farm is $2,798, $867 of this being invested in working capital. Total receipts in 1936 averaged $371. Total expenses amounted to $306, $147 of which was used for current expenses. There are 6.9 animal units per farm, with a diversity index of 2.762.

The operator worked off the farm 2.2 months and on his farm 4.5 months. His family supplied 2.6 months work on the farm. About 1.4 months of cropper and wage-hand labor was utilized. The farm had a total of 170 man work units, with a man equivalent of 0.71 (Table LIII).

TABLE LIII. SUMMARY OF ORGANIZATION OF 131 OVERTON COUNTY FARMS, 1936

Item	Total	Average Per Farm
Total acreage	12,454	95.1
Acres improved land	7,203	55
Acres in crops (a)	4,794	36.6
Acres cleared pasture	1,873	14.3
Total investment	$366,878	$2,798
Operating capital	$113,573	$ 867
Total receipts (b)	$ 48,606	$ 371
Farm expenses	$ 39,966	$ 305
Current expenses	$ 19,273	$ 147
Animal units	898	6.9
Diversity index (c)		2.762
Months operator labor:		
Off farm	288	2.2
On farm	587	4.5
Family labor on farm, months	344	2.6
Cropper and hired labor, months	186	1.4
Number M.W.U. per farm	-	170.1
Man equivalents per farm	-	.71

(a) Includes double cropped acres (393 acres).

(b) Includes other than farm receipts.

(c) Unweighted arithmetic average.

Organization of 131 Overton County Farms by Soil Type

Distribution of Number of Farms, and Farm Land, by Soil Type. Farms included in the sample were fully or partially located on nine or ten different soil types, as classified by Ayrs and Hill in the 1908 Overton County Soil Survey.(7) Several individual farms were located on two, and some on three soil types. However, in the study of unit organizations each farm has been placed in one "type" group. Therefore, each farm was designated as being in one of the six soil types listed below that fall under the three major groupings of Decatur, Clarksville, and DeKalb. Each farm that was on a combination of soil types was placed in the type that apparently predominated on the farm.

Sixty-five farms, or 49.6%, were located on Clarksville silt loam; seventeen were on Clarksville stony loam; sixteen, or 12.2%, on both Decatur loam and DeKalb silt loam; twelve were on DeKalb sandy loam; and five on DeKalb stony loam.

Decatur loam contained only 12.2% of all farms, but composed 18.6% of the total farm area, indicating that the farms on this soil type are above the average in size. Nine per cent of all farms were on DeKalb sandy loam, but amounted to only 2.3% of the total farm area, indicating that the average sized farm on DeKalb sandy loam is much less than average size.

Clarksville silt loam is by far the predominating type of soil on the

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(7) A discussion of soils is presented in Chapter I.

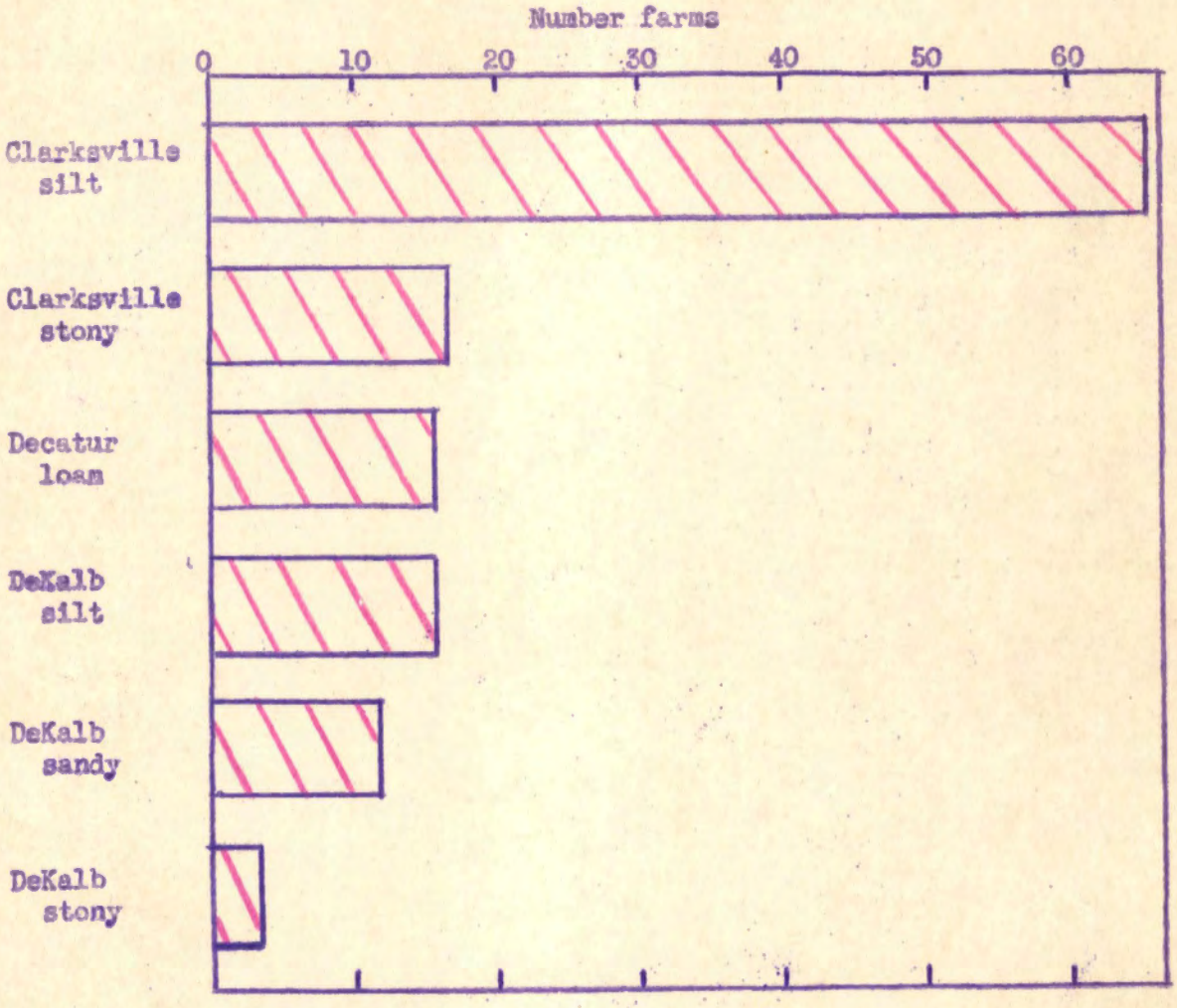
farms surveyed, about half of them being located on that type; and it composed more than 50% of the total farm area (Table LIV, Figure 31).

TABLE LIV. DISTRIBUTION OF 131 OVERTON COUNTY FARMS AND FARM AREA BY SOIL TYPE, 1936

Soil Type	Number of Farms	Per Cent of Farms	Per Cent of Farm Area
Clarksville silt	65	49.6	52.2
" stony	17	13.0	13.6
Decatur loam	16	12.2	18.6
DeKalb silt	16	12.2	10.2
" sandy	12	9.2	2.3
" stony	5	3.8	3.1
Total	131	100.0	100.0

Distribution of Farm Land in Major Land Uses by Soil Type. Sixteen farms on Decatur loam soil had an average size of 144.5 acres. There was an average of 10.9 acres in pastured woods, 43.5 acres in woods not pastured, 50.4 in crops, 8.7 in idle crop land, 20.6 in cleared pasture land and 10.4 acres waste land. Thus more than one-third of the land was in woodland, and more than one-third in crops. Four acres less land was planted to crops than was in woodland. One-sixth as much crop land was idle as was planted to crops. One-seventh of the total farm was devoted to cleared pasture. One-half as much area was in waste land as in cleared pasture.

Sixty-five farms on Clarksville silt loam had an average size of 99.8 acres. As an average, each had 14.3 acres in woodland used for pasture, 16.4 acres in woodland not pastured, 37.1 acres in crops, 7.6 acres idle crop land, 18.5 acres cleared pasture and 5.9 acres of waste land. Thus less than one-third of the land was in woodland, and about three-eights



Source: Table LIV.

Figure 31. Distribution of 131 Overton County farms by soil type, 1936

in crops. About one-fifth as much crop land was idle as was planted to crops. Nearly one-fifth of the farm land was in cleared pasture, and one-half as much land in pasture as in crops. Less than one-third as much of the area was in waste land as was devoted to pasture.

Seventeen farms located on Clarksville stony loam had an average size of 99.7 acres. From the standpoint of total size Clarksville stony loam farms were about the same asClarksville silt loam farms. However, much more of Clarksville stony loam land was in woodland. Nearly one-half of all the land was in this classification, in contrast with less than one-third for the Clarksville silt loam. Slightly more than one-fourth of all farm land was planted to crops on Clarksville stony loam, and more than one-fourth as much crop land was idle as was planted to crops. Only about one-eighth of the farm land was in cleared pasture, an average of 12.2 acres per farm. More than half as much land was waste as was used for pasture.

Sixteen DeKalb silt loam farms had an average size of 79.5 acres. More than one-third of the land was in woodland, with some of it pastured. Over 40% of the farm land area was planted to crops. Only about one-fifth as much crop land was idle as was planted to crops. However there was about the same amount of idle crop land as there was cleared pasture land. There was one-half as much waste as there was cleared pasture land.

Twelve DeKalb sandy loam farms had an average of 24.2 acres, 10.4 acres being in woodland. Only 9.3 acres per farm were planted to crops, with 2.4 acres or one-fourth as much crop land idle as was planted to crops. The farms had an average of only one-half acre cleared pasture per farm. They had three times as much waste land as cleared pasture.

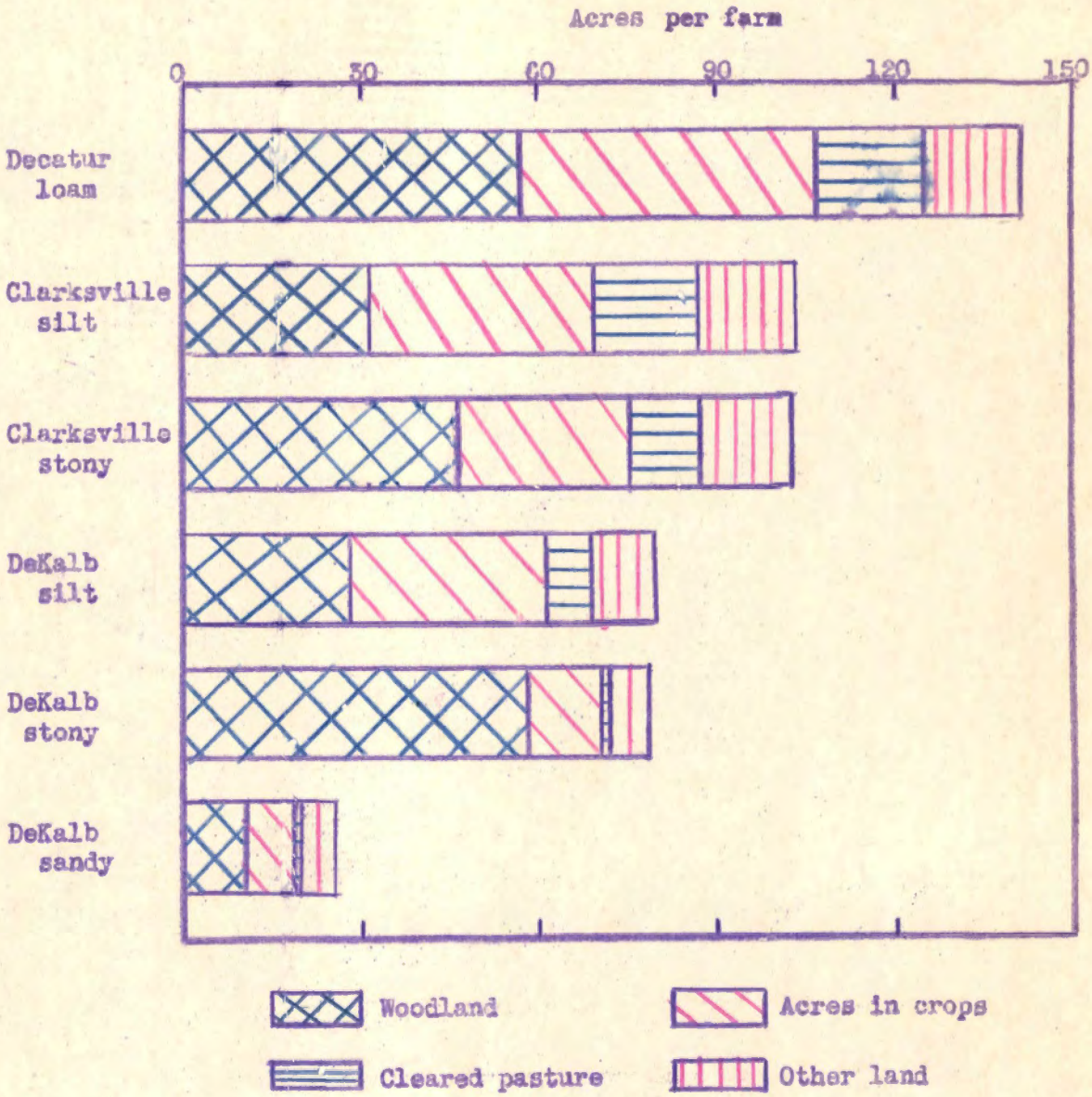
Five DeKalb stony loam farms had an average of 78.2 acres, with 56 acres or over two-thirds of all land in woodland. They had 12.2 acres, or less than one-sixth of all land, planted to crops. Thirty per cent as much crop land was lying idle as was planted to crops. The farms had an average of only 1.8 acres of cleared pasture, but had 4.6 acres of waste land.

TABLE LV. DISTRIBUTION OF FARM LAND IN MAJOR LAND USES, BY SOIL TYPE, 131 OVERTON COUNTY FARMS, 1936

Land Use	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
Woods pastured	10.9	14.3	14.4	8.4	5.2	18.4
Woods not pastured	43.5	16.4	30.5	19.5	5.2	37.6
Acres in crops	50.4	37.1	28.0	33.4	9.3	12.2
Crop land idle	8.7	7.6	7.8	7.2	2.4	3.6
Cleared pasture	20.6	18.5	12.2	7.4	.5	1.8
Waste	10.4	5.9	6.8	3.6	1.6	4.6
Total	144.5	99.8	99.7	79.5	24.2	78.2

DeKalb stony loam farms had over two-thirds, and Clarksville stony loam farms nearly one-half of their total area in woodland. Clarksville silt loam and DeKalb silt loam farms had a large part of their area planted to crops. All groups had a relatively large percentage of their crop land idle. Clarksville silt loam farms had the largest percentage in cleared pasture, while DeKalb sandy loam and stony loam farms had practically no improved pasture.

On the basis of average total farm area, Decatur farms were considerably larger than others. DeKalb silt and stony loam farms were smaller



Source: Table LV.

Figure 32. Distribution of farm land in major land uses by soil type, 131 Overton County farms, 1936

than average. DeKalb stony loam farms were only one-sixth as large as Decatur loam farms (Table LV, Figure 32).

Distribution of Farms by Size and Soil Type. When the farms are recorded in size groups by soil type, considerable variation occurs. Twenty-two farms had 40 acres or less; 52 farms from 41 to 80 acres; 28 from 81 to 120; and 29 from 121 to 530 acres.

Of the 16 Decatur loam farms, only 1 had less than 40 acres, 7 less than 80 acres, and 10 less than 120 acres.

Five out of 65 Clarksville silt loam farms had less than 40 acres, 27 from 41 to 80 acres, 18 from 81 to 120 acres, with 15 having more than 120 acres.

No Clarksville stony loam farms had less than 40 acres, but 10 of the 17 had from 41 to 80 acres.

TABLE LVI. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY SIZE AND BY SOIL TYPE

Size Group	Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Total
		Silt Farms	Stony Farms	Silt Farms	Sandy Farms	Stony Farms	
3 - 40 A.	1	5	-	4	10	2	22
41 - 80 "	6	27	10	7	2	-	52
81 -120 "	3	18	3	2	-	2	28
121 -530 "	6	15	4	3	-	1	29
Total	16	65	17	16	12	5	131

DeKalb silt loam farms were well distributed among the four size groups. Ten out of 12 DeKalb sandy loam farms had less than 40 acres. Two DeKalb sandy loam farms had less than 40 acres, and 3 had more than 80 acres.

Decatur loam and Clarksville silt and stony loam farms group in sizes above 40 acres. DeKalb sandy farms group below 40 acres. Most of the

DeKalb silt loam farms had less than 80 acres (Table LVI).

Distribution of Farms by Amount of Investment, by Soil Type. Seven out of 16 Decatur loam farmers had a total investment of over $6,000. About 60% of the Clarksville silt farmers had a total investment of $3,000 or less. Eight out of 17 on Clarksville stony soil had a total investment of $1,500 or less, and none had over $4,500. Three-fourths of the DeKalb

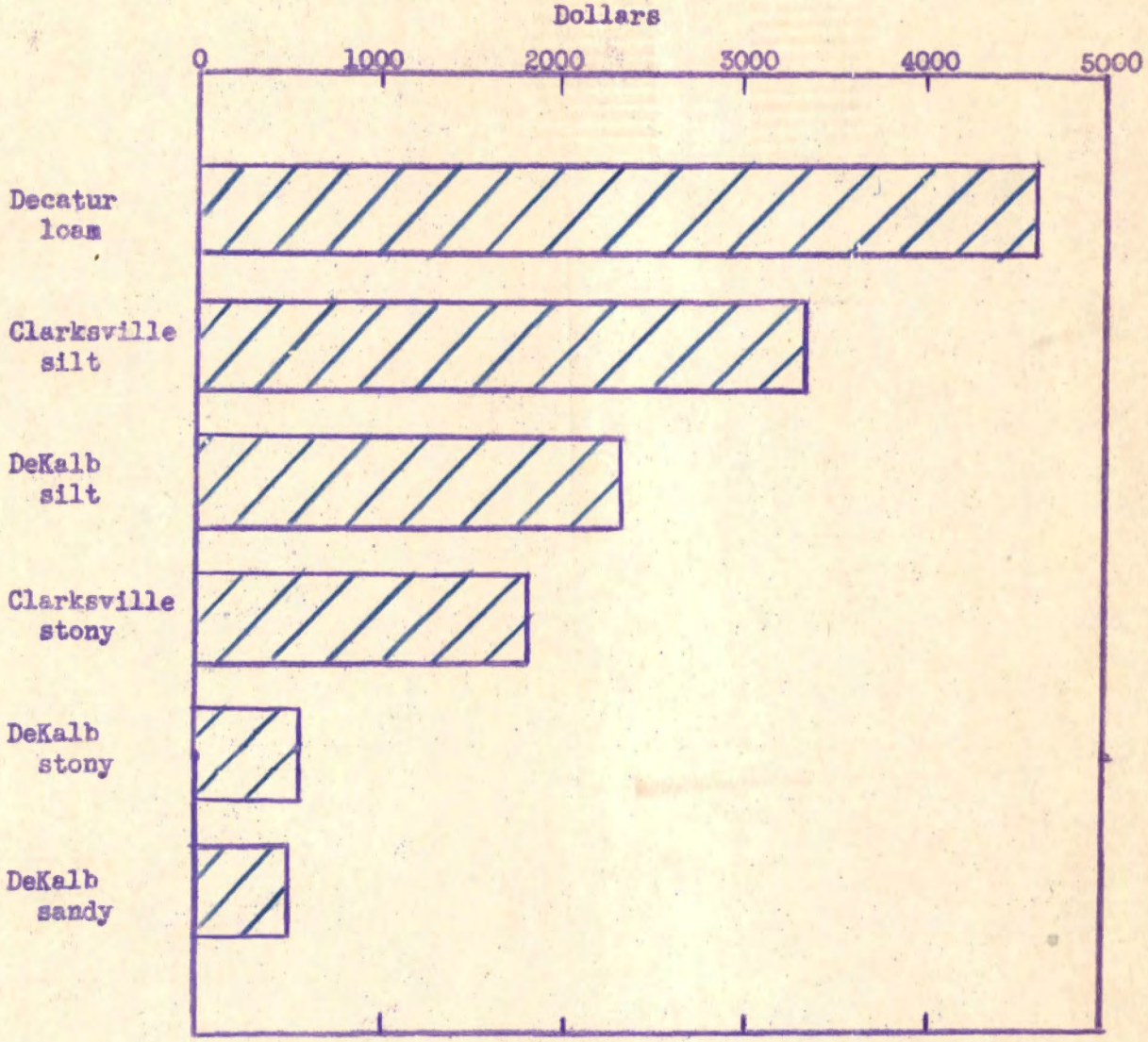
TABLE LVII. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY TOTAL INVESTMENT, BY SOIL TYPE, 1936

(Number of Farms)

Investment Class	Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Total
		Silt Farms	Stony Farms	Silt Farms	Sandy Farms	Stony Farms	
$213 - 1500	2	12	8	5	11	5	43
1501 - 3000	3	26	7	7	1	-	44
3001 - 4500	3	15	2	2	-	-	22
4501 - 6000	1	4	-	2	-	-	7
6001 -11035	7	8	-	-	-	-	15
Total	16	65	17	16	12	5	131
Average investment per farm	$4600	$3318	$1798	$2321	$552	$588	$2798

silt loam farmers had an investment of $3000 or less. Eleven out of 12 DeKalb sandy loam farms did not have over $1,500 invested. None of the 5 DeKalb stony farmers had more than $1,500 invested (Table LVII).

On the basis of average total investment per farm, Decatur loam greatly exceeded the other soil types. The average value of Decatur loam farms was $4,600 which exceeded the value of Clarksville silt farms by more than one-third, nearly doubled the value of DeKalb silt farms, more than doubled those on Clarksville stony, and was from 6 to 7 times the value of the farms on DeKalb sandy or stony land (Figure 33).



Source: Table LVII.

Figure 33. Average total investment in farm business, by soil type, 131 farms, Overton County, 1936

Distribution of Investment in Farm Business by Soil Type, 131 Farms in Overton County, 1936. Sixteen Decatur loam farms had an average total investment of $4,600. One-half of the total investment was in land. Less than one-half as much was invested in improvements as in land. Less than one-half the value of improvements was in the dwelling. Less than 30% of the total investment was in operating capital. The farms had an average of $1,329 invested in working capital, $231 of which was in equipment, $619 in livestock, $389 in feed and supplies, and $90 in cash to run the farm.

Sixty-five farms on Clarksville silt soil had an average investment of $3318. Less than half of this was in land. More than half as much was invested in improvements as in land. About 30% of the total investment, or $1,002, was represented in working capital. Livestock were valued at $457, and machinery at $134.

Seventeen Clarksville stony farms had an average total investment of $1798. Over 40% of this was in land. Less than one-third of the real estate value was in improvements. Operating capital amounted to $653, or more than one-third the total investment. Livestock were worth $312 and equipment $79.

Sixteen DeKalb silt farms had an average total investment of $2321. Of this $976 was invested in land. Improvements were valued at nearly two-thirds as much as the land. Working capital totaled $737, with livestock valued at $313 and equipment at $98.

Twelve DeKalb sandy loam farms had an average total investment of $552. Of this $135 or less than one-fourth was in land. Land represented

less than half the real estate value. Operating capital represented $249 or nearly one-half the total investment. Livestock were valued at $118 and equipment at only $26.

Five DeKalb stony farms had an average investment of $587, with land valued at $237. The average value of the dwelling was only $49, but even at that represented one-half the value of improvements. Operating capital amounted to $252, with livestock valued at $122 and equipment at $31.

TABLE LVIII. DISTRIBUTION OF INVESTMENT IN FARM BUSINESS BY SOIL TYPE, 131 OVERTON COUNTY FARMS, 1936

Item	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Ave. 131 Farms
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Land	$2296	$1533	$ 769	$ 976	$135	$237	$1281
Houses	479	416	190	343	103	49	342
Other bldgs.	392	265	148	198	44	29	228
Fences	104	102	38	67	21	20	79
Drains	-	1	-	-	-	-	.42
Machinery & equipment	231	134	79	98	26	31	120
Livestock	619	457	312	313	118	122	397
Feed & supplies	389	346	227	257	74	61	289
Cash to run farm	90	65	35	69	31	38	61
Total	$4600	$ 3318	$1798	$2321	$552	$587	$2797

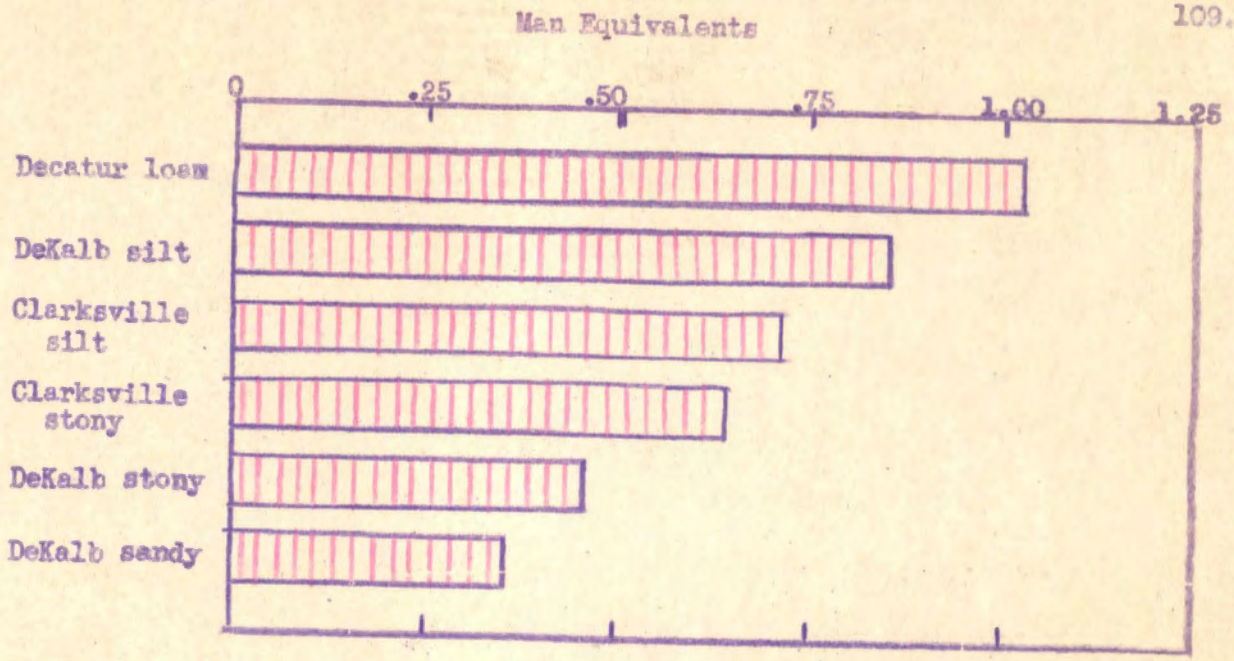
DeKalb sandy and stony farms were valued at less than one-third the total value of farms on any other soil type. These farms had nearly half the total investment in operating capital, but this amounted to only $250. Farms on all other soil types except Clarksville stony had less than one-third of the total investment in working capital.

There is a direct correlation between the total investment in the farm business and the proportion of the investment in land, when the farms are grouped by soil type. These factors range from $4,600 total investment on Decatur loam on which land represented 50% of the total investment, to $552 total investment on DeKalb sandy soil on which land represented less than one-fourth the total investment (Table LVIII).

Soil Type Distribution of Farms by Man-Equivalents per Farm, 131 Overton County Farms, 1936. The man-equivalents per farm on all soil types ranged from 0.10 to 2.88, with only one farm exceeding 2.00.

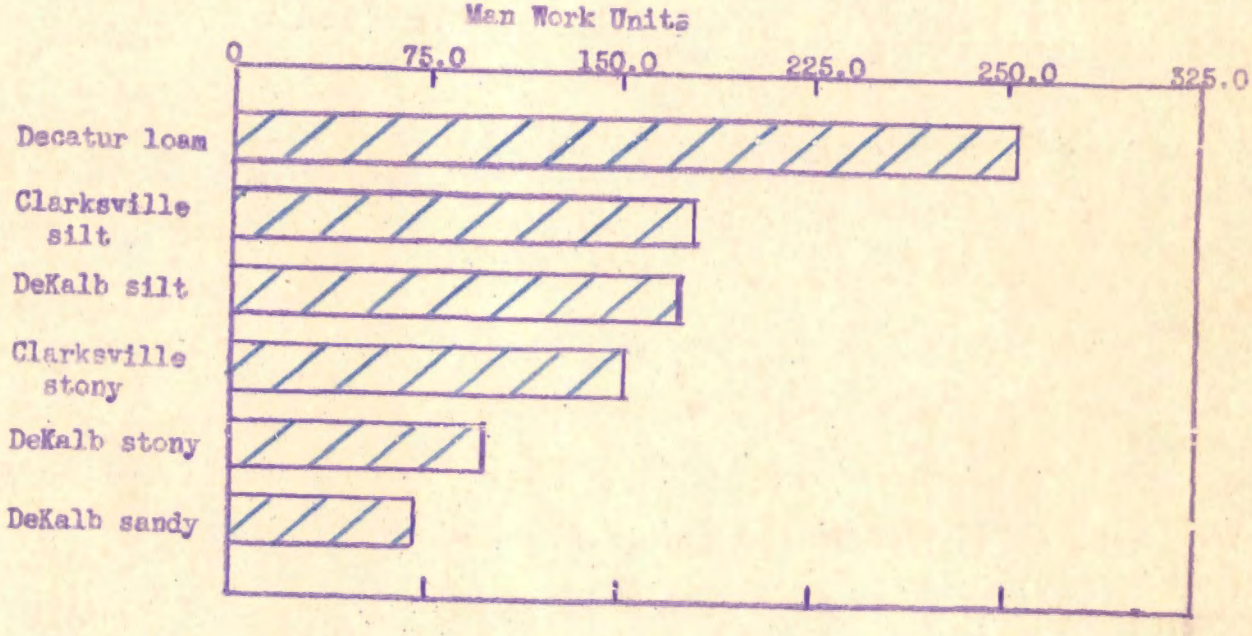
Fifty per cent of the Decatur loam farms had a man-equivalent exceeding 1.0. Fifty-four out of 65 Clarksville silt farms did not exceed 1.00 man-equivalent per farm. Sixteen out of 17 Clarksville stony farms, and 14 out of 16 DeKalb silt farms did not exceed 1.00 man-equivalent per farm. None of the farms on DeKalb sandy or stony soil exceeded 1.00 man-equivalent.

On the basis of average man-equivalents per farm, Decatur loam farms are shown to be the largest farms, with an average of 1.03 per farm. According to preceding measures of size of farm business Clarksville silt farms were second largest, but on the basis of average man-equivalent DeKalb silt farms were second. Since man-equivalents are based on labor estimates of the operator, this variation may be due either to varied or biased estimates of the operators, or it may be due to a lower degree of labor efficience on DeKalb silt soils, thereby raising the required number of man-equivalents per farm. Clarksville silt had an average man-equivalent of 0.71, and Clarksville stony 0.61. DeKalb silt had an average of 0.84, DeKalb sandy 0.38, and DeKalb stony 0.47 (Table LIX, Figure 34).



Source: Table LIX.

Figure 34. Relation of average man-equivalents per farm to soil type, 131 Overton County farms, 1936



Source: Table LX.

Figure 35. Relation of average Man Work Units per farm to soil type, 131 Overton County farms, 1936

TABLE LIX. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY MAN-EQUIVALENTS PER FARM BY SOIL TYPE, 1936
(Number of Farms)

Man-Equivalents	Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		Silt Farms	Stony Farms	Silt Farms	Sandy Farms	Stony Farms
.10 - .50	4	25	7	4	9	3
.51 - 1.00	4	29	9	10	3	2
1.01 - 1.50	4	9	1	-	-	-
1.51 - 2.00	4	2	-	1	-	-
Over 2.00	-	-	-	1	-	-
Total farms	16	65	17	16	12	5
Average man-equivalents	1.03	0.71	0.61	0.84	0.38	0.47

Distribution of Farms by Man Work Units per Farm by Soil Types. Farms on all soil types ranged in number of man work units from 18 to 544. Twenty-six had less than 100 man work units; 36 had from 101 to 150; 32 from 151 to 200; 27 from 201 to 300; only 10 had over 300 M.W.U.(8) per farm.

Of 16 Decatur loam farms, 8 had more than 200 M.W.U. Of 65 Clarksville silt farms 44 or two-thirds had less than 200 man work units. Fourteen out of 17 Clarksville stony farms had less than 200 M.W.U., and none had more than 300. Of DeKalb silt farms, 11 out of 16 did not have more than 200 M.W.U., and only one had more than 300. None of the farms on DeKalb sandy or stony soils had more than 150 M.W.U., and only two in each group had over 100.

(8) Man work units.

In measuring the size of the farm by M.W.U. per farm, Decatur loam farms are again largest. They had an average of 252 M.W.U., which was 40% more than for any other soil group. Clarksville silt farms had the second largest number. DeKalb sandy and stony were smallest, being less than two-thirds as large as either of the other groups (Table LX, Figure 35).

TABLE LX. SOIL TYPE DISTRIBUTION, 131 OVERTON COUNTY FARMS, BY MAN WORK UNITS PER FARM, 1936

(Number of Farms

Man Work Units	Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Total
		Silt Farms	Stony Farms	Silt Farms	Sandy Farms	Stony Farms	
18-100	1	8	3	1	10	3	26
101-150	2	18	6	6	2	2	36
151-200	5	18	5	4	-	-	32
201-300	4	16	3	4	-	-	27
301-400	2	4	-	1	-	-	7
Over 400	2	1	-	-	-	-	3
Total farms	16	65	17	16	12	5	131
Average man work units per farm	252.5	177.8	152.7	171.6	72.2	95.2	170.1

Distribution of Crops by Soil Type. The number of acres of crops per farm, by soil type, varied from 9.58 on DeKalb sandy farms to 57.78 on Decatur loam. Corn was the predominating crop on all soil types, varying between 6.5 acres per farm on DeKalb sandy farms, where it represented two-thirds of all crop acres, to 22.75 acres on Decatur loam farms where it represented less than 40% of the total crop acres. As the total number of crop acres increased per farm, by soil types, the percentage of all crop acres in corn decreased.

TABLE LXI. DISTRIBUTION OF AVERAGE NUMBER OF ACRES[(a)] OF VARIOUS CROPS PER FARM, BY SOIL TYPES, 131 OVERTON COUNTY FARMS, 1936

Crop	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
Corn	22.75	17.84	16.52	19.93	6.50	6.80
Silage	1.31	-	-	-	-	-
Corn stover	(20.44)	(13.65)	(14.35)	(18.50)	(5.58)	(6.80)
Lesp. hay	9.86	10.49	4.53	5.44	.75	.80
" seed	1.23	.40	-	-	-	-
Sorghum hay	.72	.88	.59	.75	.33	.10
" syrup	.20	.15	.12	.12	.25	.30
Wheat (grain)	8.62	2.49	1.65	1.62	-	-
Rye "	1.12	.74	1.29	.56	-	-
Oats "	1.75	.34	.47	1.94	.25	-
Orchard	.34	.62	.18	.38	.29	.50
Potatoes	.24	.26	.41	.31	.38	.35
S. potatoes	.24	.22	.24	.19	.14	.05
Garden	1.42	.58	.47	.75	.46	.60
Tobacco	-	.02	.06	.06	-	-
Cotton	-	-	-	.02	-	-
Peanuts	-	.03	-	.50	-	-
Soybean hay	.58	.51	.59	.44	.08	-
Cowpea "	.31	.12	-	.19	.12	.50
" seed	1.00	.68	.41	.44	.01	2.60
Red top hay	2.50	2.06	-	.75	-	-
Wild hay	.94	.28	.53	-	.02	.40
Millet hay	1.81	.37	.88	.62	-	1.00
Clover "	.33	.11	-	-	-	.80
Wheat "	-	.09	.29	.25	-	-
Oats "	-	.57	.59	.44	-	-
Alfalfa "	.25	.11	-	-	-	-
Buckwheat	-	.03	-	-	-	-
Orchard grass	.19	-	-	-	-	-
Total	57.78	40.03	29.87	35.72	9.58	14.80

(a) Includes double cropped acres.

Lespedeza was the second crop in importance, on basis of acreage planted. Clarksville silt farms had an average of 10.49 acres, which was the most on any soil type. Lespedeza represented one-fourth of all crop acres on Clarksville silt farms. Decatur loam farms were second highest with 9.86 acres or one-sixth of all crops in lespedeza, while DeKalb sandy and DeKalb stony farms had an average of less than one acre per farm.

Small grains were more important on Decatur loam farms than on any other type. Decatur loam farms had an average of 11.5 acres per farm, representing one-fifth of all acres in crops. Small grains were also planted on Clarksville silt and Clarksville stony farms, with an average of 4 acres per farm. There were 4.8 acres on DeKalb silt farms. Only one farm reported small grain on DeKalb sandy loam, with three acres, and none were reported on DeKalb stony farms.

Tame grass hay, consisting of red top and millet, was next in importance in total acreage. Decatur loam farms had an average of 4.3 acres, Clarksville silt 2.4 acres, and all other farms less than 2 acres. DeKalb sandy farms had none.

Other crops of less importance from an acreage standpoint are shown in Table LXI.

Livestock per Farm by Soil Type. The importance of livestock on farms, expressed in animal units per farm, varied from 2.36 on DeKalb sandy farms to 11.81 on Decatur loam.

Decatur loam farms had about 3 workstock per farm, Clarksville silt

had slightly more than 2, Clarksville stony and DeKalb silt had about one and three-fourths, while DeKalb sandy and stony farms had less than one head per farm.

DeKalb sandy farms had an average of only 0.92 cows per farm, but all other soil types had an average of more than 1.5 head. Decatur loam had 3.69 per farm, and also had an average of 2.88 other cattle. Clarksville silt reported an average of 1.75 other cattle. The farms on no other soil type reported as many as 0.5 head of other cattle per farm. Other cattle were of small importance on all farms except those located on Decatur loam and Clarksville silt loam soil.

Less than two sheep per farm were reported on all soil types. Only Decatur loam and DeKalb silt had as many as one head per farm.

Decatur loam had an average of 6.62 hogs per farm. All other types had from 3 to 5 head, except DeKalb sandy and stony which had 1.0 and 1.2

TABLE LXII. DISTRIBUTION OF CLASSES OF LIVESTOCK PER FARM, BY SOIL TYPES, 131 OVERTON COUNTY FARMS, 1936

(Number per Head per Farm)

Livestock	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Ave. 131 Farms
		35 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Horses	.94	.60	.24	.62	.17	.20	.54
Mules	2.00	1.54	1.53	1.12	.67	.60	1.43
Cows	3.69	2.14	1.65	1.69	.92	1.60	2.08
Other cattle	2.88	1.75	.29	.44	.25	.20	1.34
Sheep	1.12	.80	.12	1.44	-	-	.71
Hogs	6.62	3.55	4.76	4.00	1.00	1.20	3.82
Poultry	82.56	56.82	62.76	58.75	15.00	12.00	60.39
Animal units per farm	11.81	7.52	5.31	5.45	2.36	2.96	6.85

respectively. Decatur loam farms also had an average of more chickens than any other type, with 83 per farm. Farms on other soil types had about 60, except DeKalb sandy and DeKalb stony which had 16 and 12 respectively.

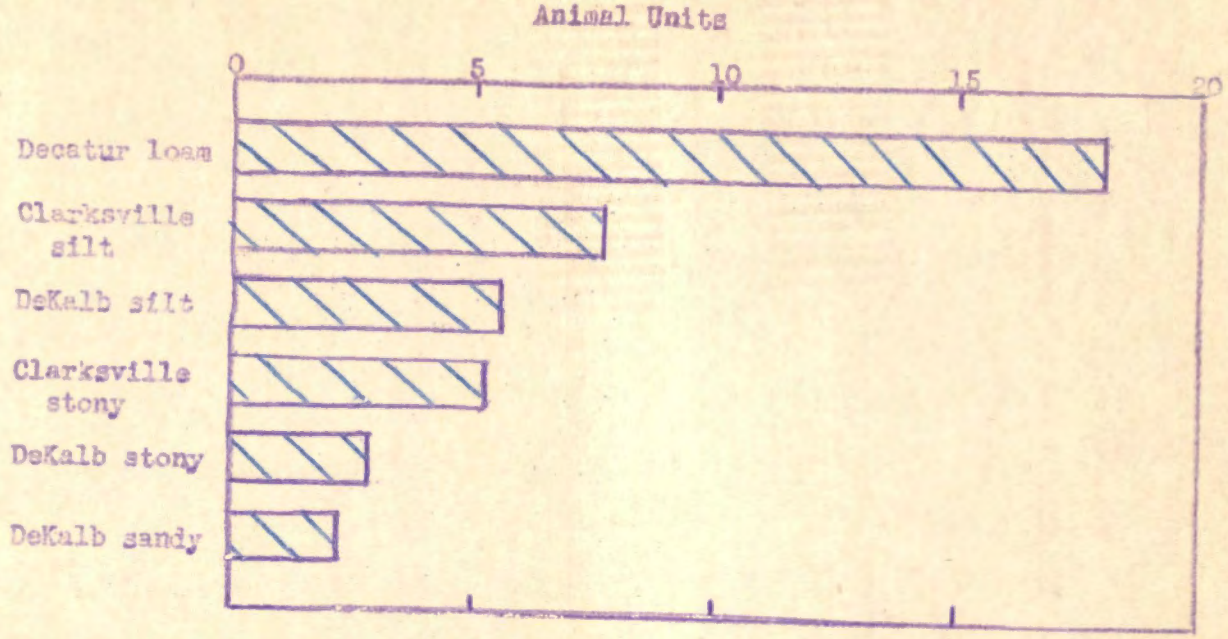
Decatur loam had an average of 11.81 animal units per farm, which exceeded all other soil types by about 60%. The farms on this soil type had more livestock of every class, except sheep which were relatively unimportant on all soil types (Table LXII, Figure 36).

Distribution of Receipts by Soil Type. All farms had average gross receipts of $370. Livestock receipts amounted to $156 or 42% of the total. Crop receipts totaled $67 per farm, or 18% of all receipts. Increase in inventories of feed and supplies averaged $45 or 12.3%. Sources of income other than from the farm amounted to $102 or 27.6% of the total.

Sixteen Decatur loam farms had averaged total receipts of $634. Livestock returned $326, or more than one-half of all receipts. Crop receipts and increased feed inventories accounted for $119 and $116 respectively, or nearly one-fifth each. On Decatur soils "other sources" amounted to only 11.8% of total receipts.

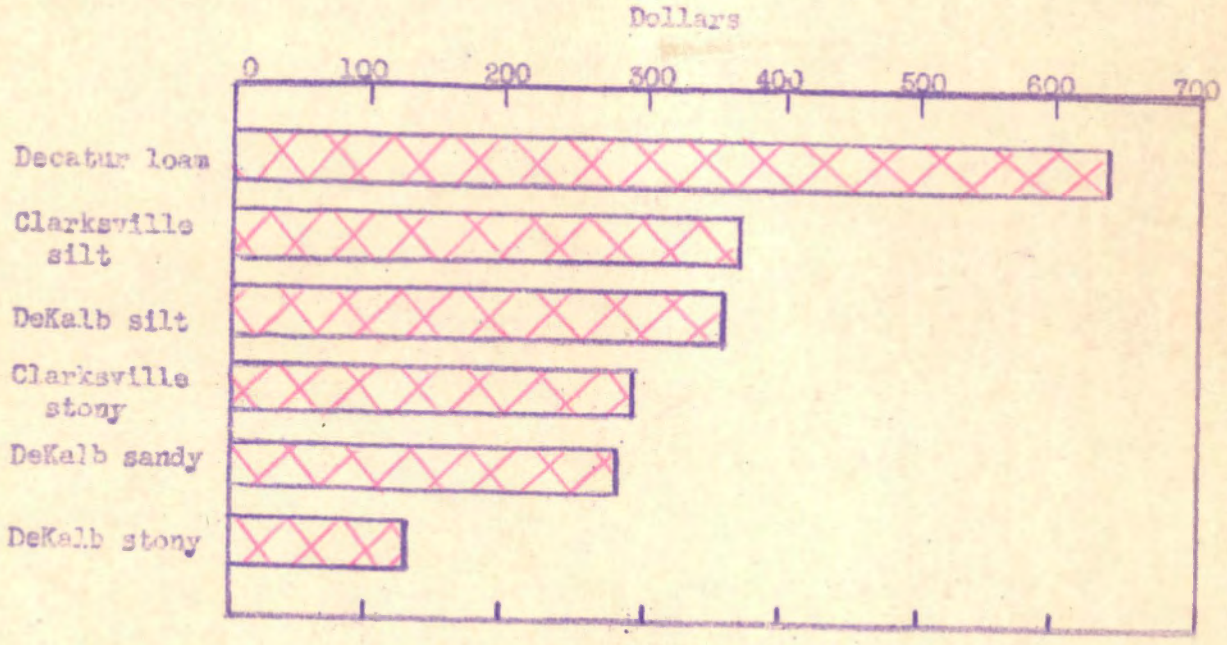
On 65 Clarksville silt farms with average total receipts of $369, livestock returned $172 per farm or 46.8% of all receipts, crop receipts amounted to 21.6%, and "other sources" returned 29.1% of all receipts. On 17 Clarksville stony farms livestock and "other sources" each returned nearly 40% of all receipts.

On 16 DeKalb silt farms livestock returned $106 or 30.7% of all receipts, and "other sources" returned $157 or 45.3% of all receipts. Farm



Source: Table LXII.

Figure 36. Relation of number of animal units per farm to soil types, 131 Overton County farms, 1936



Source: Table LXIII.

Figure 37. Total receipts per farm by soil type, 131 Overton County farms, 1936

receipts on DeKalb sandy and DeKalb stony farms amounted to only $51 and $33 respectively. "Other sources" accounted for four-fifths of DeKalb sandy and three-fourths of DeKalb stony farm operator receipts.

Thus livestock accounted for about one-half, and crops for one-fifth, of all receipts on Decatur loam and Clarksville silt farms. This amounted to more than $100 on all farms except those on DeKalb sandy and DeKalb stony soils, where it totaled only $20 and $18 respectively.

TABLE LXIII. DISTRIBUTION OF GROSS RECEIPTS PER FARM, BY SOIL TYPE, 131 OVERTON COUNTY FARMS, 1936

Items	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Ave. 131 Farms
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Crops	$119	$80	$39	$59	$ 5	$ 7	$67
Livestock	326	172	118	106	20	18	156
Feed & supplies	116	43	33	24	26	8	45
Other sources	73	74	107	157	220	92	102
Total	634	369	297	346	271	125	370

Crop receipts ranged from $119 on Decatur farms to $5 on DeKalb sandy. "Other than farm" sources of receipts ranged in amount and relative importance from $73 or 11.5% of receipts on Decatur loam farms to $220 or 81.2% on DeKalb sandy farms.

On the basis of average total receipts, Decatur loam farms obtained $634. Clarksville silt was second with $369, followed by DeKalb silt with $346. Even with the high amount of $220 from "other than farm" sources on DeKalb sandy farms, the total gross receipts were less than on any other soil group, except on DeKalb stony farms which had total receipts of only $125 per farm (Table LXIII, Figure 37).

Sources of Crop Receipts[9] by Soil Type. Decatur loam farms had $118.81 crop receipts, the highest of any soil group. Corn[10] returned $62.80 or about half of all crop receipts on Decatur farms. Wheat receipts were $30.25, or more than one-fourth of the crop receipts. Receipts from all small grains and corn amounted to about 80% of all Decatur loam crop receipts.

Clarksville silt was second highest in crop receipts with $79.92 per farm. Corn accounted for $66 out of $80, or more than 80% of all crop receipts. Other crops in order of receipts were lespedeza hay, sorghum syrup, wheat, millet, and tobacco, with no other crops returning as much as $1 per farm.

Clarksville stony farms had crop receipts of $39, about three-fourths of which was from corn. Three farms reported the sale of Irish potatoes, amounting to an average of $4.70 for all 17 Clarksville stony farms. Wheat returned $3.18 per farm, with all other crops combined amounting to about $5 per farm.

On 16 DeKalb silt farms the average crop receipts were $58.88. Corn accounted for $45 or more than three-fourths of all crop receipts. The sale of $150 worth of tobacco from one farm made the average $9.38 for all DeKalb silt farms, and thereby amounted to one-sixth of their total crop receipts. No other crop averaged as much as $1 per farm. DeKalb sandy farms averaged total crop receipts of $8.09, all of which was from corn. DeKalb stony farms averaged crop receipts of $6.80 of which corn returned

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(9) Include rent paid landlords for use of land, and portion of crop paid croppers for labor.

(10) Corn receipts include corn stover.

TABLE LXIV. SOURCES OF CROP RECEIPTS, BY SOIL TYPE, 131 OVERTON COUNTY FARMS, 1936

Crop	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Total
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Corn	$56.88	$60.38	$26.12	$41.88	$4.42	$4.00	$68.4
Corn stover	5.62	5.48	1.70	3.56	.67	.60	6.2
Leap. hay	.12	3.31	-	.75	-	-	2.6
" seed	-	.14	-	-	-	-	0.1
Sorghum hay	.62	-	.69	-	-	-	0.2
" syrup	1.12	2.08	-	.31	-	.60	1.8
Wheat (grain)	30.25	1.78	3.18	-	-	-	7.4
Rye	11.00	.02	-	-	-	-	2.0
Oats	2.06	-	-	-	-	-	0.4
Orchard	.44	.82	-	-	-	-	0.7
Potatoes	1.19	.62	4.70	.62	-	-	1.7
S. potatoes	.50	.46	1.47	.75	-	-	0.8
Truck	.06	.38	-	.94	-	-	0.5
Tobacco	-	1.62	1.18	9.38	-	-	3.1
Cotton	-	.15	-	-	-	-	0.1
Soybean hay	1.50	.30	-	.69	-	-	0.6
Cowpea "	2.50	.06	-	-	-	-	0.5
" seed	-	-	0.12	-	-	-	0.02
Red top hay	4.50	.62	-	-	-	-	1.3
Millet "	.44	1.77	-	-	-	1.60	1.6
Total	118.81	79.92	39.00	58.88	5.09	6.80	100.0

$4.00, millet hay $1.60, and sorghum syrup $0.60.

On Decatur loam farms, which had the highest crop receipts, corn returned only about one-half of the crop receipts, while on other soil types it amounted to a much larger percentage. Small grains ranked high only on Decatur loam farms, where they returned $30 or one-fourth of all crop receipts. No other crops are in general use (Table LXIV).

Sources of Livestock Receipts by Soil Type. Decatur loam farms had the highest livestock receipts, amounting to $372 per farm. Cattle accounted for $147, poultry $111, and hogs $110. Clarksville silt farms

TABLE LXV. SOURCES OF LIVESTOCK RECEIPTS[(a)] PER FARM, BY SOIL TYPE, 131 OVERTON COUNTY FARMS, 1936

Item	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Pct. Total Amt.
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Poultry							
Egg sales	$64	$38	$22	$34	$4	$0.20	17.0
Poultry sales	40	42	38	30	5	3	17.6
Inventory	7	6	4	1	4	2	2.5
Total	111	86	64	65	13	5	37.1
Cattle							
Dairy products	$50	$ 7	$11	$ 1	$2	$6	5.9
Cattle sales	68	88	31	26	8	2	30.0
Inventory	29	12	9	9	6	9	6.5
Total	147	107	51	36	16	17	42.4
Hogs							
Sales	$70	$24	$12	$11	$0.25	-	11.6
Inventory	40	12	15	12	5	$2	7.3
Total	110	36	27	23	5	2	18.9
Sheep							
Sales	$2	$2	$1	$ 2	-	-	0.9
Inventory	2	0.43	-	5	-	-	0.5
Total	4	3	1	7	-	-	1.4
Goats							
Sales	-	-	-	-	-	-	
Inventory	-	$0.42	-	-	-	-	0.1
Total	-	0.42	-	-	-	-	0.1
Bees							
Sales	-	$0.35	$1	-	-	-	0.2
Total	$372	$233	$144	$131	$34	$24	100.0

(a) This does not correspond to livestock receipts in Table LXIII because net increase is used in Table LXIII.

were second with $233 per farm, $107 of which came from cattle, $86 from poultry, and $36 from hogs. Clarksville stony farms received $144 from livestock, of which $64 was from poultry, $51 from cattle and $27 from hogs.

DeKalb silt farms had $131 livestock receipts, with $65 from poultry, $36 from cattle, $23 from hogs, and $7 from sheep. DeKalb sandy farms had $34 returns from livestock, of which $16 was from cattle, $13 from poultry and $5 from hogs. DeKalb stony farms had average livestock receipts of $24, of which $17 was from cattle.

Cattle provided the principal source of livestock receipts on Decatur and Clarksville silt farms returning over $100 per farm. Poultry was the principal source of livestock receipts on Clarksville stony and DeKalb silt farms, with poultry receipts of $64 and $65 respectively. Both DeKalb sandy and DeKalb stony farms had total livestock receipt of less than $40 (Table LXV).

Sources of "Other Than Farm" Receipts, by Soil Type, 1936. Farms on all soil types received an average of $102.58 from "other than farm" sources, $77.59 of which was from man labor. "Man and team" labor returned an average of $8.56 per farm, lumber and timber sales $7.90 and miscellaneous items $6.53 per farm.(11)

DeKalb sandy farms were highest in receipts from other sources, with an average of $220 per farm. Man labor accounted for $195, and sale of lumber

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(11) Includes trading furs 1 farm $36, sorghum mill 5 farms $170, truck hauling 2 farms $250, stovewood 1 farm $5, boarders 1 farm $120, grist mill 1 farm $100, coal 1 farm $30, looking after place 3 farms $26, pension 1 farm $120.

and timber $14 per farm. DeKalb silt farms were second with an average of $157, of which 150 came from man labor. Clarksville stony farms averaged $107, with $74 from man labor, $23 from "man and team" labor, and $8 from the sale of timber. DeKalb stony farms averaged $92, one-fourth of which was from rent, sale of timber and miscellaneous items, and the remaining three-fourths from man labor.

Clarksville silt farms averaged $74 from other sources, 20% of which was from the sale of timber and miscellaneous items, and $54 was from man labor. Decatur loam farms averaged $73, of which $20 was from man labor, $30 from "man and Team" labor, $8.50 from timber, and $13 from miscellaneous items.

Receipts from man labor were highest on DeKalb sandy farms with $195, and were lowest on Decatur loam with only $20.

"Man and team" labor was of little significance except on Clarksville stony farms, where it returned $23, and on Decatur loam farms with $30.

Timber sales were highest on DeKalb sandy farms, with an average of $14 and lowest on DeKalb silt with $3. Receipts from timber on all other groups ranged from $7 to $8.50 (Table LXVI).

It will be noted that while Decatur loam farms ranked highest in crop receipts, in livestock receipts, in increased feed inventories, and in total receipts, they received the smallest amount of any group from "other than farm" sources of income.

TABLE LXVI. SOURCES OF "OTHER THAN FARM" RECEIPTS, BY SOIL TYPE, 131 OVERTON COUNTY FARMS, 1936

(Average receipts per farm)

Item	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Ave. 131 Farms
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Man labor	$20.00	$55.97	$73.65	$149.75	$195.08	$69.40	$77.59
Man, team labor	29.69	3.35	23.41	1.88	-	-	3.56
Machine work	.12	0.14	-	-	-	-	0.08
Rent	1.06	1.92	2.06	2.44	-	7.20	1.92
Lumber and timber	8.50	7.80	8.18	2.88	14.33	7.00	7.90
Miscellaneous	13.25	7.20	-	-	11.00	8.80	6.53
Total	72.62	74.38	107.30	156.95	220.41	92.40	102.58

Distribution of Farms by Diversity Index, by Soil Type. Thirty-five farms, or 27% of all farms, had a diversity index of less than 2.0; 46 farms or 35% an index of from 2.0 to 2.9; 25% from 3.0 to 3.9; and only 16 or 12% of all farms had an index greater than 4.0.

On 16 Decatur loam farms, 44% had an index of from 2.0 to 2.9; one-fourth from 3.0 to 3.9; and none had an index greater than 4.9.

Forty farms, or 61.5%, of 65 Clarksville silt farms had an index of from 2.0 to 3.9. Only seven had an index in excess of 3.9, while 18, or 28%, had an index of less than 2.0. Nearly one-fourth of the Clarksville stony farms had an index less than 2.0, with 18% having an index of 4.0 or more.

Nineteen per cent of DeKalb silt farms had an index of less than 2.0, and 19% had an index of 4.0 or more. None of the DeKalb sandy or stony farms had an index greater than 3.9. Seven out of 12 or 58% of the DeKalb sandy farms had an index of less than 2.0, while only one out of five

DeKalb stony farms was less than 2.0.

TABLE LXVII. PERCENTAGE DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY SOIL TYPE AND DIVERSITY INDEX, 1936

Index Class	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
1.000-1.999	12.5	27.7	23.5	18.8	58.3	20.0
2.000-2.999	43.8	32.3	35.3	37.5	33.3	40.0
3.000-3.999	25.0	29.2	23.5	25.0	8.3	40.0
4.000-4.999	18.8	7.7	11.8	6.2	-	-
5.000-5.999	-	3.1	5.9	12.5	-	-
Unweighted mean index	3.04	2.77	2.99	2.98	1.88	2.46

On the basis of an unweighted arithmetic average diversity index for each group, Decatur loam was highest with 3.04, Clarksville stony second with 2.99, followed by DeKalb silt 2.98, Clarksville silt 2.77, DeKalb stony 2.46, and DeKalb sandy 1.88. DeKalb sandy is thus considerably lower than either of the other groups. There is not so much difference between the other groups, and not nearly as great a variation as was previously found between the total farm receipts of the groups (Table LXVII).

Distribution of Farm Expenses by Soil Type. On farms of all soil types, current expenses amounted to 48.2% of farm expenses. Decreased inventories of feed and supplies made up 18.5%, unpaid family labor 15.3%, depreciation 11.2%, and decrease in livestock inventories 6.7%.

Decatur loam farms had the highest total farm expense, amounting to $556 per farm. Current expenses amounted to $308, decreased feed inventories $97, unpaid family labor $64, depreciation $55, and decreased livestock inventories $32 per farm. Thus current expenses accounted for about 55%, decreased feed inventories one-sixth, and unpaid family labor one-

ninth of all farm expenses.

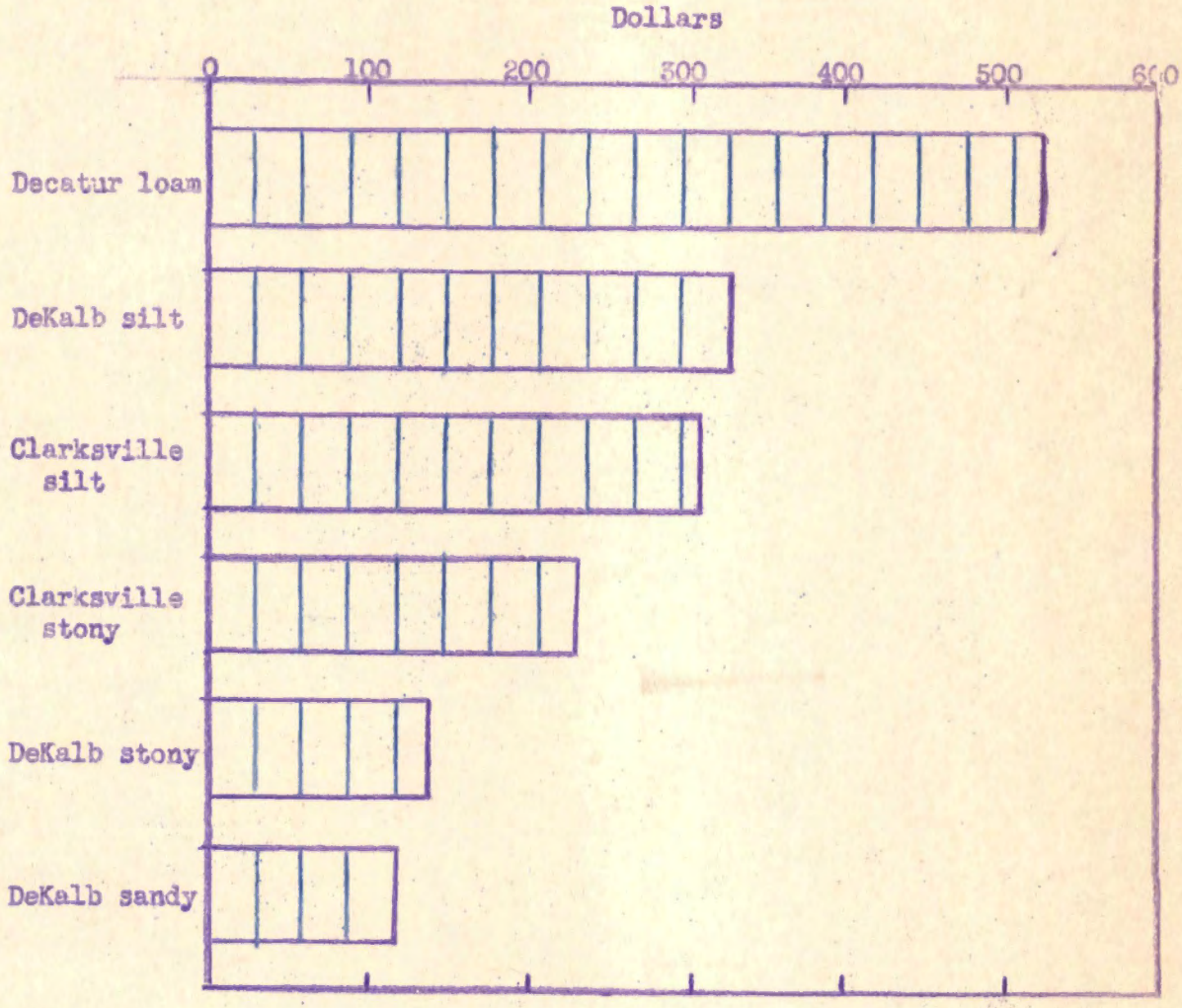
DeKalb silt farms had second highest expense, with $327 per farm, of which $156 was current expense, $71 family labor, $49 decreased feed inventories, $51 depreciation, and $20 decreased livestock inventories. Therefore current expenses accounted for nearly 50%, and unpaid family labor about 22%, of all expenses.

Sixty-five Clarksville silt farms had average total expense of $307. Current expenses amounted to $151, decreased feed inventories $60, depreciation $40, unpaid family labor $37 and decreased livestock inventories $19 per farm. Current expenses thus accounted for nearly one-half, decreased feed inventories one-fifth and family labor less than one-eighth of all expenses.

Seventeen Clarksville stony farms had average total expense of $225 per farm, only one-third of which was current expense, and more than one-fourth unpaid family labor. Five DeKalb stony farms had average expense of $134, about 38% of which was current expense and nearly one-third family labor. Twelve DeKalb sandy farms had average expense of $118 with $41 current expense and $29 unpaid family labor.

There is some direct correlation between total expense and the proportion of all expenses in current expense, when the farms are grouped by soil type. Also, there is an inverse correlation between the average total expense and the percentage of all expenses for unpaid family labor.

On the basis of average total expense per farm, Decatur loam farms had an average of $556 which was 70% higher than any other group, and was about five times as much as on DeKalb sandy farms (Table LXVIII, Figure 38).



Source: Table LXVIII.

Figure 33. Total expense per farm, by soil type, 131 Overton County farms, 1936

TABLE LXVIII. DISTRIBUTION OF AVERAGE FARM EXPENSES, 131 OVERTON COUNTY FARMS, BY SOIL TYPE, 1936

Item	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Pct. of Total Exp.
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Current	$308	$151	$ 76	$156	$ 41	$ 52	48.2
Unpaid family labor	64	37	60	71	29	42	15.3
Livestock (dec.)	32	19	22	20	14	18	6.7
Depreciation	55	40	21	31	8	7	11.2
Dec. feed & supplies	97	60	46	49	26	15	18.5
Ave. total expense	$556	$307	$225	$327	$118	$134	100.0

Distribution of Current Expenses by Soil Type. Decatur loam farms averaged $308 current expenses, which was nearly twice as much as any other soil group. On Decatur farms the expense of wage hands amounted to an average of $40 per farm, and cropper labor $23. Average feed cost was $95, fertilizer $30, seed $20 and taxes $67 per farm. Thus feed was decidedly the most expensive item, with taxes and labor next, each having about $65.

DeKalb silt farms were second highest in current expense with an average of $156. Labor accounted for $56 per farm, or more than one-third the total current expenses. Feed cost $27.50, and fertilizer and taxes about $20 each. Seed cost $11 per farm. Thus labor cost more than twice as much as any other item, with feed second, followed closely by both fertilizer and taxes.

Sixty-five Clarksville silt farms had average current expenses of $151. Labor accounted for $38, taxes $34, feed $33, fertilizer $13 and

TABLE LXIX. DISTRIBUTION OF CURRENT EXPENSES, 131 OVERTON COUNTY FARMS, BY SOIL TYPE, 1936

(Dollars per farm)

Item	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Per cent of Total
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Wage hands	$40.00	$17.77	$6.41	$20.19	$2.08	$1.00	11.7
Cropper labor	23.38	20.18	1.06	36.12	-	-	11.8
Board of hired labor		3.78	.12	5.81	.25	.20	1.8
Machinery repairs	4.19	2.80	2.06	1.62	.08	.80	1.6
Dwelling repairs	2.50	2.49	.12	2.62	5.50	4.60	1.7
Tenant house repairs	-	-	-	1.00	.67	-	.1
Other building repairs	.88	.46	1.59	-	-	3.00	.4
Fence repairs	.62	2.68	1.41	.06	1.80	1.80	1.2
Hired hand and horse	-	-	-	-	2.00	5.80	.3
Firewood	-	-	-	1.12	-	-	.1
Salt	-	.14	.06	-	-	-	.05
Feed roughage	4.56	7.62	3.29	1.06	3.42	4.00	3.6
" grain	30.00	25.51	19.47	26.44	11.25	13.80	21.1
" grinding	.19	-	-	-	-	-	.01
Horseshoeing	4.00	2.78	1.12	1.75	.92	1.20	1.6
Veterinary, dips, medecine	2.31	0.35	.06	-	.08	-	.3
Breeding fees	1.81	1.66	1.06	1.31	.83	-	1.0
Seeds, plants	20.00	8.83	9.12	11.12	4.42	3.80	6.7
Sorghum toll	(1.06)	(1.08)	(1.70)	(1.00)	(.50)	(1.60)	(.8)
Fertilizer:							
Wage land	30.31	13.20	7.24	20.44	2.83	6.40	9.6
Cropper land	-	.20	.24	1.80	-	-	.2
Lime	-	1.05	.94	2.12	-	-	.6
Twine	.94	.31	.06	.12	-	-	.2
Threshing:							
Toll	(4.31)	(1.57)	(.35)	(1.81)	-	-	(1.0)
Cash	.94	.20	.12	-	-	-	.2
Baling & wire machine	-	.09	-	-	-	-	.03

(continued)

TABLE LXIX. DISTRIBUTION OF CURRENT EXPENSES, 131 OVERTON COUNTY FARMS, BY SOIL TYPE, 1936 (continued)

(Dollars per farm)

Item	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Per Cent of Total
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Other work hired	$ .31	$ .03	-	$ .44	-	-	.1
Fuel & soil for farm work	2.44	1.18	-	.06	-	-	.6
Auto for farm use	6.25	1.77	$2.35	1.56	-	-	1.5
Telephone	-	.02	-	-	-	-	.01
Digging well	1.25	-	-	-	-	-	.1
Insurance	4.31	1.98	.76	-	-	-	1.1
Taxes	67.00	33.89	17.06	19.56	$4.83	$5.80	20.7
Total	$308.19	$150.87	$75.72	$156.09	$40.66	$52.20	100.0

seed $9. On Clarksville silt farms, labor was the highest current expense, followed closely by taxes and feed.

Clarksville stony farms had an average of $76 current expense, with $23 for feed, $17 for taxes, $9 for seed, and $7.50 for both labor and fertilizer. Five DeKalb stony farms had average current expenses of $52 with $18 for feed, $7 for labor, $6 for both fertilizer and taxes, and $4 for seed. Twelve DeKalb sandy farms had an average of $41 current expense with $15 for feed, $5 for taxes, $4 for seed, $3 for both fertilizer and labor.

Labor was the highest current expense on Clarksville silt and DeKalb silt farms, and was one of the highest on all other groups accounting for 23.5% of all current expenses. Feed was the largest current expense on Decatur loam, Clarksville stony, and DeKalb sandy, and DeKalb stony farms accounting for 24.7% of the total current expense. Taxes were the second most important current expense on all groups except DeKalb silt and DeKalb stony, amounting to 20.7%. Fertilizer was one of the high items, ranging from $30 on Decatur loam farms to $3 on DeKalb sandy. It amounted to 9.8% of current expenses

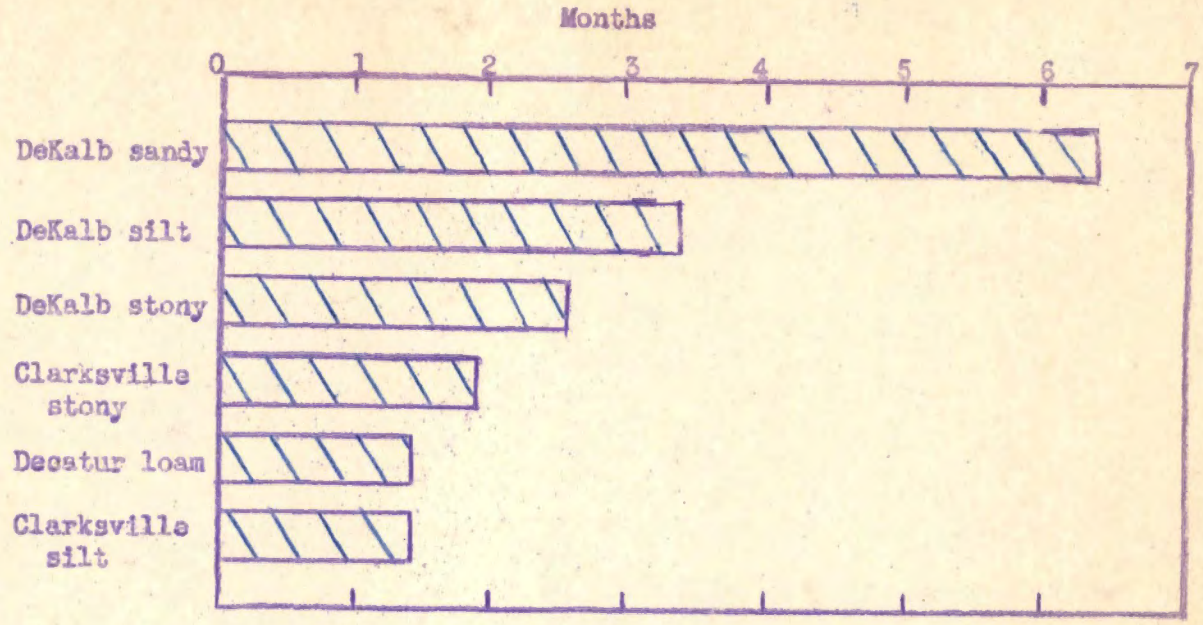
on farms of all types. Seed was also an important item on all groups, ranging from $20 on Decatur loam to $4 on DeKalb stony. It accounted for 6.7% of the current expenses on all soil types (Table LXIX).

Relation of Soil Type to Outside Employment of Farm Operator. On Decatur loam farms, only 5 out of 16 or 31% of all operators had any employment off the farm. Two worked 1 month or less, one worked 3 months, one 5 months, and one 12 months.

Twenty-eight or 43% of the Clarksville silt farm operators received some employment off the farm. Ten of them worked less than 15 days, and four others worked only 1 month. Only six worked more than 4 months, four of the latter working 12 months. Nine out of 17 Clarksville stony farm operators received some employment off the farm. Three worked 1 month or less, 4 worked 4 months, and none worked more than 8 months.

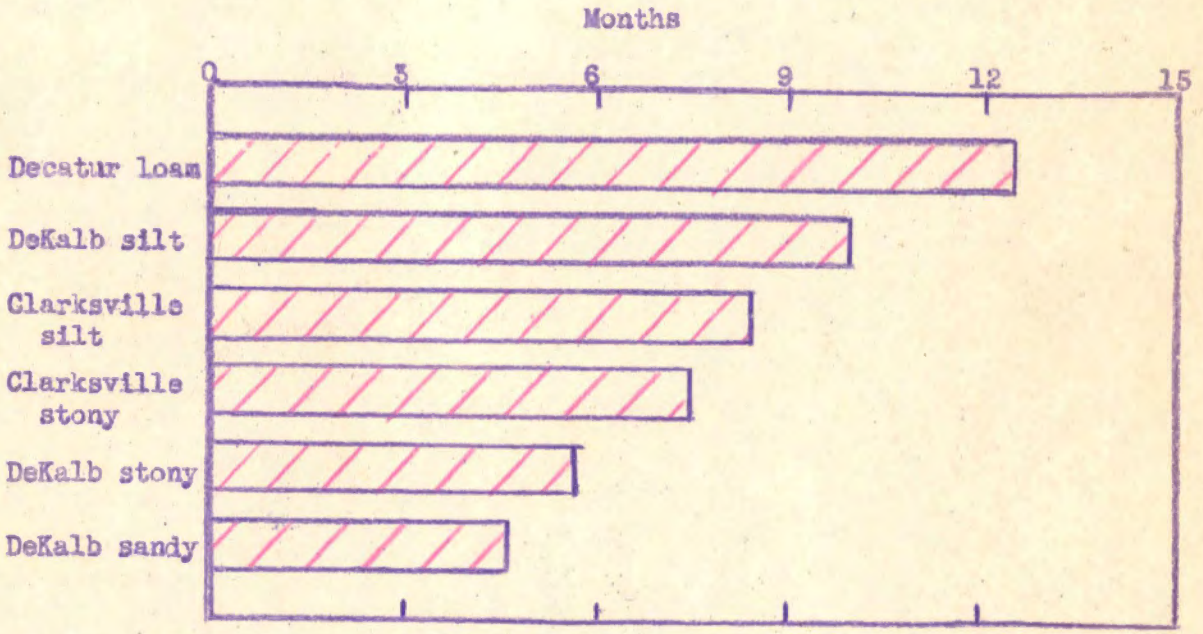
Nine of 16 DeKalb silt farmers received some outside employment. Three worked one month or less, and four worked more than 8 months. Ten out of 12 DeKalb sandy farm operators received some outside employment, five of them working 12 months. Two out of 5 DeKalb stony farm operators worked off the farm, one of them working 12 months.

On the basis of proportion of operators working off the farm, DeKalb sandy was highest with 10 out of 12 or 83% of its operators receiving outside employment. Decatur loam farms were lowest with 5 out of 16 or 31% of the operators working some off the farm (Table LXX, Figure 39).



Source: Table LXX.

Figure 39. Average number months outside employment of farm operators by soil types, 131 Overton County farms, 1936



Source: Table LXXI.

Figure 40. Average number of months labor per farm, by soil types, 131 Overton County farms, 1936

TABLE LXX. RELATION OF SOIL TYPE TO OUTSIDE EMPLOYMENT OF OPERATORS, 131 OVERTON COUNTY FARMS, 1936

(Number of operators)

Months Employment	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Total 131 Farms
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Less than 15 days	1	10	2	1			14
1	1	4	1	2	1	1	10
2		5					5
3	1	1			2		4
4		2	4	1			7
5	1				1		2
6		1	1	1	1		4
7							
8		1	1				2
9				1			1
10				1			1
11				1			1
12	1	4		1	5	1	12
Total number operators	5	28	9	9	10	2	63
Average number months (a)	1.4	1.4	1.9	3.4	6.5	2.6	

(a) This is an average for all operators on each soil type rather than the number reporting outside work.

Source of Farm Labor by Soil Type. Sixteen Decatur loam farms used an average of 12.4 months labor. The operator supplied 5.7 months or nearly one-half. Family labor amounted to 3.7 months or 30% of all labor. Cropper labor averaged 0.8 months, and wage hands 2.2 months. Thus there was an average of 3 months hired labor per farm, amounting to nearly one-fourth of all labor.

DeKalb silt farms were second highest in estimated labor, with a total of 10 months per farm. The operators labor and family labor amounted to 3.9 months each. These two classes accounted for 78% of all labor. Cropper labor totaled 1.0 month, and wage hands 1.2, both together accounting for 22% of the labor.

Sixty-five Clarksville silt farms averaged 8.4 months labor. Operater labor accounted for 5.0 months. Unpaid family labor amounted to 2.0 months, or 40% as much as the labor of the operator. Cropper labor was 0.5 and wage hands 0.9 months per farm. Thus hired and cropper labor totaled 1.4 months, or one-sixth of all farm labor.

Clarksville stony farms had an average of 7.4 months labor, with the operater doing 3.5 months, family labor 3.4, and all hired and cropper labor only 0.5 months per farm. DeKalb sandy farms averaged 4.6 months. Operater's labor was 2.8 months or 60% of the total. Family labor totaled 1.6, and hired and cropper labor 0.2 months per farm. DeKalb stony farms had an average of 5.6 months labor, with the operater working 3.0 months, family 2.4, and hired and cropper labor 0.2 months per farm.

Operater labor ranged from 5.7 on Decatur loam to 2.8 months per farm on DeKalb sandy farms. It accounted for 52.5% of the farm labor on all soil types. Unpaid family labor ranged from 3.9 months on DeKalb silt farms, where it amounted to as much as the operater labor, to 1.6 months per farm on DeKalb sandy farms. Family labor accounted for 30.8% of all farm labor, for all soil types. Cropper labor ranged from 1.0 month on DeKalb silt farms to none on DeKalb sandy and stony. It accounted

for only 5.8% of the labor on all types of soil. Employment of wage hands ranged from 2.2 months on Decatur loam to 0.2 months per farm on both DeKalb sandy and DeKalb stony farms. It amounted to 11.2% on all soil types.

On the basis of average total months work per farm, Decatur loam farms were highest with 12.4 months followed by DeKalb silt with 10.0, Clarksville silt with 8.4, Clarksville stony 7.4, DeKalb stony 5.6 and DeKalb sandy 4.6 (Table LXXI, Figure 40).

TABLE LXXI. DISTRIBUTION OF FARM LABOR BY SOIL TYPES, 131 OVERTON COUNTY FARMS, 1936

(Number of months per farm)

Source of Labor	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam			Pct. of All Labor
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms	
Operator	5.7	5.0	3.5	5.9	2.8	3.0	52.5
Family	3.7	2.0	3.4	3.9	1.6	2.4	30.8
Cropper	0.8	0.5	0.1	1.0	-	-	5.5
Wage hands	2.2	0.9	0.4	1.2	0.2	0.2	11.2
Total	12.4	8.4	7.4	10.9	4.6	5.6	100.0

Soil Type Distribution of Farms, by Tenure of Operator. The percentage of all operators who were full-owners was highest on Clarksville silt farms, with 70.8%. On Clarksville stony farms 64.7% were full-owners, 62.5% on Decatur loam, 58.3 on DeKalb sandy, 50% on DeKalb silt, and 20% on DeKalb stony.

The percentage of operators who were part-owners was highest on DeKalb silt with 43.8%. Clarksville stony had 29.4%, DeKalb stony 20%, Decatur loam 18.8%, DeKalb sandy 16.7%, and Clarksville silt 15.4%.

DeKalb stony farms had 3 out of 5 operators in the status of tenants. On DeKalb sandy farms 25% were tenants, on Decatur loam 19%, Clarksville silt 14%, DeKalb silt 6.2%, and Clarksville stony 5.9% (Table LXXII).

TABLE LXXII. PERCENTAGE DISTRIBUTION OF FARM OPERATORS, BY TENURE, AND BY SOIL TYPE, 151 OVERTON COUNTY FARMS, 1936

Tenure	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
Full-owner	62.5	70.8	64.7	50.0	58.3	20.0
Part-owner	18.8	15.4	29.4	43.8	16.7	20.0
Tenant	18.8	13.8	5.9	6.2	25.0	60.0
Total	100.1	100.0	100.0	100.0	100.0	100.0

Relation of Land Class[12] to Soil Type. Nine or 13.8% of Clarksville silt farms, and 18.8% of Decatur loam farms are on Class 2 land. Fifty-one per cent of Clarksville silt, 17.6% of Clarksville stony, 75% of Decatur loam and 12.5% of DeKalb silt farms are on Class 3 land. Twenty-nine per cent of both Clarksville silt and Clarksville stony, 6.2% of Decatur loam and 87.5% of DeKalb silt farms are on Class 4 land. Clarksville soil has 4.6% of the silt farms and 17.6% of the stony farms on Class 6 land. One Clarksville silt farm, 35% of Clarksville stony farms, and all of the DeKalb sandy and DeKalb stony farms included in the survey are on Class 7 land.

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(12) Land class refers to the numerical designation of land areas, grouping areas adapted to similar proposed uses as outlined by Land Use Planning Section of the Resettlement Administration.

All but one of the 16 Decatur loam farms, and 65% of the Clarksville silt farms are on land classes 2 and 3, which are the better agricultural lands in the survey. Eighty-eight per cent of DeKalb silt farms, one Decatur loam farm, and 29% each of Clarksville silt and Clarksville stony farms are on Class 4 land, which is rather poor agricultural land. Six per cent of Clarksville silt, 53% Clarksville stony, and all DeKalb sandy and DeKalb stony farms are on land Classes 6 and 7, which are rated by the Resettlement Administration as unfit for agricultural use (Table LXXIII).

TABLE LXXIII. RELATION OF LAND CLASS TO SOIL TYPE, 131 OVERTON COUNTY FARMS, 1936

(Percentage distribution of farms)

Land Class	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
2	18.8	13.9	-	-	-	-
3	75.0	50.8	17.6	12.5	-	-
4	6.2	29.2	29.4	87.5	-	-
6	-	4.6	17.6	-	-	-
7	-	1.5	35.4	-	100.0	100.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Summary of Farm Organization by Soil Type. Sixty-five out of 131 farms were located on Clarksville silt soil. Five were on DeKalb stony. Each of the other soil types had from 12 to 17 farms. Farms on Decatur loam were considerably larger than those on other types, having 144.5 acres per farm. DeKalb sandy farms had an average of 24.2 acres, which

was only about one-fourth the average of all groups. DeKalb stony farms had the largest percentage of total acreage in woods, with 56 acres per farm in woodland. Decatur loam farms had 58 acres in crops, or 40% more than any other group. DeKalb stony farms had 14.8 and DeKalb sandy farms only 9.6 acres per farm in crops.

Decatur loam farms had total investment in the farm business of $4,800 per farm, which was about 40% more than any other group. DeKalb stony and DeKalb sandy farms had an investment of only $588 and $552 respectively. Average operating capital per farm on Decatur loam was $1,329, or over 30% more than on any other soil while DeKalb stony and DeKalb sandy farms had only about $260 each.

Total receipts were highest on Decatur loam farms, with $634 per farm, or about 70% more than any other group. DeKalb stony farms had only $125 gross receipts per farm.

Expenses were $566 per farm on Decatur soil, or 70% higher than any other group. Expenses amounted to only $134 and $118 respectively on DeKalb stony and DeKalb sandy farms. Current expenses were $308 per farm on Decatur soil, or about twice the amount of any other group. The same item only totaled $62 and $41 respectively on DeKalb stony and DeKalb sandy farms.

Decatur loam farms had an average of 11.8 animal units, the next highest group being Clarksville silt with 7.5. DeKalb sandy farms averaged only 2.4.

The unweighted mean diversity index ranged from 3.04 on Decatur farms to 1.88 on DeKalb sandy farms.

The average number of months work off the farm per operator was 6.5

TABLE LXXIV. SUMMARY OF FARM ORGANIZATION BY SOIL TYPE, 131 OVERTON COUNTY FARMS, 1936

Item	16 Decatur Loam Farm	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
Size of farm	144.5	99.9	99.7	79.5	24.2	78.2
Acres in woods	54.4	30.7	44.9	27.9	10.5	56.0
" crops (a)	57.8	40.0	29.9	35.7	9.6	14.8
Ave. total investment	$4,600	$3,318	$1,798	$2,321	$ 552	$ 588
Operating capital	$1,329	$1,002	$ 655	$ 737	$ 249	$ 252
Total receipts (b)	$654	$369	$ 297	$ 346	$ 271	$ 125
Farm expenses	$ 556	$ 307	$ 225	$ 327	$ 118	$ 134
Current expenses	$ 308	$ 151	$ 76	$ 156	$ 41	$ 52
Animal units (total)	11.8	7.5	5.5	5.4	2.4	3.0
Ave. diversity index	3.038	2.761	2.991	2.981	1.878	2.465
Months operater work off farm	1.4	1.4	1.9	3.4	6.5	2.6
Months operater work on farm	5.7	5.0	5.5	3.9	2.8	3.0
Months family labor	3.7	2.0	3.4	3.9	1.6	2.4
Months cropper & wage labor	3.0	1.4	.4	2.2	.2	.2
Per cent tenancy	18.8	13.8	5.9	6.2	25.0	60.0
Number man work units per farm	252.5	177.8	152.7	171.6	72.2	95.2
Man equivalents per farm	1.03	0.71	0.61	0.84	0.38	0.47

(a) Includes double-cropped acres.
(b) Includes "other sources".

on DeKalb sandy farms, which was nearly twice as much as in any other group. Clarksville silt and Decatur loam farm operators worked off the farm an average of only 1.4 months.

The number of months of operater labor on the farm ranged from 5.7 on Decatur soil to 2.8 on DeKalb sandy farms. The number of months of family labor per farm ranged from 3.9 on DeKalb silt to 1.6 on DeKalb

sandy farms. Cropper labor and wage labor combined ranged from 3.0 months on Decatur soil to 0.2 months per farm on DeKalb stony and DeKalb sandy farms. There were only 20 tenant operators among the 31 farm operators, the highest percentage being on DeKalb stony and DeKalb sandy soils.(13)

The number of man work units per farm ranged from 252 on Decatur soil to 95 and 72 respectively on DeKalb stony and DeKalb sandy farms. The number of man-equivalents per farm varied from 1.03 on Decatur farms to 0.38 on DeKalb sandy (Table LXXIV).

Organization of 131 Overton County Farms by Land Class

Land class as used in this study refers to a numerical designation of land areas according to the use to which they are adapted. The numerical designations are those made in a use-district land classification of Overton County by the Land Use Planning Section of the Resettlement Administration. Land in the county was mapped, and areas suited to similar uses were given the same class number. Among the classes of land, or uses to which it is adapted, the following are mapped and described in unpublished information supplied by the office of the State Land Planning Specialist, Land Use Planning Section, Resettlement Administration.

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(13) This, however, is probably not representative, being due to inadequate sample.

Agricultural:

Land Class II. Areas of good agricultural land, comparatively level land of good fertility, or undulating land of high fertility; moderately subject to erosion or slight fertility problems. Suitable for general diversified farming, perhaps including a specialty such as tobacco; 75-125 acres needed to support a family; 3-4 year rotation.

Land Class III. Areas suitable only for an extensive type of agriculture because most of the cleared land is of low to medium quality, hilly, or readily susceptible to erosion and requires longer rotation period than above; 50% or more of the average farm may be in forest; 125 to 200 acres required to support a family; 5-6 year rotation.

Land Class IV. Areas primarily adapted to grazing, either because most the land is too hilly or infertile for cultivation or because it is peculiarly adapted to grass; stony, glady, or very shallow land, cold wet bottoms, steep land with poor fertility. Little or no tillable land. Some of the steeper slopes should be reforested. Generally 200-300 acres required to support a family.

Non-Agricultural:

Land Class VI. Areas now predominantly forested but with scattered farms and clearings which are generally unsuited to agriculture, and which should be in forests.

Land Class VII. Areas now solidly or almost solidly forested and that should so remain.

It must be remembered that each class of land grades into the preceding and succeeding classes. There is no sharp division between the classes. The land is mapped in areas, and it is therefore possible for single farms to be adapted to a particular use class and yet be mapped in another class, because it is located in an area adapted to the second class.

Distribution of Farms by Land Class. Twelve farms or 9.2% of 131 farms were located in areas designated as Land Class II. Fifty farms or

38% of all farms were located on Class III land, and 30% of the farms were located in Land Class IV areas. Only 6 farms were on Class VI, but 24 were on Land Class VII.

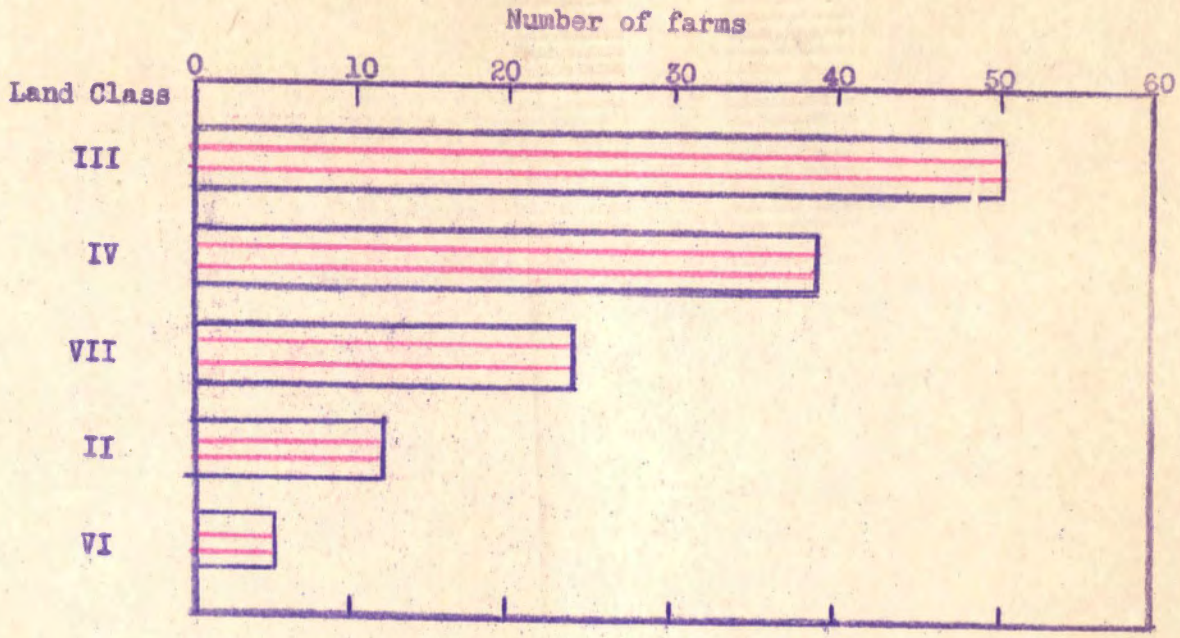
While only 9.2% of the farms were on Class II land, they represented 15.1% of the total farm area. Likewise on Class III land 38.2% of all farms accounted for 45.1% of the total farm areas, indicating that farms on these classes are larger than average.

There were 50 farms on Class III land. This was the largest number of farms on any single land class. The smallest number of farms for any group was 6 on Class VI land (Table LXXV, Figure 41).

TABLE LXXV. DISTRIBUTION OF FARMS AND FARM AREA BY LAND CLASS, 131 OVERTON COUNTY FARMS, 1936

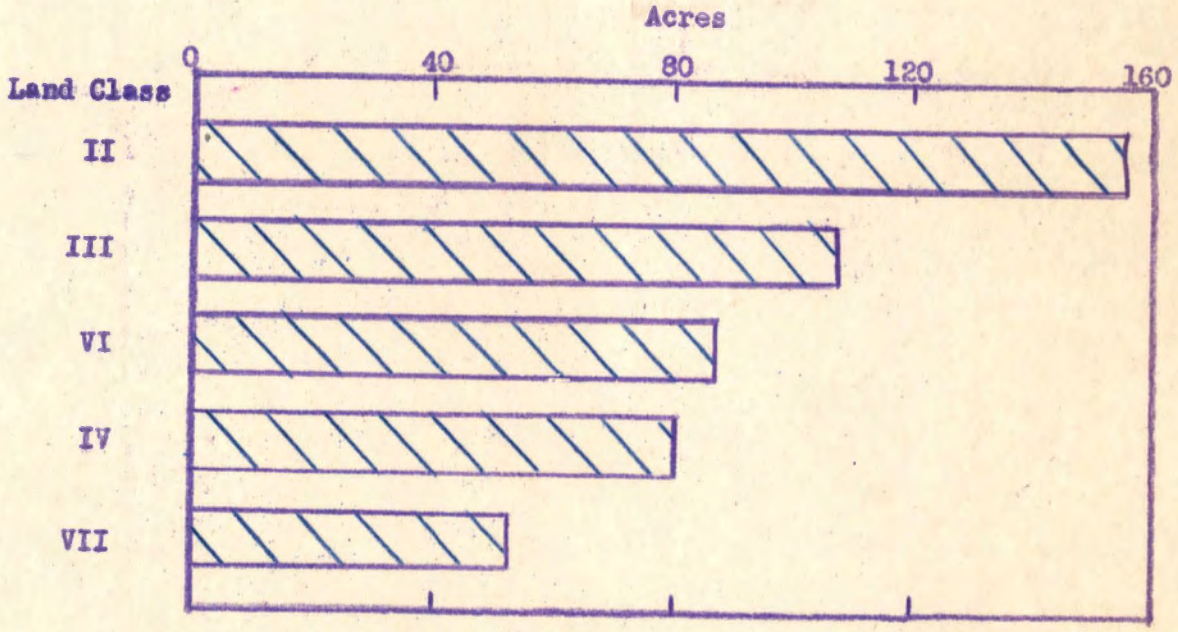
Land Class	Number Farms	Per Cent of Farms	Per Cent of Farm Area
II	12	9.2	15.1
III	50	38.2	45.1
IV	39	29.8	25.0
VI	6	4.5	4.1
VII	24	18.3	10.7
Total	131	100.0	100.0

Distribution of Farm Land in Major Land Uses by Land Class. Twelve farms on Class II land had an average size of 156.4 acres. The farms had an average of 53 acres in woodland, more than two-thirds of the woods being pastured. Farms on Class II land had an average of 57.7 acres, or more than one-third of their total area, planted to crops, and only had one-fifteenth as much crop land idle as was planted in crops. The farms had 37.1 acres or nearly one-fourth the total acreage used as cleared



Source: Table LXXV.

Figure 41. Distribution of 131 Overton County farms by land class, 1936



Source: Table LXXVI.

Figure 42. Average total acreage per farm by land class, 131 Overton County farms, 1936

pasture land. They had 4.8 acres waste land. Fifty farms located on Class III land had an average size of 112.2 acres. Woodland accounted for 41 acres per farm, or more than one-third the total acreage. Twenty-five acres of the woodland was pastured. There was an average of 42 acres in crops with more than one-sixth as much crop land idle as was planted. Farms in areas of Class III land had an average of 16 acres or one-seventh of their total area used for cleared pasture. Waste land accounted for 6.3 acres per farm.

Thirty-nine farms in areas of Class IV land had an average size of 80 acres, 25 or less than one-third of which were in woodland. Farms in areas of Class IV land had an average of 28 acres or over one-third of their total land area in crops, and had about one-third as much idle crop land as was planted. They had an average of 10 acres cleared pasture, and 8 acres or nearly as much waste land as they had cleared pasture land.

Six farms in areas of Class VI land had an average size of 86 acres with 29 or one-third of the total acreage in woodland. The farms had an average of 23.6 or only slightly more than one-fourth the total acreage planted to crops. The farms had 11.3 acres or nearly one-half as much crop land lying idle as was planted to crops. The farms had 18.8 acres or 80% as much cleared pasture land as they did land in crops. They only had one-sixth as much waste land as they had cleared pasture.

Twenty-four farms in areas of Class VII land had an average total area of 55.5 with 27 or nearly one-half the total acreage in woodland. They had 16 acres or less than one-third the total area planted to crops.

The farms had more than one-fourth as much idle crop land as was planted. They only had 5.1 acres cleared pasture, and had 60% as much waste land as they had cleared pasture.

Farms in areas of Class VII land had the smallest total area, and the largest proportion of their total area in woodland. There was a direct and rapid decline in total acres in crops, beginning with 58 acres on Class II farms and falling to 16 acres on Class VII farms. Farms in Class VI areas had the largest acreage of idle crop land with nearly one-half as much crop land idle as was in crops. Farms on Class II land had the smallest acreage of idle crop land, and only had one-fifteenth as

TABLE LXXVI. DISTRIBUTION OF FARM LAND IN MAJOR LAND USES, BY LAND CLASS, 131 OVERTON COUNTY FARMS, 1936

(Average Number Acres Per Farm)

Item	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Woods pastured	16.5	15.9	7.7	6.8	12.6
Woods not "	36.5	25.2	17.2	22.2	14.3
Acres in crops	57.7	41.7	28.1	23.6	16.0
Crop land idle	3.8	7.2	8.9	11.3	4.5
Cleared pasture	37.1	15.9	10.2	18.8	5.1
Waste	4.8	6.3	7.8	3.6	3.0
Total	156.4	112.2	79.9	86.3	55.5

much crop land idle as was planted. Farms on Class II land had 37 acres, or twice as much, cleared pasture as any other group. Farms on Class VII land had 5 acres or only one-half as much cleared pasture as the next lowest group. Farms on Class IV land had 7.8 acres which was the highest acreage and proportion of total acreage in waste land for any group.

On the basis of average total size, farms on Class II land were largest of all groups. The farms were about 40% larger than any other group. Farms on Class VII land were smallest of all groups. The next smallest group had farms more than 40% larger than those of Class VII (Table LXXVI, Figure 42).

Size Distribution of Farms by Land Class. Seven farms, or 58.3% of the farms on Class II land, had more than 100 acres in the farm, and 41.7% had more than 150 acres. Only 2 farms, or one-sixth of the farms on this class, had 50 acres or less per farm. Sixty-six per cent of the farms on Class III land had 100 acres or less. Only 16% had more than 150 acres. About 80% of the farms on Class IV land had 100 acres or less in the farm. But 56.4% of the farms had from 51 to 100 acres. Only 7.7% had more than 150 acres. Three out of 6 farms on Class VI land had from 51 to 100 acres, and 1 farm was in each of the other size groups. Fifty per cent of the farms in areas of Class VII land had 50 acres or less. Only 12.5% had more than 100 acres and only 1 farm had more than 150 acres.

Most of the farms on Class II land had more than 100 acres. The size group of 51 to 100 acres had from 50.0 to 56.4% of the farms on each of the Land Classes III, IV, and VII. One-half of the farms in Class VII

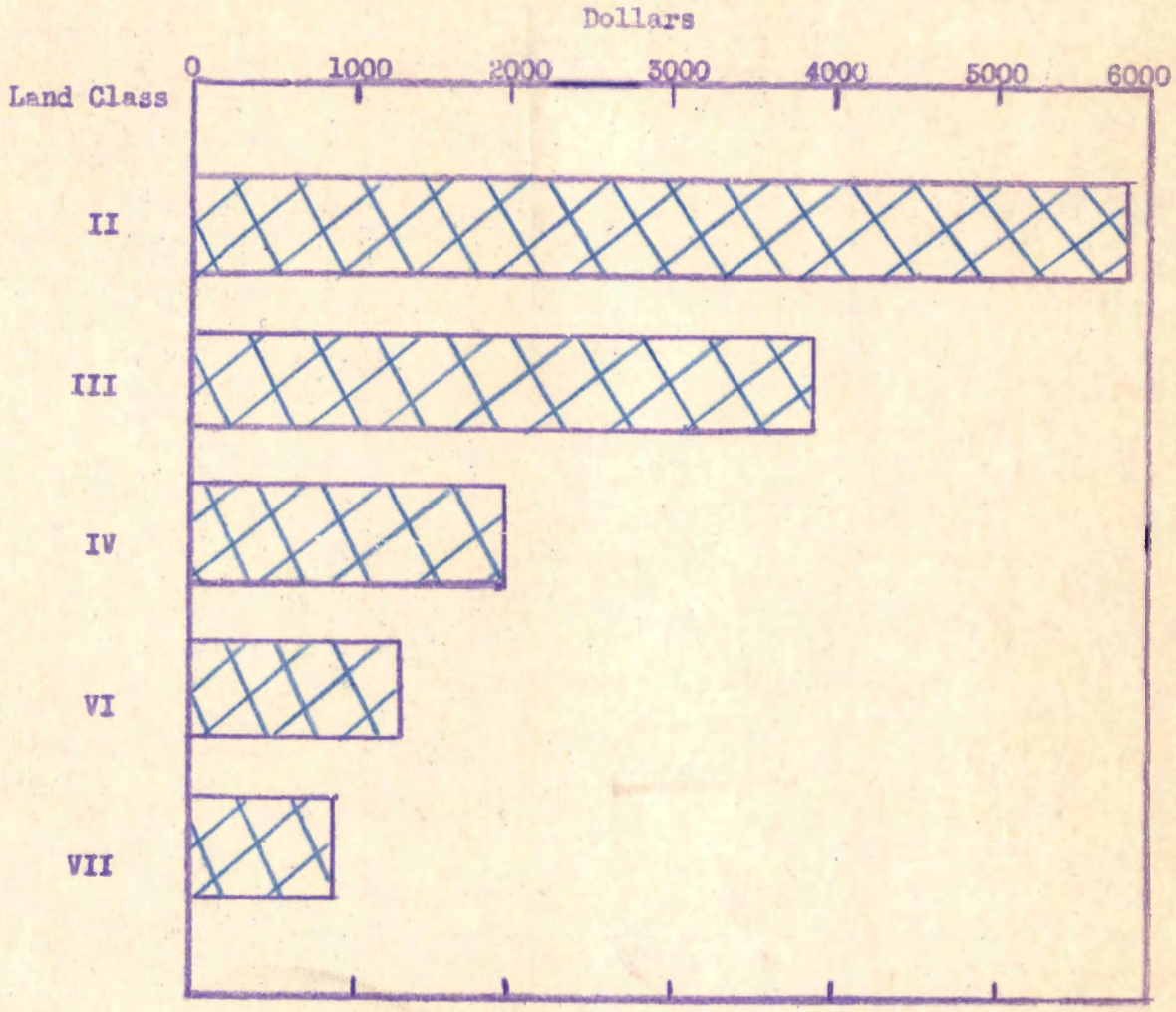
areas had 50 acres or less (Table LXXVII).

TABLE LXXVII. PERCENTAGE DISTRIBUTION OF 131 OVERTON COUNTY FARMS, BY SIZE IN EACH LAND CLASS, 1936

Size in Acres	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
3 - 50	16.6	12.0	23.1	16.7	50.0
51 - 100	25.0	54.0	56.4	50.0	37.5
101 - 150	16.6	18.0	12.8	16.7	8.3
151 - 550	41.7	16.0	7.7	16.6	4.2
Total	99.9	100.0	100.0	100.0	100.0

Distribution of Farms in Land Classes, by Total Investment per Farm. None of the farms on Class II land had a total investment as low as $1,500; and 58.4% of the farms had an investment of more than $6,000. Twelve per cent of the farms in Land Class III areas had an investment not in excess of $1,500. Thirty-two per cent had from $1,501 to $3,000, and 28% from $3,001 to $4,500. Sixteen per cent had more than $6,000. None of the farms on Class IV land had a total investment in excess of $4,500; and 38.4% of the farms had an investment of less than $1,501. Four out of 6 farms on Class VI land had a total investment in the farm business amounting to $1,500 or less. None of them had an investment of more than $3,000. Seventy-five per cent of the farms on Class VII land had an investment of less than $1,501 and none of the farms had an investment exceeding $3,000.

Two-thirds of the farms on Class II land and 28% of the farms on Class III land had an investment exceeding $4,500. None of the farms on Class IV had an investment of more than $4,500; and none of the farms



Source: Table LXXVIII.

Figure 43. Average total investment in the farm business, by land classes, 131 Overton County farms, 1936

in Classes VI and VII had more than $3,000. On the basis of average total investment Class II farms had $5,824 which was more than 50% higher than the next group. Class III farms were second with an average of $3,779 which is nearly double the third highest group. Class VII farms had the lowest average total investment amounting to $922 per farm (Table LXXVIII, Figure 43).

TABLE LXXVIII. DISTRIBUTION OF FARMS IN EACH LAND CLASS, BY TOTAL INVESTMENT PER FARM, 131 OVERTON COUNTY FARMS, 1936

Investment	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
$ 213- 1,500	-	12.0	38.4	66.7	75.0
1,501- 3,000	25.0	32.0	46.2	33.3	25.0
3,001- 4,500	8.3	28.0	15.4	-	-
5,501- 6,000	8.3	12.0	-	-	-
6,001-11,035	58.4	16.0	-	-	-
Total	100.0	100.0	100.0	100.0	100.0
Total investment per farm	$5824	$3779	$1992	$1323	$ 922

Distribution of Investment in the Farm Business, by Land Classes. Twelve farms on Class II land had an average total investment of $5,824. Land had an average value of $3,076 or represented more than 50% of the total investment of farms on Class II land. Operating capital amounted to $1,574 per farm or slightly more than one-fourth the total investment. Machinery was valued at $222. Livestock was valued at $646 per farm or more than 40% of the operating capital.

Fifty farms on Class III land had an average total investment of

$3,779 with $1,755 or nearly one-half the total investment represented in land. The value of improvements amounted to more than 50% as much as land. The farms had an average of $153 invested in machinery and equipment. The total average operating capital was $1,105 or nearly 30% of the total investment. Livestock were valued at $518 per farm, and represented about 47% of the total operating capital.

Thirty-nine farms on Class IV land had a total investment of $1,992 per farm. Land accounted for $830 or about 42% of the total investment. The value in improvements amounted to more than one-half the value of the land. Operating capital totaled $696 per farm or slightly more than one-third the total investment. The machinery was valued at $104 per farm. Livestock were valued at $315 per farm, and represented 45% of the total operating capital.

On 6 farms in Class VI land areas the total investment was $1323 per farm. Land accounted for $520 per farm or 40% of the total investment. Improvements were valued at $266 or 51% as much as the land. Operating capital totaled $537 per farm, was more than the land value, and represented 41% of the total investment. Machinery was valued at $60 and livestock at $244 per farm.

Twenty-four farms on Class VII land had an average total investment of $922, with land valued at $321 or 35% of the total investment. Improvements were valued at 70% as much as the land. Operating capital totaled $379, was more than the land value, and represented 41% of the total investment.

When the farms are grouped by land class areas, there is a direct

correlation between the average total investment and the amount invested in land. There is also a direct correlation between the total investment and the proportion of the total investment represented in land. There is an inverse correlation between the total investment and the percentage of the total investment in operating capital.

Twelve farms in Land Class II areas had the largest average investment in land, houses, other buildings, fences, machinery, livestock, feed, cash to run farm and total investment. Twenty-four farms on Class VII land had the lowest average investment in each of the above items. Excepting the fact that farms on Class VI land had $52 and on Class IV land had $44, there was a direct decline in the average amount invested in each item for each land class, beginning with Class II farms and proceeding to Class VII farms (Table LXXIX).

TABLE LXXIX. DISTRIBUTION OF INVESTMENT IN THE FARM BUSINESS, BY LAND CLASSES, 131 OVERTON COUNTY FARMS, 1936

(Average investment per farm)

Item	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Land	$3,076	$1,755	$ 830	$ 520	$ 321
Houses (a)	655	463	259	141	122
Other bldgs.(a)	386	342	151	81	73
Fences	133	114	55	44	27
Drains	-	.-	1.00	-	-
Machinery and equipment	222	153	104	60	43
Livestock	646	518	315	244	190
Feed and supplies	607	355	233	181	112
Cash to run farm	99	79	44	52	34
Total	$5,824	$3,779	$1,992	$1,323	$922

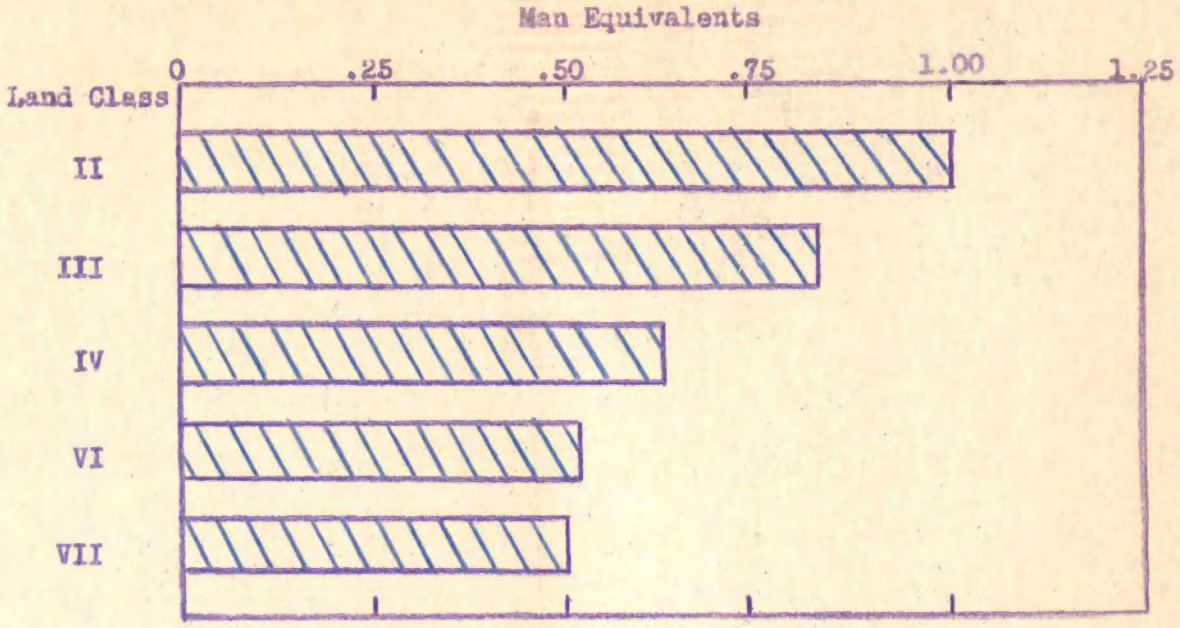
(a) Investment beginning of year plus one-half of improvements of $100 or more during year.

Relation of Man-Equivalents per Farm to Land Class. Fifty per cent of the farms on Class II land had a man-equivalent exceeding 1.0 and only 25% had as low as 0.5 per farm. Twenty-six per cent of the farms in Class III land are as had a man-equivalent greater than 1.0, and 28% an equivalent not in excess of 0.5. Only two out of 39 farms on Class IV land had a man-equivalent greater than 1.0, while 46% of the farms had a man-equivalent of 0.5 or less. None of the farms on Class VI land had a man-equivalent greater than 1.0, while 4 out of 6 farms had 0.5 or less. Only one of 24 farms on Class VII land had a man-equivalent greater than 1.0, but 54% of the farms had an equivalent of 0.5 or less.

On the basis of average man-equivalents per farm, farms on Class II land were largest, having 1.0 per farm, while farms on Class VII land were smallest with 0.5 per farm (Table XXC, Figure 44).

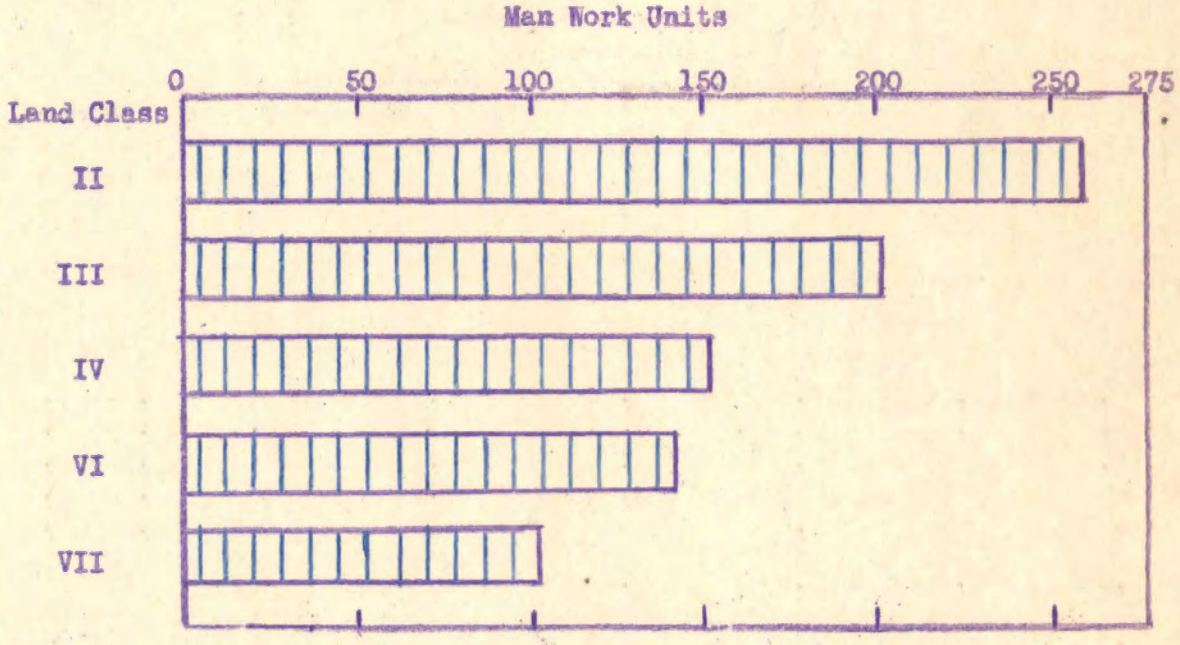
TABLE XXC. PERCENTAGE DISTRIBUTION OF FARMS IN LAND CLASSES, BY MAN-EQUIVALENTS PER FARM, 131 OVERTON COUNTY FARMS, 1936

Man-Equivalent	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
.10— .50	25.0	28.0	46.2	66.7	54.1
.51—1.00	25.00	46.0	48.6	33.3	41.7
1.01—1.50	33.3	16.0	2.6	-	4.2
1.51—2.00	16.7	10.0	-	-	-
2.00—2.88	-	-	2.6	-	-
Total	100.0	100.0	100.0	100.0	100.0
Average man-equivalent per farm	1.00	0.83	0.63	0.52	0.50



Source: Table LXXX.

Figure 44. Average man-equivalents per farm, by land classes, 131 Overton County farms, 1936



Source: Table LXXXI.

Figure 45. Average number of man work units per farm, by land classes, 131 Overton County farms, 1936

Relation of Man Work Units per Farm to Land Class. Two-thirds of all farms on Class II land had more than 200 M.W.U., and only 1 out of 12 farms had less than 100. Forty per cent of the farms on Class III land had more than 200 and 8% had less than 100 man work units per farm. Fifteen per cent of the farms on Class IV land had more than 200 and 13% had less than 100 M.W.U. One out of 6 farms on Class VI land had more than 200, and 2 out of 6 had less than 100 M.W.U. Eight per cent of the farms on Class VII land had more than 200, and 58% had less than 100 M.W.U. per farm.

On the basis of average total man work units per farm, the farms on Class II land had an average of 257, which exceeded all other groups by more than one-fourth. Farms on Class VII land had the smallest number having only 103 man work units per farm (Table XXCI, Figure 45).

TABLE XXCI. PERCENTAGE DISTRIBUTION OF FARMS IN LAND CLASSES, BY NUMBER OF MAN WORK UNITS PER FARM, 131 OVERTON COUNTY FARMS, 1936

Man Work Units per Farm	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
18 - 100	8.3	8.0	12.8	33.3	58.3
101 - 150	8.3	24.0	41.0	33.3	16.7
151 - 200	16.7	28.0	30.8	16.7	16.7
201 - 300	41.7	28.0	12.8	16.7	8.3
301 - 400	-	12.0	2.6	-	-
400 - 544	25.0	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0
Man work units per farm	256.8	200.1	150.8	140.9	102.8

Relation of Crops Planted to Land Class. Farms on Class II land had an average of 62.7 acres in crops, 18.3 of which, or slightly less than 30% of the crop acres, were planted to corn. The farms had an average of 35.3 acres or more than 55% of all crop acreage in hay. They had an average of 8.5 acres in small grain with only 0.6 acres in all other crops.

Fifty farms on Class III land had an average of 46 acres in all crops. Corn amounted to 20.2 acres per farm, or represented 44% of all crop acres. The farms had an average of 14.4 acres in hay that represented nearly one-third of all crops. An average of 6.6 acres of small grain, which represented one-seventh of all crops, was reported for Class III farms. All other crops amounted to 4.8 acres per farm.

Thirty-nine farms on Class IV land had an average of 30 acres in crops. These farms had an average of 17.4 acres, or 58% of all crop acres planted to corn. Hay amounted to 8.4 acres or 28% of all crops. There was only 1.7 acres small grain and 2.5 acres all other crops per farm.

Six farms on Class VI land had an average of 26.7 acres in all crops. The farms had 17 acres of corn or about two-thirds of all crops in corn. There was an average of 7.1 acres or slightly more than one-fourth of all crop acres in hay. The farms had only 1.2 acres in small grain and 1.4 acres in all other crops per farm.

Twenty-four farms on Class VII land had 17.2 acres per farm in crops. They had an average of 9.3 acres in corn that amounted to more

than one-half of all acres in crops. The farms had an average of 3.9 acres or slightly less than one-fourth of all crop acres in corn. They had an average of 1.8 acres small grain and 2.2 acres all other crops.

When farms are grouped on a land class basis, there is no considerable difference in the average corn acreage, except that Class VII farms only had 9.3 acres to compare with 17 acres in the next lowest group. Class II farms had an average of 35 acres in hay which was more than twice as much as the next highest group, and was more than four times as much as the other three groups. Farms on Class II and III land are the only ones having significant acreage in small grain as all other groups had less than 2 acres per farm.

On the basis of average total acres per farm in crops, the farms on Class II land had 62.7 acres which was more than one-third in excess

TABLE XXCII. DISTRIBUTION OF ACRES(a) IN CROPS BY LAND CLASS, 131 OVERTON COUNTY FARMS, 1936

(Average acres per farm)

Crop	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Corn	18.3	20.2	17.4	17.0	9.3
Hay	35.3	14.4	8.4	7.1	3.9
Small grains	8.5	6.6	1.7	1.2	1.8
Other crops	.6	4.8	2.5	1.4	2.2
Total	62.7	46.0	30.0	26.7	17.2

(a) Included acres double cropped.

of the next highest group. Farms on Class III land were second highest, having 46 acres, and were followed by Class IV farms with 30 acres, Class

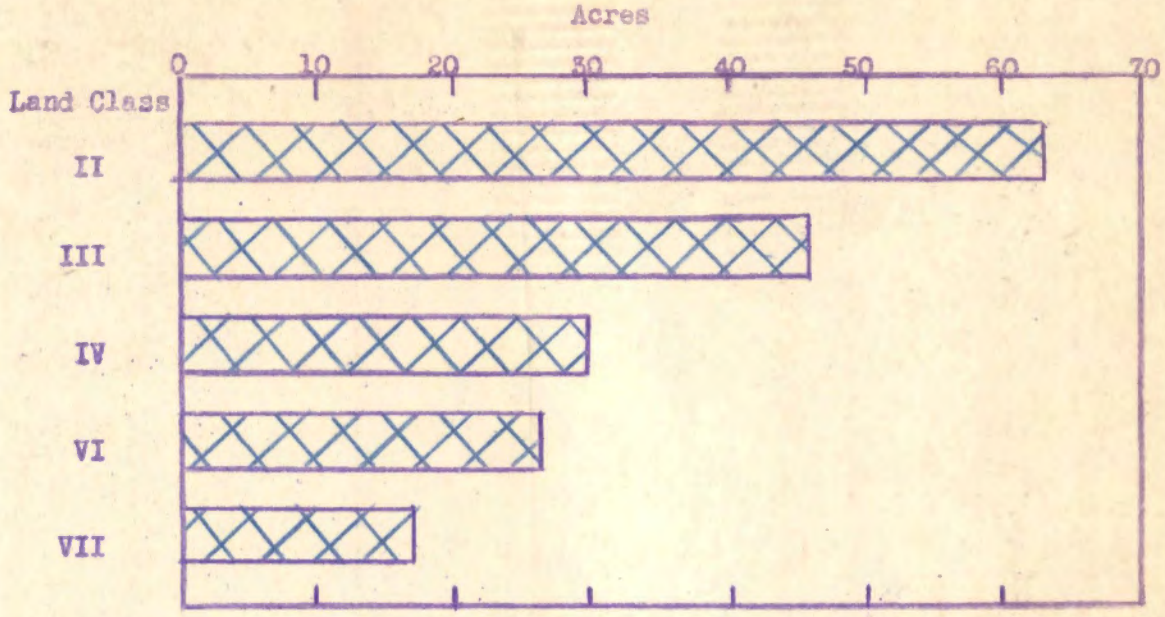
VI farms 26.7 acres, and Class VII farms with 17.2 acres per farm (Table XXCII, Figure 46).

Relation of Livestock on Farms to Land Classes. Farms on Class II land had the highest average number of animal units with 14.4 per farm. The farms had an average of 2.5 workstock, 3.58 cows and 6.83 other cattle. This indicates that the farms have a few more cows than needed for supplying home needs, and that the farms are utilizing other cattle to a considerable extent in the organization of their farm business. The farms in this group had an average of 1.9 sheep, 5.7 hogs and 84 poultry. Thus it appears that the 12 farms on Class II land tend toward livestock production, and on the basis of averages likely have more livestock of every productive class than are needed for home use.

Fifty farms on Class III land had an average of 8.2 animal units which is 6.2 less than Class II farms. The farms in this group had as many hogs, but had slightly fewer workstock, cows and chickens than did farms in Class II land areas. The farms on Class III land had only one-half as many sheep and less than one-third as many "other cattle" as farms on Class II land.

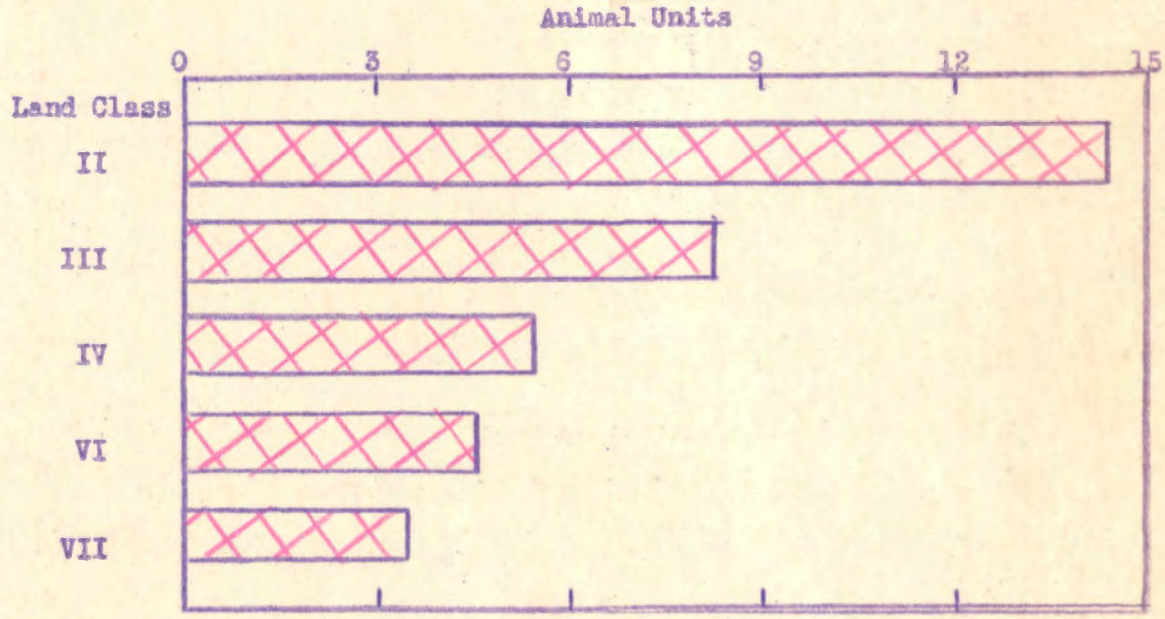
Thirty-nine farms on Class IV land had an average of 5.3 animal units. They had less than 2.0 each of workstock, cows and other cattle. These farms had an average of 0.6 sheep, 3.4 hogs and 57 poultry. Livestock production is rather limited on this group of farms, and no particular class is produced greatly in excess of home needs.

Six farms on Class VI land had 4.55 animal units per farm. They



Source: Table LXXXII.

Figure 46. Total acres in crops per farm, by land classes, 131 Overton County farms, 1956



Source: Table LXXXIII.

Figure 47. Total number animal units per farm, by land classes, 131 Overton County farms, 1956

had 1.66 workstock, 1.5 cows and 0.33 other cattle per farm. They had an average of 3 hogs and 64 poultry. Thus, with the possible exception of poultry, no other class of livestock is produced in sufficient numbers to be of significant commercial importance.

Twenty-four farms on Class VII land had only 3.4 animal units per farm with 1.21 head of workstock, 1.25 cows, 0.54 other cattle, 0.08 sheep, 2.83 hogs, and 25 poultry. None of the classes of livestock are apparently produced in commercial quantities on the 24 farms on Class VII land.

With the exception of hogs on Class III farms, the group of farms on Class II land had the largest number of every class of livestock per farm. There is an unfailing decline in each land class in the number of horses, mules and cows per farm, proceeding from Class II group to the Class VII group of farms. There is an average of 8.8 other cattle per farm on Class II land which is the only group in which "other cattle" are used very extensively. Farms on Class III land have the next largest number of other cattle with an average of 2.7, followed by farms on Class IV land with 1.08 per farm. Land classes VI and VII had only 15 head on 30 farms.

Farms on Class II land had 1.9 sheep per farm and were the only group having an average of as many as 1.0 per farm. Farms on Classes II and III land had 5.7 hogs per farm. No other group had as many as 4.0 per farm. The average number of poultry per farm ranged from 57 to 84 for all groups except Land Class VII that had only 25.

On the basis of average number of animal units per farm, Land Class II was highest with 14.4, and Class VII farms were lowest with 3.4. There is a perfect decline in the number in each land class proceeding from Class II to Class VII farms (Table XXXIII, Figure 47).

TABLE XXXIII. AVERAGE NUMBER IN EACH CLASS OF LIVESTOCK PER FARM, BY LAND CLASS, 131 OVERTON COUNTY FARMS, 1936

Livestock	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Horses	.75	.72	.51	.33	.17
Mules	1.75	1.54	1.43	1.33	1.04
Cows (b)	3.58	2.38	1.82	1.50	1.25
Other cattle	3.83	2.72	1.08	.33	.54
Sheep	1.91	.96	.62	-	.08
Hogs	5.67	5.70	3.41	3.00	2.83
Poultry	84.33	73.8	57.28	64.2	24.58
Total animal units (b)	14.4	8.2	5.3	4.55	3.4

(a) Animal units are figured on average of stock at beginning of year and end of year.
(b) Cows kept for milk.

Sources of Receipts by Land Class. Twelve farms on Class II land had total gross receipts of $714 per farm. Livestock were the principal source as they accounted for $416 or 58% of all receipts. Sources of income other than the regular farm business accounted for $155 or only slightly more than one-fifth of the total.

Fifty farms located in Class III land areas had average gross receipts of $451. Livestock were the principal source of receipts, accounting for $203 per farm or 45% of all receipts. Sources of income from other than

the farm business returned an average of only $73 or less than one-sixth of all receipts.

Thirty-nine farms on Class IV land had gross receipts of $270 per farm. Sources of receipts from other than the farm business were the most important group, as they returned $99 per farm or 37% of all receipts. Livestock receipts were almost as important, for they returned $88 per farm or nearly one-third of all receipts.

Six farms on Class VI land had $233 gross receipts per farm. "Other sources" accounted for $115 per farm or about one-half of the total. Livestock receipts accounted for $78 per farm or one-third of all receipts.

Twenty-four farms on Class VII land had an average of $229 total receipts per farm. "Other sources" totaled $141 per farm, and thereby represented 62% of all receipts. Livestock were the next most important source of receipts, but returned only $53 per farm or less than one-fourth of all receipts.

Crop receipts did not amount to as much as one-fourth of all receipts on the farms of any land class. Livestock receipts on Class II farms amounted to $416 per farm, which was more than twice the livestock receipts on Class III farms; and was more than four times as much as livestock receipts on the other land classes.

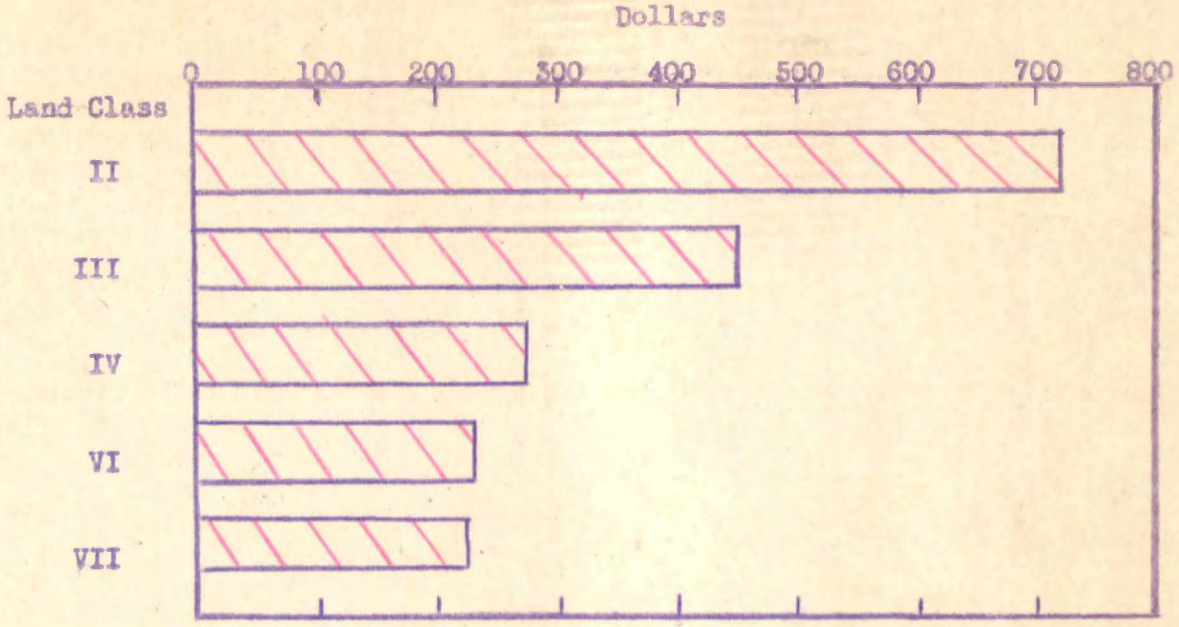
Livestock were the most important source of receipts for farms on land classes II and III. Sources of receipts from other than the farm business were the most important item of receipts on farms located in Land Class areas IV, VI and VII, and accounted for nearly two-thirds of all receipts for 24 farms on Class VII land.

On the basis of average total receipts per farm, Land Class II farms had $714, which is 58% more than for farms on Class III land, and is more than 3 times as much as for farms on Land Classes VI and VII (Table XXCIV, Figure 46).

TABLE XXCIV. GROSS RECEIPTS PER FARM, BY SOURCES AND BY LAND CLASSES, 131 OVERTON COUNTY FARMS, 1936

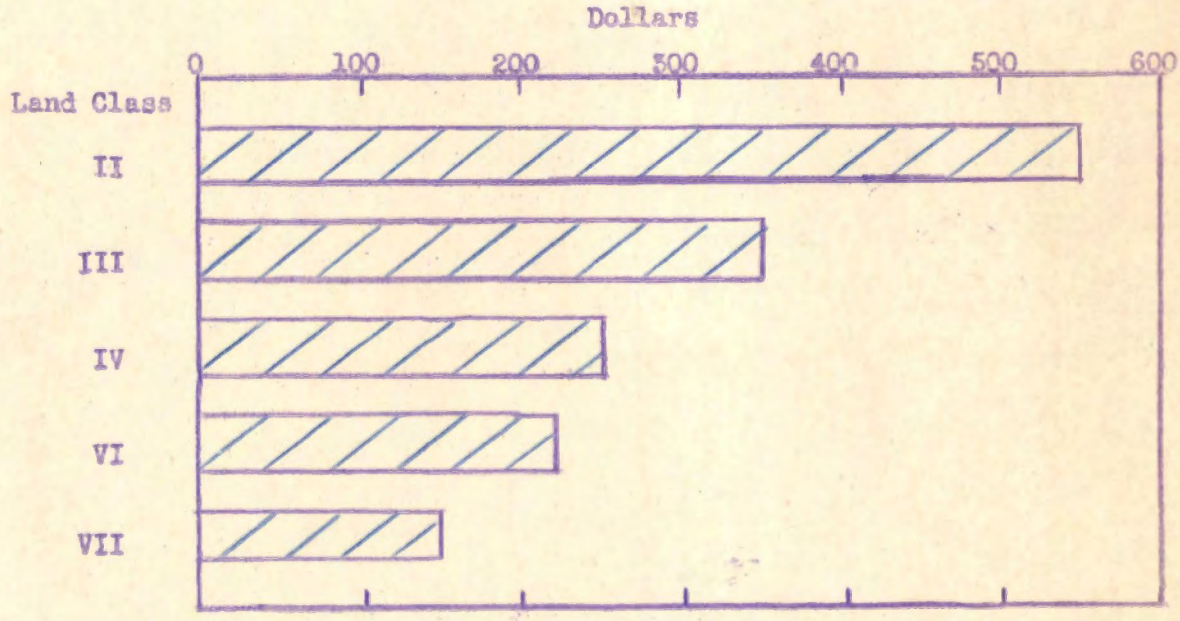
Source	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Crops	$88	$93	$67	$27	$13
Livestock	416	203	88	78	53
Feed & supplies	55	82	16	13	22
Other sources	155	73	99	115	141
Total	$714	$451	$270	$233	$229

Relation of Diversity Index to Land Class. There is not a definite correlation between the diversity index of a farm and the land class in which it occurs. However, 58% of the farms on Class II land had a diversity index of 3.0 or over, and not more than 40% of any other group had a diversity index this high. On the basis of the unweighted mean diversity index, farms on Class II land had 3.17, or only slightly more than the mean index of 2.84 for Class VI farms, which were the next highest group (Table XXCV).



Source: Table LXXXIV.

Figure 48. Gross receipts per farm, by land classes, 131 Overton County farms, 1956



Source: Table LXXXVI.

Figure 49. Total expense per farm, by land classes, 131 Overton County farm, 1956

TABLE XXCV. PERCENTAGE DISTRIBUTION OF FARMS IN EACH LAND CLASS, BY DIVERSITY INDEX, 131 OVERTON COUNTY FARMS, 1936

Diversity Index	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
1.000-1.999	16.6	28.0	25.6	16.7	33.3
2.000-2.999	25.0	32.0	41.0	50.0	33.3
3.000-3.999	25.0	32.0	23.1	16.7	20.8
4.000-4.999	25.0	4.0	7.7	16.6	8.4
5.000-5.803	8.4	4.0	2.6	-	4.2
Total	100.0	100.0	100.0	100.0	100.0
Unweighted mean index	3.170	2.792	2.708	2.845	2.561

Farm Expenses by Land Classes. Twelve farms on Class II land had a total expense of $560 per farm. Current expenses amounted to $316 per farm or 56% of all expenses. Decrease in feed and supplies inventory was the second largest expense item, totaling $108 per farm, and representing nearly one-fifth of all expenses. Unpaid family labor was responsible for only 9% of all expenses.

Fifty farms on Class III land had $364 total expenses per farm. Current expenses were $190 per farm or 52% of all expenses. Decrease in feed inventories was the second largest expense item, amounting to $60 per farm or one-sixth of all expenses. Unpaid family labor was valued at $47 per farm or only about one-eighth of all expenses.

Thirty-nine farms on Class IV land had an average total expense of $260. Current expenses were $109 per farm or 42% of all expenses. Decrease in feed inventories was the second largest expense item, amounting

to $52 per farm or one-fifth of all expenses. Unpaid family labor amounted to $49 per farm which represented 19% of all expenses.

Six farms on Class VI land had average total expenses of $220. Current expenses amounted to $86 per farm or 39% of all expenses. Decrease in feed inventories accounted for an average of $64, representing 29% of all expenses. Family labor was estimated at $39 per farm or slightly more than one-sixth of all expenses.

Twenty-four farms on Class VII land had total expenses of $147 per farm. Current expenses amounted to $51 per farm or 35% of all expenses. The second highest item of expense was unpaid family labor totaling $41 per farm or 28%.

Current expenses were the item of greatest expense in every group of farms. Decrease in feed inventories was the second highest expense item in every group of farms, except on Land Class VII where unpaid family labor was the second highest.

On the basis of averages, when the farms are grouped by land classes there is a direct correlation between the amount of current expenses and the total expense per farm. There is also a direct correlation between the total expense per farm and the proportion of all expenses in the item of current expenses.

Farms on Class II land had both the highest current expense and total expense per farm. Farms on Class VII land had the lowest expense in both items. There was a decrease in both items in every Land class preceding from Class II farms to farms on Class VII land.

On the basis of average total expense per farm, the farms on Class II land had $560 which was 84% higher than Class III farms, the second

highest group. The lowest total expense per farm was $147 on Class VII land where the expense was only slightly more than one-fourth as much as the expense on farms located in Land Class II areas (Table XXCVI, Figure 49).

TABLE XXCVI. FARM EXPENSES PER FARM, BY LAND CLASSES, 131 OVERTON COUNTY FARMS, 1936

Item	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Current	$316	$190	$109	$86	$51
Unpaid family labor	50	47	49	39	41
Livestock (dec.)	21	21	23	14	15
Depreciation	65	46	27	17	11
Feed & supplies (decrease)	108	60	52	64	29
Total	$560	$364	$260	$220	$147

Current Expenses per Farm, by Land Classes. Twelve farms on Class II land had total current expenses of $316 per farm. Purchase of feed amounted to $74 per farm and was the highest current expense, but was not much more than taxes which averaged $72 per farm. Each of these items represented about 23% of all current expenses on farms in Land Class II areas. Labor was the next highest expense item, cost $62 per farm, and represented about one-fifth of all current expenses. Purchase of seed and fertilizer totaled $56 per farm representing less than one-fifth of all current expenses.

Fifty farms on Class III land had an average total current expense of $190. Purchase of feed and labor costs each amounted to $47 per farm or

one-fourth of all current expenses. Taxes cost $45 per farm and thereby represented nearly one-fourth. Purchase of seed and fertilizer amounted to $26 per farm and represented nearly one-seventh of the current expenses.

Thirty-nine farms on Class IV land had current expenses totaling $109 per farm. Labor was the highest cost item as it amounted to $34 per farm thereby representing 31%. Feed costs were $24 per farm accounting for 22%. Purchase of seed and fertilizer cost $22 per farm representing one-fifth of current expenses.

Six farms on Class VI land had $85.50 current expenses per farm. The farms had an average feed cost of $33 which was about 40% of all current expenses. Taxes were the second highest item amounting to $14 per farm or one-sixth of all current expenses for the farms. Seed and fertilizer cost $12, and labor $11 per farm.

Twenty-four farms on Class VII land had $61 current expenses per farm. Feed cost $15 per farm or represented 30% of all current expenses. Seed and fertilizer cost $12, taxes $8 and labor only $2 per farm.

Purchase of feed was the highest current expense item on every group of farms except Class IV land where it was the second highest item. Labor was the highest item for farms on Class IV land, and was second highest for those on Class III land. Taxes were the second highest item for farms on Classes II and VI land, and were third highest on farms located in areas of land Classes III and VII.

Farms on Land Class II had the most current expenses and the highest

taxes. There was a decrease in both items in each land class proceeding from farms on Class II land to Class VII land areas (Table XXXVII).

TABLE XXXVII. TOTAL AND SOURCES OF AVERAGE CURRENT EXPENSE PER FARM, BY LAND CLASSES, 181 OVERTON COUNTY FARMS, 1936

Item	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Wage hands	54.75	22.46	9.23	11.00	2.08
Cropper labor	7.17	24.62	24.87	-	
Feeds: roughage	12.08	4.24	5.48	9.17	3.21
grain	61.92	45.12	18.77	23.50	11.83
Seed	21.67	11.23	7.54	5.33	6.21
Fertilizer	34.50	14.96	14.23	6.50	6.00
Taxes	72.08	43.38	18.54	14.17	8.38
Miscellaneous	51.92	25.86	12.54	15.83	13.00
Total	316.09	189.82	109.21	85.50	50.71

Relation of Outside Employment of Operator to Land Classes. Four out of 12 farm operators on Class II land had some employment off the farm, and two of them were employed 12 months. Thirty-eight per cent of operators on Class III land worked off the farm. Four per cent worked 12 months, but were the only ones working more than six months. Forty-nine per cent of operators on Class IV land had outside employment, and 15.3% were employed more than 6 months. Two out of 6 operators on Class VI land worked off the farm, and one of them was employed 12 months. Seventy-nine per cent of the farm operators on Class VII land were employed off the farm, and 21% worked 12 months each, but these were the only ones working more than six months.

On the basis of average number of months worked off the farm for all operators on each land class, operators on Class III land worked the least

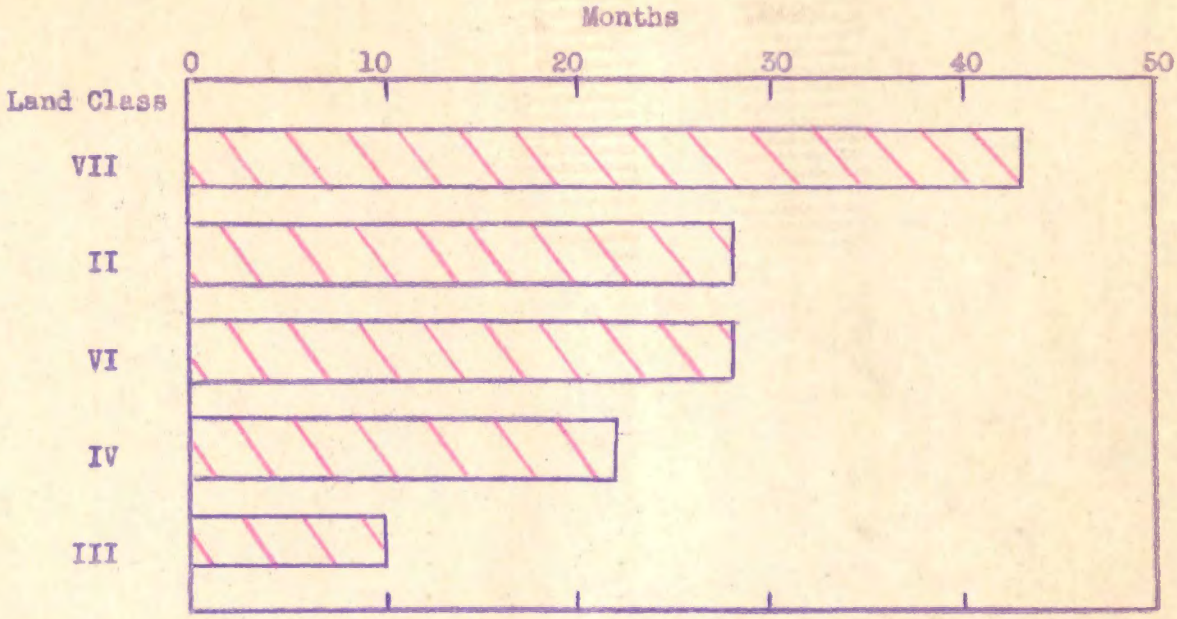
with an average of only 1.0 month per operator. Operators on Class VII land worked the most, averaging 4.3 months outside employment for all operators (Table XXXVIII, Figure 50).

TABLE XXXVIII. PERCENTAGE DISTRIBUTION OF FARM OPERATORS ON EACH LAND CLASS, BY NUMBER OF MONTHS OUTSIDE EMPLOYMENT, 131 OVERTON COUNTY FARMS, 1936

Months Employment	Land Class				
	II	III	IV	VI	VII
	(12 farms)	(50 farms)	(39 farms)	(6 farms)	(24 farms)
Less than 15 days	-	16.0	12.8		4.2
1	8.3	4.0	10.2		12.5
2		6.0	2.6		4.2
3					16.7
4		6.0	5.1		8.3
5				16.7	4.2
6		2.0	2.6		8.3
7					
8	8.3		2.6		
9			2.6		
10			2.6		
11			2.6		
12	16.7	4.0	5.1	16.7	20.8
Total	33.3	38.0	48.8	33.4	79.2
Months employment per operator (a)	2.8	1.0	2.2	2.8	4.3

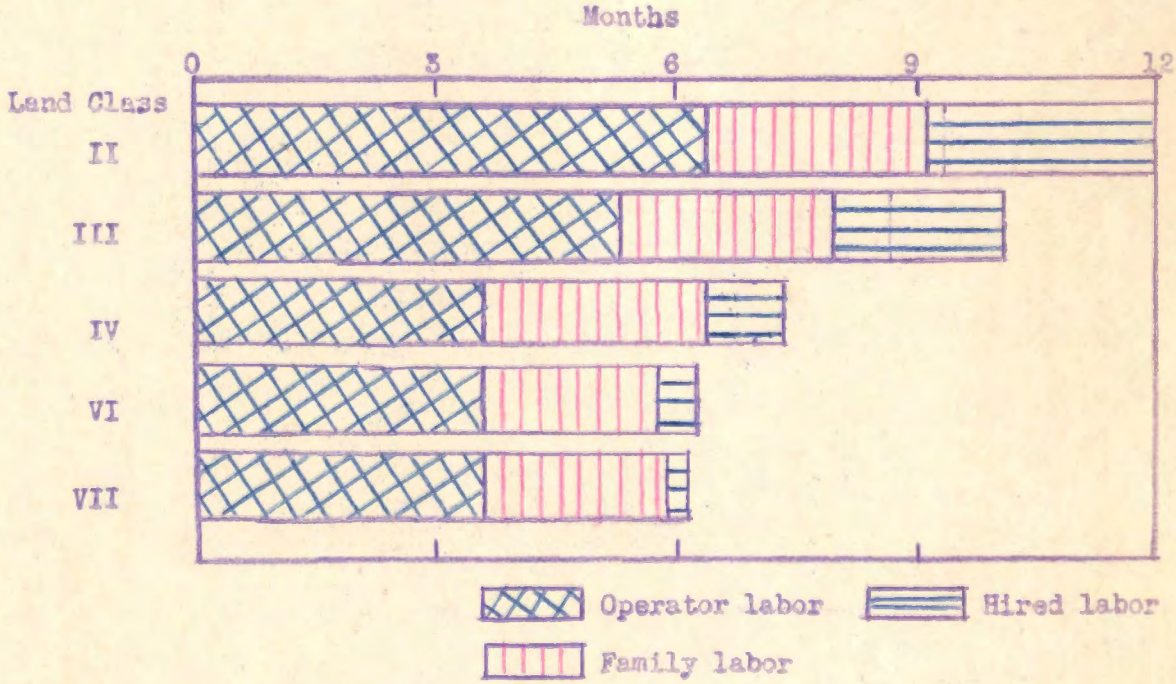
(a) Average of all operators in each land class group.

Sources of Farm Labor, by Land Classes. Farms on Class II land had an average of 12 months labor which was the most labor on any group of farms. These were followed by farms on Class III land with 10.1, Class IV land with 7.4, Class VI land with 6.3, and Class VII land with 6.1 months per farm (Figure 51).



Source: Table LXXXVIII.

Figure 50. Average number months outside employment of farm operator, by land classes, 131 Overton County farms 1936



Source: Table LXXXIX.

Figure 51. Number months labor on farms, with sources, by land classes, 131 Overton County farms, 1936

Excepting farms on Class IV land, the operators on all groups of farms supplied slightly more than one-half of all farm labor. The average number of months of family labor varied from 2.2 to 2.8 months for the groups. Hence there was not more than 0.6 months difference in family labor for any of the groups. Therefore, the family supplied a larger proportion of all labor on farms located in poorer land class areas, where there was much less total labor per farm.

Farms on Class III land had the most cropper labor, and farms on Class II land had the most wage-hand labor. On the basis of average total hired labor, farms on land Class II land had 2.8 months which was the most of any group. Farms on Class III land had 2.1, Class IV had 1.0, Class VI had 0.5, and farms on Class VII land had only 0.2 months hired labor per farm (Table XXCIX, Figure 51).

TABLE XXCIX. AVERAGE NUMBER MONTHS LABOR PER FARM, BY SOURCE AND BY LAND CLASSES, 131 OVERTON COUNTY FARMS, 1936

	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Operator	6.4	5.3	3.6	3.6	3.6
Family	2.8	2.7	2.8	2.2	2.3
Cropper	.2	.7	.6	-	-
Wage hands	2.6	1.4	.4	.5	.2
Total	12.0	10.1	7.4	6.3	6.1

Relation of Tenure of Farm Operators to Land Classes. Farms on Land Class VI had the highest percentage of full-owner operators, with 5 out of 6 operators being full owners. Farms on Class VII land had the lowest percentage of full-ownership with 46% of their operators full owners. Percentage

of part-owner operators ranged from 28% on Class IV land to 17% on Land Classes II and VI. The percentage of tenant operators ranged from 33% on Class VII land to 8% on Land Class II (Table XC).

TABLE XC. PERCENTAGE DISTRIBUTION OF FARMS ON EACH LAND CLASS, BY TENURE OF OPERATOR, 131 OVERTON COUNTY FARMS, 1936

Tenure of Operator	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Full owner	75.0	72.0	56.4	83.3	45.8
Part owner	16.7	18.0	28.2	16.7	20.8
Tenant	8.3	10.0	15.4	-	33.4
Total	100.0	100.0	100.0	100.0	100.0

The low percentage of full owners, and the high percentage of tenant operators on Class VII land may be explained by the fact that five tenant operators on this land class were on Brier-Hill land, and under normal conditions do not rely fully on the farm for subsistence.

Summary of Farm Organization by Land Class. Fifty farms were located in Class III land areas where more farms were located than in any other class. Land Class VI areas had the smallest number with only 6 farms. The average total size of farm ranged from 156 acres on Class II land to 55.5 acres on Land Class VII. Farms on Class II land had over 50% more improved acreage, and farms on Class VII land had nearly 50% less improved acreage than any other groups. The number of acres per farm in crops ranged from 63 on land Class II farms to 17 acres on Class VII farms.

The average total investment varied from $5824 on Class II land, which was more than 50% higher, to $922 for farms on Class VII land which was

more than 50% below any other group. The average operating capital ranged from $1574 on Class II land to $378 on Land Class VII.

Average total farm receipts had a range of from $714 for farms on Class II land to $229 for farms on Class VII land. Farms on Class II land had highest total farm expenses amounting to $560 per farm, and farms on Class VII land had the lowest with $147 per farm. Total current expenses were highest on Land Class II farms with $316, and lowest on Land Class VII farms with an average current expense of $51.

The total animal units per farm varied from 14.4 on Class II farms to 3.4 on farms in Land Class VII areas. The unweighted mean diversity index had a range of from 3.17 on land Class II farms to 2.56 on Land Class VII farms.

Farm operators in Land Class VII area had the highest average number of months employment off the farm, with 4.3 to compare with an average of only one month for operators in Land Class III areas. Farm operators on Land Class II farms worked on the farm an average of 6.4 months, while operators on Land Classes IV, VI, and VII worked an average of only 3.6 months. The average number of months of family labor varied between 2.8 and 2.2 per farm. Most hired labor was employed on Class II land where the farms had an average of 2.8 months hired labor per farm, and the least was employed on Land Class VII where there was an average of only 0.2 months per farm.

The average number of man work units per farm had a range of from 257 on Land Class II farms to 103 on Land Class VII. The number of man

man equivalents per farm ranged between 1.0 on Class II land and 0.5 on Land Class VII farms.

The percentage of tenancy varied 8% on Land Class II farms to 33% on farms located in Land Class VII areas (Table XCI).

TABLE XCI. SUMMARY OF FARM ORGANIZATION, BY LAND CLASSES, 131 OVERTON COUNTY FARMS, 1936

Item	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
Total acres	156.4	112.2	79.9	36.3	55.5
Acres improved land	98.6	64.8	47.2	33.8	25.6
Acres crops (a)	62.7	46.0	30.0	26.7	17.2
Ave. total investment	$5824	$3779	$1992	$1323	$ 922
Operating capital	$1574	$1105	$ 696	$ 536	$ 378
Farm receipts	$ 714	$ 451	$ 270	$ 233	$ 229
Current expenses	$ 316	$ 190	$ 109	$ 85	$ 51
Farm expenses	$ 560	$ 364	$ 260	$ 220	$ 147
Animal units	14.4	8.2	5.3	4.6	3.4
Ave. diversity index	3.170	2,792	2.708	2.845	2.561
Operator labor:					
Months off farm	2.3	1.0	2.2	2.8	4.3
Months on farm	6.4	5.3	3.6	3.6	3.6
Months family labor on farm	2.3	2.7	2.3	2.2	2.3
Months hired labor	2.8	2.1	1.0	.5	.2
Number man work units per farm	256.8	200.1	150.8	140.9	102.8
Man equivalents per farm	1.00	.33	.63	.52	.30
Per cent tenancy	8.3	10.0	15.4	-	33.4

(a) Includes double cropped acres.

Organization of 151 Overton County Farms by Size of Farm

In studying farm organization by size groups, the size of a given farm is determined by the number of improved acres[14] in that farm. Farms having 33 acres or less improved land are designated as "small" farms. Farms having from 34 to 66 acres improved land are grouped as "medium" sized farms. "Medium large" farms have from 67 to 99 acres improved land. Farms having from 100 to 195 acres improved land, which was the largest in the survey, are referred to as "large" farms.

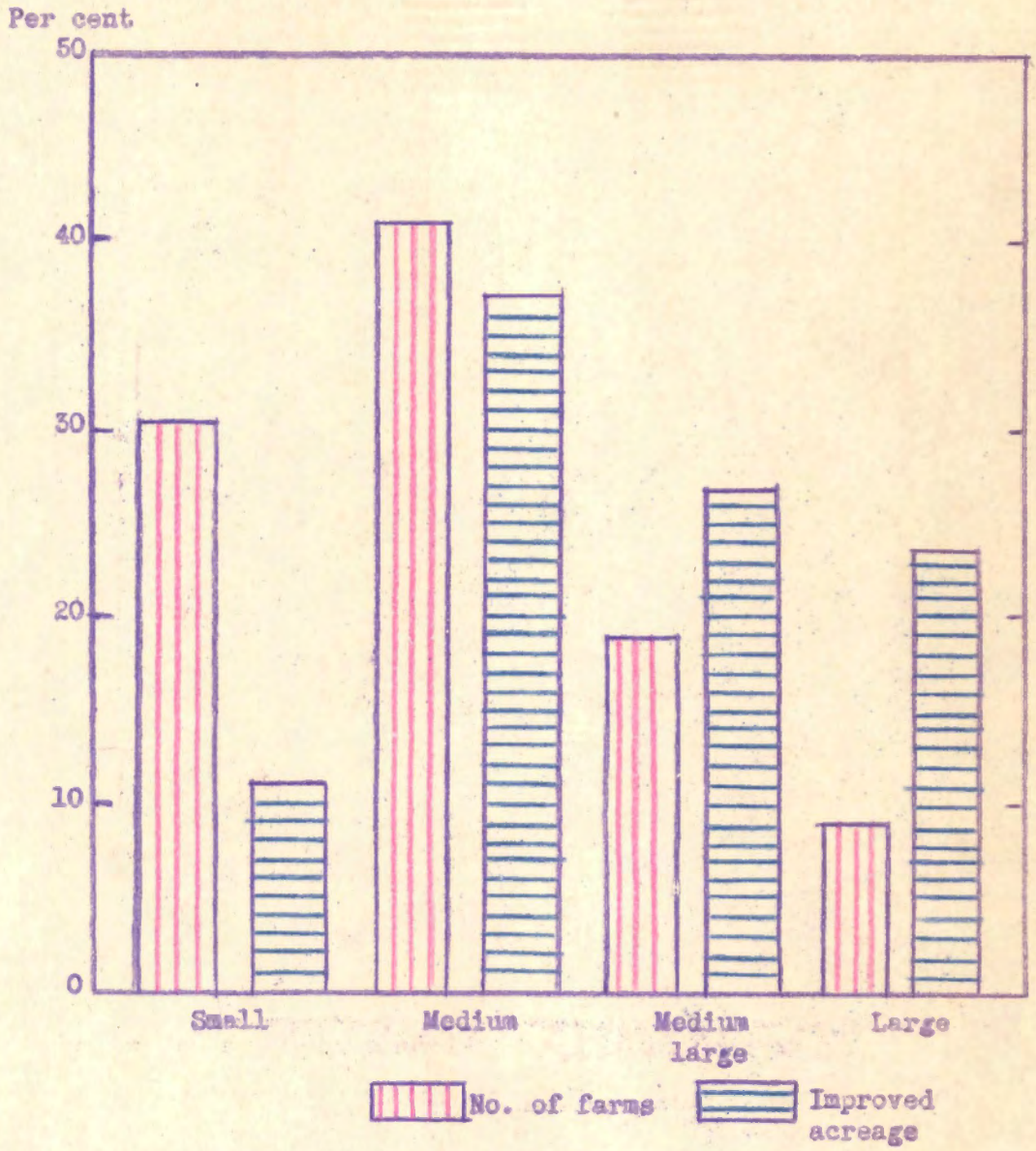
Distribution of Farms and Farm Area, by Size of Farm. Forty "small" farms were included in survey, and represented 11.4% of the total improved acreage. There are 54 farms, or 41% of all farms, in the "medium" sized

TABLE XCII. DISTRIBUTION OF FARMS, AND IMPROVED FARM LAND AREA, BY SIZE OF FARM, 151 OVERTON COUNTY FARMS, 1936

Size of Farm	Number of Farms	Per Cent of Farms	Per Cent of Improved Acreage
Small	40	30.5	11.4
Medium	54	41.2	37.1
Medium large	25	19.1	27.9
Large	12	9.2	23.6
Total	151	100.0	100.0

group that accounted for 37% of the total improved land area. Twenty-five farms representing 19% of all farms were in the "medium large" group, and accounted for 28% of the improved land area. There were only 12 "large"

(14) Improved acres include all land in the farm with the exception of woodland and waste land.



Source: Table XCII.

Figure 52. Percentage distribution of 131 Overton County farms, and total improved land area, by size of farm, 1936

farms, but they contained nearly one-fourth of the total improved land area.

Thirty per cent of the farms were small and 41% were medium sized. Thus from a percentage of farms standpoint, nearly three-fourths of all farms were either small or medium sized. But from a percentage of the total improved acreage rating, the medium large and large farms accounted for 51.6% of the acreage (Table XCII, Figure 52).

Relation of Soil Type to Size of Farm. Only one of the 40 small farms was located on Decatur loam soil. Forty per cent of the small farms were located on the Clarksville soil, with two-thirds of these on Clarksville silt land. Fifty-eight per cent were on the DeKalb series, with only one-fourth of these on DeKalb silt soil.

Eleven per cent of the medium size farms were on Decatur soil. Sixty-three per cent were on Clarksville silt, and 15% on Clarksville stony land. Only 11% were on DeKalb soil, with all of these being on DeKalb silt.

One fifth of the medium large farms were on Decatur soil. One-half were on Clarksville silt, and one-sixth were on each Clarksville stony and DeKalb silt soils.

One-third of the large farms were on Decatur soil, and two-thirds were on Clarksville silt.

As the size of farm increased with each group, the proportion of the farms on Decatur soil increased. Most of the small farms were on DeKalb soil, with all DeKalb stony and DeKalb sandy farms being small farms. Three-fourths of the medium, two-thirds of the medium large, and all the large farms were on either Decatur loam or Clarksville silt soils (Table XCIII).

TABLE XCIII. PERCENTAGE DISTRIBUTION OF FARMS OF EACH SIZE, BY TYPE OF SOIL, 131 OVERTON COUNTY FARMS, 1936

Soil Type	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Decatur loam	2.5	11.1	20.0	33.3
Clarksville silt	27.5	53.0	48.0	66.7
Clarksville stony	12.5	14.8	16.0	-
DeKalb silt	15.0	11.1	16.0	-
DeKalb sandy	30.0	-	-	-
DeKalb stony	12.5	-	-	-
Total	100.0	100.0	100.0	100.0

Relation of Land Classes to Size of Farm. One-third of the small farms were in land Class IV areas. Forty-eight per cent were on Class VII land. Only 5% were on each of Classes II and VI, and 10% on Class III land.

Only one medium size farm was on Class II land, but 54% were on Class III land, and 35% on Land Class IV. Only 9% were on Land Classes VI and VII combined.

One-fifth of the medium-large farms were on Class II land, and 44% were on Class III. One-fourth of the farms were on Class IV land. Twelve per cent were on Classes VI and VII combined.

One-third of the large farms were on Class II land, and one-half on Class III. Only 1 farm was on each of Classes IV and VI land.

Combining Land Classes II and III which are the better agricultural lands, only 15% of the small farms were in these classes. The percentage of farms that these classes represented in each size group increased with the size of farm, 83% of the large farms were in these better classes. Class IV, which is the poorest agricultural land, contained about one-third each of the small and medium size farms, one-fourth of the medium large

farms, and only one of the 12 large farms. Combining Land Classes VI and VII, which are the areas mapped as being unsuited to profitable agricultural production, 52% of the small farms, but less than one-eighth of each of the other size groups were located in these areas (Table XCIV).

TABLE XCIV. PERCENTAGE DISTRIBUTION OF FARMS, IN EACH SIZE GROUP, BY LAND CLASSES, 121 OVERTON COUNTY FARMS, 1936

Land Class	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
2	5.0	1.8	20.0	33.4
3	10.0	55.7	44.0	50.0
4	32.5	35.2	24.0	8.3
6	5.0	3.7	4.0	8.3
7	47.5	3.6	8.0	-
Total	100.0	100.0	100.0	100.0

Major Uses of Land by Size of Farm. Forty small farms had an average of 8.1 acres in woods pastured, 15 acres woods not pastured, 14.8 acres in crops, 2.6 acres idle crop land, 3.2 acres cleared pasture, 4 acres waste land, and an average total farm acreage of 47.7. Thus, slightly less than one-half the total acreage was in woods, and nearly one-third in crops. The farms had very little of either idle crop land or cleared pasture.

With the average number of acres on small farms as a base, the medium size farms had only 2 more acres in woodland, but had more than twice as many acres in crops, nearly three times as much of both idle crop land and cleared pasture, slightly more waste land, and nearly 70% more average total acres. These farms had less than one-third of their total acreage in woodland, but more than 40% of their farm in crops. They had more than one-fifth as

much crop land idle as they had planted. Medium size farms had nearly 30% as much cleared pasture as land in crops.

With the average acreage on medium farms as a base, medium large farms had about three-fourths more woodland, about 40% more crops, 30% more idle crop land, nearly three times as much cleared pasture, one-third more waste land, and about 64% more total acreage per farm. Medium large farms had one-third of their acreage in woodland, and more than one third in crops. They had one-fifth as much idle crop land as they had in crops. They had more than one-half as much land in cleared pasture as in crops.

With the average acreage on medium large farms as a base, large farms had more than twice as much acreage in woodland, 50% more acreage in crops, nearly twice as much idle crop land, more than twice as much cleared pasture, three times as much waste land, and 92% more total acreage per farm. Large farms had 36% of their total acreage in woodland. They had 71 acres or about 28% of their total acreage in crops. They had one-fourth as much idle crop land as they had in crops. Large farms had 55 acres or 21% of their total acreage in cleared pasture. Thus these farms had three-fourths as much cleared pasture land as they had in crops. They had more than one-third as much waste land as cleared pasture.

Contrary to the normally expected, small farms had a much larger proportion of their total acreage in woodland than any other size group.(15) Medium size farms had the largest proportion of total acreage in crops.

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(15) This may be due to the fact that in this particular case the size is being determined by improved rather than total acreage.

Large farms had the largest proportion of total acreage in cleared pasture. However, the average total acres in woodland, crops, idle crop land, cleared pasture, waste and total area, and proportion of total area in cleared pasture increased with each larger group (Table XCV, Figure 53).

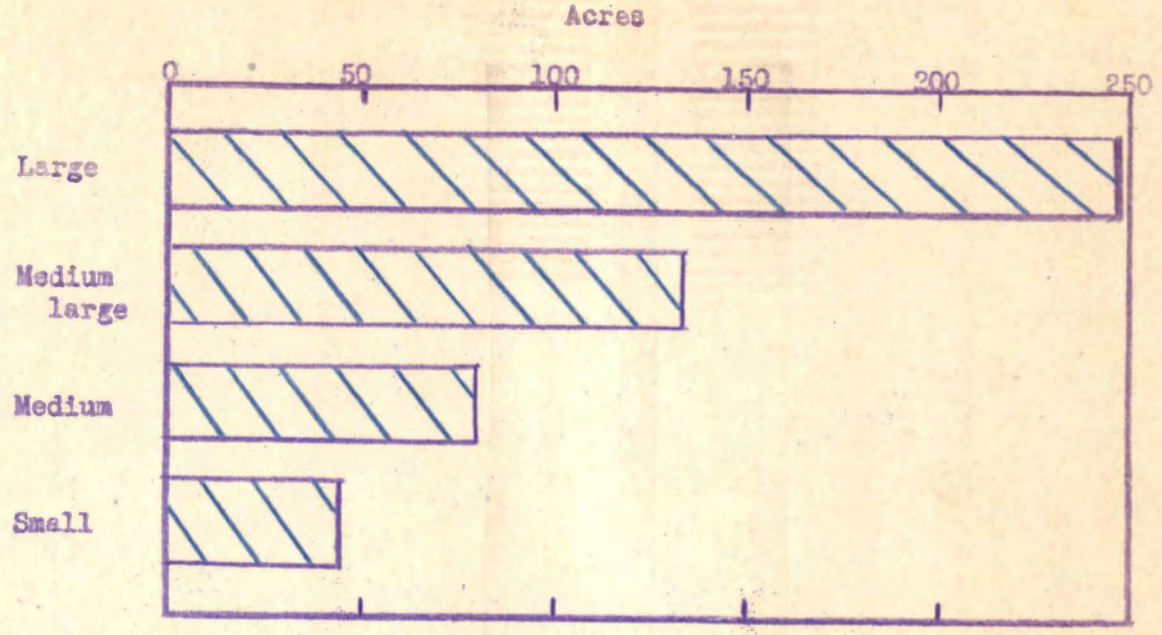
TABLE XCV. AVERAGE NUMBER OF ACRES PER FARM IN MAJOR LAND USES, BY SIZE OF FARM, 131 OVERTON COUNTY FARMS, 1936

Item	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Woods pastured	8.1	11.8	13.1	29.2
Woods not pastured	15.0	13.7	30.6	61.5
Acres in crops	14.8	33.0	47.0	70.6
Crop land idle	2.6	7.1	9.2	17.5
Cleared pasture	3.2	9.4	24.2	52.8
Waste	4.0	4.5	6.0	18.3
Total	47.7	79.5	130.1	249.9

Relation of Total Investment in Farm Business to Size of Farm. Three-fourths of the small farms had a total investment of not more than $1,500. Twenty-two per cent had an investment of $1501 to $3000. Only one farm had more than $3,000, and none had more than $4,500.

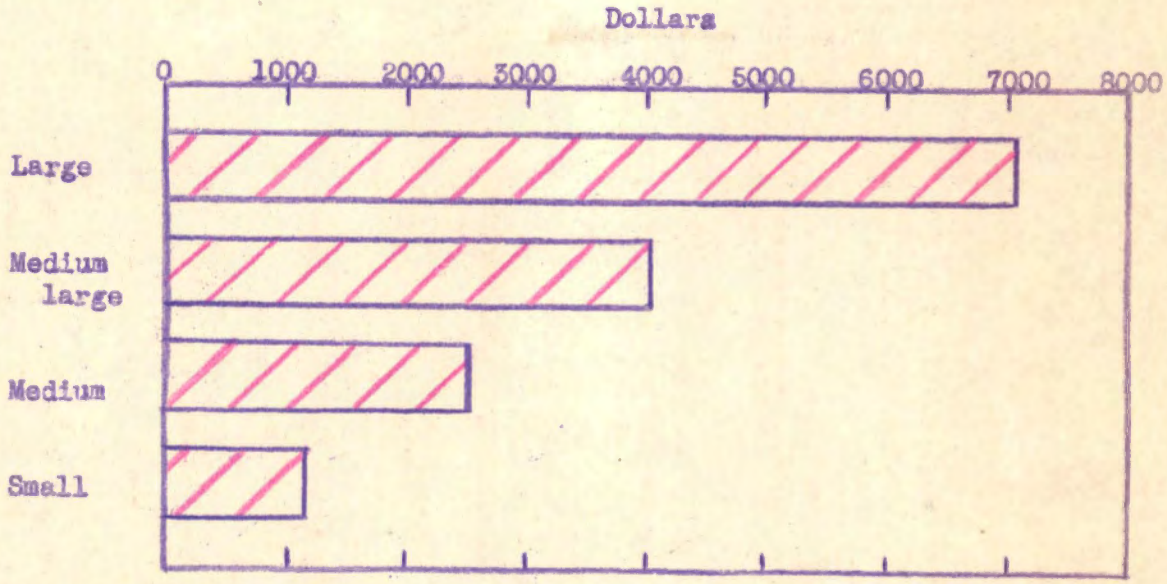
Twenty-two per cent of the medium size farms had a total investment of $1,500 or less. Forty-six per cent had from $1,501 to $3,000, and 26% had from $3,001 to $4,500. Three farms had an investment of more than $4,500, and 1 farm had more than $6,000 total investment.

Only 1 out of 25 medium large farms had a total investment as low as $1,500. Thirty-two per cent had an investment from $1,501 to $3,000; 28% from $3,000 to $4,500; 20% from $4,501 to $6,000; and 16% from $6,001 to $11,035.



Source: Table XCV.

Figure 53. Total number of acres per farm, by size of farm groups, 131 Overton County farms, 1936



Source: Table XCVI.

Figure 54. Total investment in the farm business, by size of farm, 131 Overton County farms, 1936

Two out of 12 large farms had an investment of from $1,501 to $3,000. All other large farms had a total investment from $6,001 to $11,035.

Ninety-eight per cent of the small farms, 68% of the medium farms, 36% of the medium large, and 17% of the large farms had a total investment of $3,000 or less. None of the small farms, 6% of the medium farms, 36% of the medium large, and 83% of the large farms had a total investment exceeding $4,500. Hence, when size of the farm is measured by number of improved acres, there is a high direct correlation between the size of farm and the total investment.

On the basis of average total investment, small farms had less than 40% as much as medium farms. Medium large farms had about 56% more invested than did medium farms. Large farms had 75% larger investment than medium large farms (Table XCVI, Figure 54).

TABLE XCVI. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP, BY AMOUNT OF TOTAL INVESTMENT, 131 OVERTON COUNTY FARMS, 1936

Investment	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
$ 213 - $1500	75.0	22.2	4.0	-
1501 - 3000	22.5	46.3	32.0	16.7
3001 - 4500	2.5	25.9	28.0	-
4501 - 6000	-	3.7	20.0	-
6001 - 11035	-	1.9	16.0	83.3
Total	100.0	100.0	100.0	100.0
Average total investment	$1074	$2577	$4008	$7018

Distribution of Investment in the Farm Business, by Size of Farm. Forty small farms had an average total investment of $1,074. Land was valued

at $417 or slightly less than 40% of the total investment. Operating capital amounted to $361 per farm or about one-third of the total investment. Machinery was valued at $44 and livestock at $163 per farm.

Fifty-four medium size farms had an average total investment of $2577. Land was valued at $1136 or 44% of the total investment. Operating capital totaled $823 per farm, and represented 32%. Machinery was valued at $117, and livestock at $385 per farm.

With the average investment in each item on small farms as a base, medium size farms had nearly 3 times as much invested in land, about twice as much invested in the dwelling, more than twice as much invested in other buildings, nearly three times as much in both fences and machinery, over twice as much in livestock, about two and one-half times as much in feed and supplies, but slightly less in the item of "cash to run the farm".

Twenty-five medium large farms had an average total investment of $4,008. Land was estimated at $1,904 per farm which represented about 48% of the total investment. Medium large farms had an average operating capital of $1,265, that accounted for 31% of the total investment. Machinery was valued at $195, and livestock at $551 per farm. Feed inventories were valued at $401 per farm.

With the average investment in various items on on medium size farms as a base, medium large farms had about two-thirds more invested on land, one-

sixth more in the dwelling, 50% more in other buildings, nearly twice as much in fences, two-thirds more in machinery, 43% more in livestock, one-third more in feed, and nearly three times as much in cash to run the farm.

Twelve large farms had an average total investment of $7,018. Land was valued at $3,515, representing one-half of the total investment. Large farms had an average operating capital of $1,919 which accounted for 27% of the total investment. Machinery was valued at $236 and livestock at $904 per farm. Feed inventories had an average value of $638, or represented one-third of the total operating capital.

With the average investment in each item on medium large farms as a base, large farms had about twice as much invested in land, dwellings and other buildings, about one-third more in fences, one-fifth more in machinery, two-thirds more in livestock, about 40% more in feed, and one-fifth more in cash to run the farm.

TABLE XCVII. AVERAGE INVESTMENT IN EACH ITEM IN THE FARM BUSINESS, BY SIZE OF FARM, 131 OVERTON COUNTY FARMS, 1936

Item	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Land	$417	$1136	$1904	$3515
Houses (a)	175	340	401	792
Other buildings (a)	94	204	307	617
Fences (a)	27	74	131	170
Drains	-	-	-	5
Machinery and equipment	44	117	195	236
Livestock	163	385	551	904
Feed and supplies	114	290	401	638
Cash to run farm	40	31	118	141
Total	$1074	$2577	$4008	$7018

(a) Investment beginning of year plus average of improvements of $100 or more during year.

With the exception of the amount of "cash" used to run the medium size farms, the average investment in every item increased with each larger size group of farms (Table XCVII).

Relation of Man-Equivalents per Farm to Size of Farm. Sixty-eight per cent of the small farms had a man-equivalent of not more than 0.5. Thirty-two per cent had from 0.51 to 1.0. None of the small farms had a man-equivalent of more than 1.0.

Thirty-seven per cent of the medium size farms had a man-equivalent not in excess of 0.5. Fifty-seven per cent had from 0.51 to 1.0. Three farms had more than 1.0 but none had more than 2.0.

Twenty per cent of the medium large farms had a man-equivalent of 0.5 or less. Forty per cent had from 0.51 to 1.0. Thirty-six per cent had from 1.1 to 2.0, and one farm had a man-equivalent of more than 2.0

None of the large farms had a man-equivalent as low as 0.5. One-fourth had from 0.51 to 1.0. Fifty-eight per cent had from 1.01 to 1.5, and 17% had a man-equivalent of 1.51 to 2.0.

Sixty-eight per cent of the small farms, 37% of the medium, 20% of the medium large, and none of the large farms had a man-equivalent of 0.5 or less. None of the small farms, 5% of the medium, 40% of the medium large, and 75% of the large farms had a man-equivalent of more than 1.0. Hence there is a high degree of correlation between the size of farm and man-equivalents per farm.

On the basis of average man-equivalents per farm, each size group had a larger man-equivalent than the smaller sizes. Small farms had an average of 0.44. Medium farms averaged 0.69 or nearly 60% more than small farms.

Medium large farms had an average man-equivalent of 1.08 which is 57% larger than for medium farms. Large farms had an average of 1.2 which is one-ninth larger than the average of medium large farms (Table XCVIII, Figure 55).

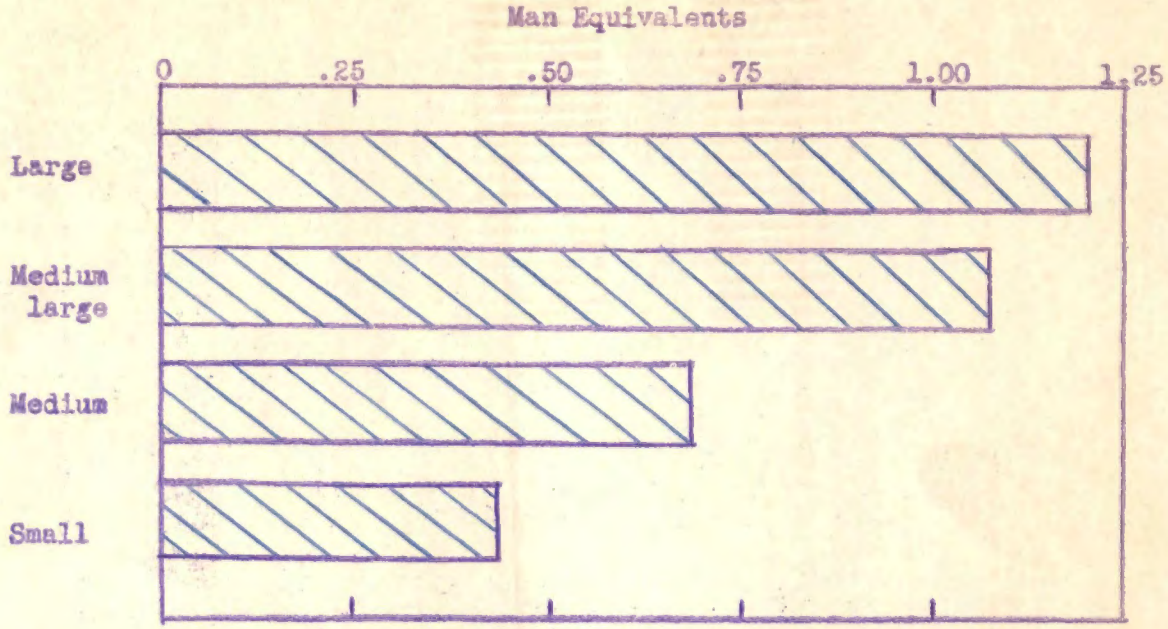
TABLE XCVIII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP, BY MAN-EQUIVALENTS PER FARM, 131 OVERTON COUNTY FARMS, 1936

Man Equivalent	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
0.10 - 0.50	67.5	37.0	20.0	-
0.51 - 1.00	32.5	57.4	40.0	25.0
1.01 - 1.50	-	3.7	20.0	58.3
1.51 - 2.00	-	1.9	16.0	16.7
2.00 - 2.88	-	-	4.0	-
Total	100.0	100.0	100.0	100.0
Average man-equivalent	0.44	0.69	1.08	1.20

Relation of Man Work Units per Farm to Size of Farm. Fifty per cent of the small farms had not more than 100 man work units. Thirty-eight per cent had from 101 to 150, and 12% had from 151 to 200 man work units per farm.

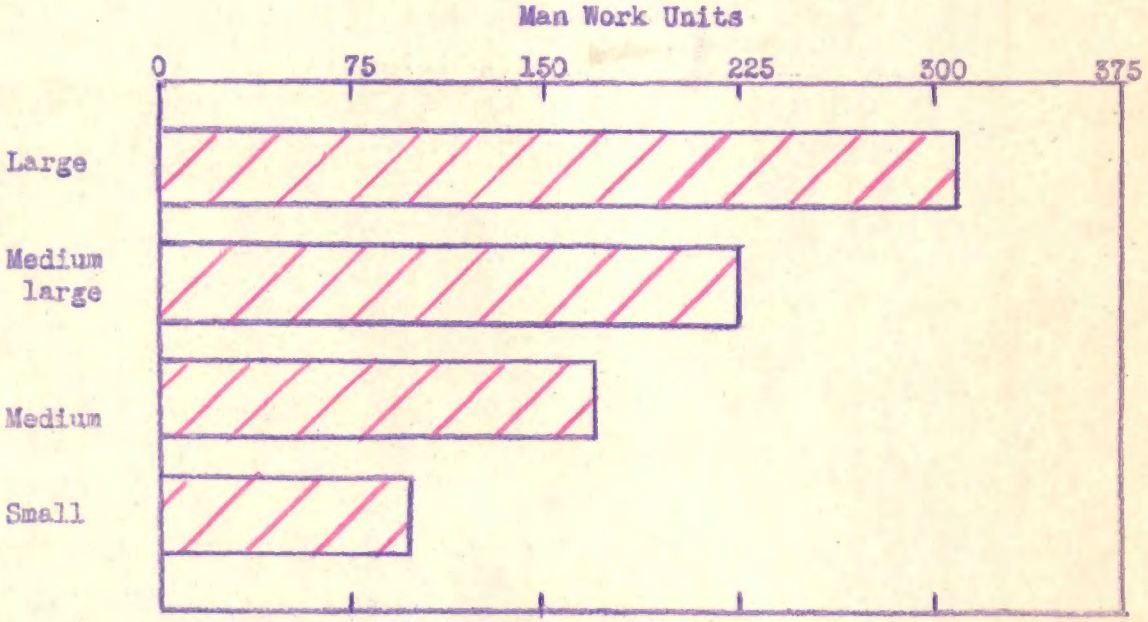
Eleven per cent of the medium size farms had 100 man work units or less. Sixty-five per cent had from 101 to 200, and 24% had more than 200 man work units.

None of the medium large farms had less than 100 man work units. Forty-eight per cent had from 101 to 200, and 40% from 201 to 300 man work units. Three farms had more than 300, and 1 had more than 400 man work units.



Source: Table XCVIII.

Figure 55. Average man-equivalents by size of farm, 131 Overton County farms, 1936



Source: Table XCIX.

Figure 56. Average number of man work units per farm, by size of farm, 131 Overton County farms, 1936

None of the large farms had as few as 150, and only one had less than 200 man work units. Thirty-three per cent of the large farms had from 201 to 300, and 42% had from 301 to 400 man work units. Two of the 12 large farms had over 400 man work units.

Eighty-eight per cent of the small farms, 41% of medium farms, 20% of the medium large, but none of the large farms had 150 or less man work units. None of the small farms, 24% of the medium, 52% of the medium large, and 92% of the large farms had more than 200 man work units. Therefore there is a high degree of direct correlation between the number of cleared acres in the farm and the number of man work units required.

On the basis of average number of man work units per farm, small farms had 98, medium farms 168, medium large farms 224, and large farms had 309 man work units per farm (Table XCIX, Figure 56).

TABLE XCIX. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP, BY NUMBER OF MAN WORK UNITS PER FARM, 131 OVERTON COUNTY FARMS, 1936

Number of Man Work Units	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
18 - 100	50.0	11.1	-	-
101 - 150	37.5	29.6	20.0	-
151 - 200	12.5	35.2	28.0	8.3
201 - 300	-	24.1	40.0	33.3
301 - 400	-	-	8.0	41.7
400 - 544	-	-	4.0	16.7
Total	100.0	100.0	100.0	100.0
Average number man work units	97.6	167.9	224.3	308.8

Relation of Kind and Acreage of Crops Planted to Size of Farm.

Small farms planted an average of 16.1 acres in crops. Of this 9.4 acres was corn, which represented nearly 60% of the total crop acreage. Small farms had 4.1 acres of hay, only 0.6 acres of small grain, and 2.0 acres of all other crops.

Medium size farms had an average of 35.7 acres in crops. Corn was planted on 17.9 acres or one-half of all crop acreage. Medium farms had an average of 11.2 acres of hay, which represented nearly one-third of the crop acreage. A total of 3.8 acres small grain and 2.8 acres per farm of all other crops were planted on medium size farms.

Medium large farms planted an average of 50.9 acres in all crops. They had 21.6 acres or about 42% of all crop acreage in corn. Medium large farms had 19.7 acres hay which is nearly as much as the corn acreage. Small grains amounted to 6.6 acres per farm or nearly one-third as much as the corn acreage. These farms had 3 acres of all other crops.

Large farms had a total of 79.4 acres in crops per farm. Corn accounted for 29.3 acres or 37% of all crop acreage. The farms had 28.6 acres in hay, or about the same amount in hay and corn. There was an average of 12.7 acres, or nearly one-sixth of all crop acreage, in small grain. A total of 8.8 acres per farm of all other crops were planted on large farms.

The average number of acres in each of the four major crop divisions as outlined in Table 8 increased in each larger sized group of farms. The proportion of the crop acreage in corn decreased, and the proportion of all crop acres in both hay and small grains increased as the size of farm increased.

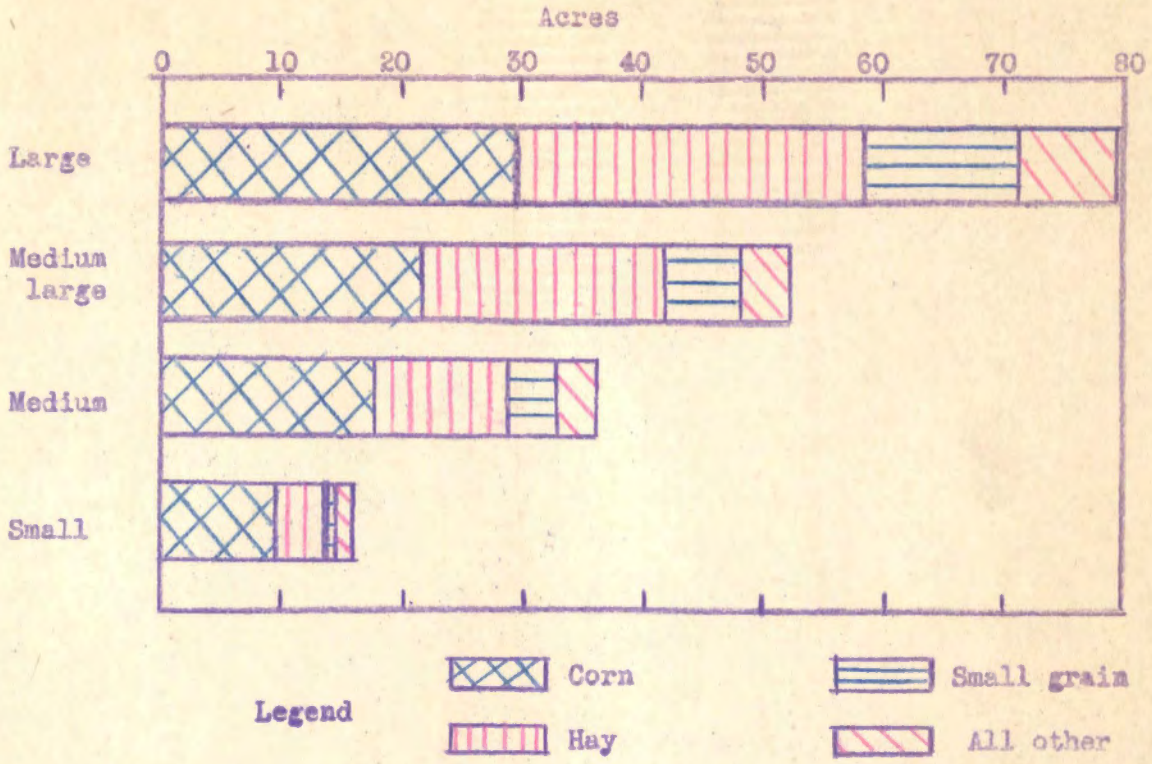
On the basis of average total acres in crops, small farms had 16, medium farms 36, medium large farms 51, and large farms had 79 acres per farm. Thus medium size farms had more than twice as many acres in crops as small farms. Medium large farms had about 40% more than medium size farms, and large farms had about 56% more crop acreage than medium large farms (Table C, Figure 57).

TABLE C. AVERAGE NUMBER OF ACRES IN EACH MAJOR CROP PER FARM, BY SIZE OF FARM, 131 OVERTON COUNTY FARMS, 1936

Crop	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Corn	9.4	17.9	21.6	29.3
Hay	4.1	11.2	19.7	28.6
Small grain	0.6	3.8	6.6	12.7
All other	2.0	2.8	3.0	8.8
Total	16.1	35.7	50.9	79.4

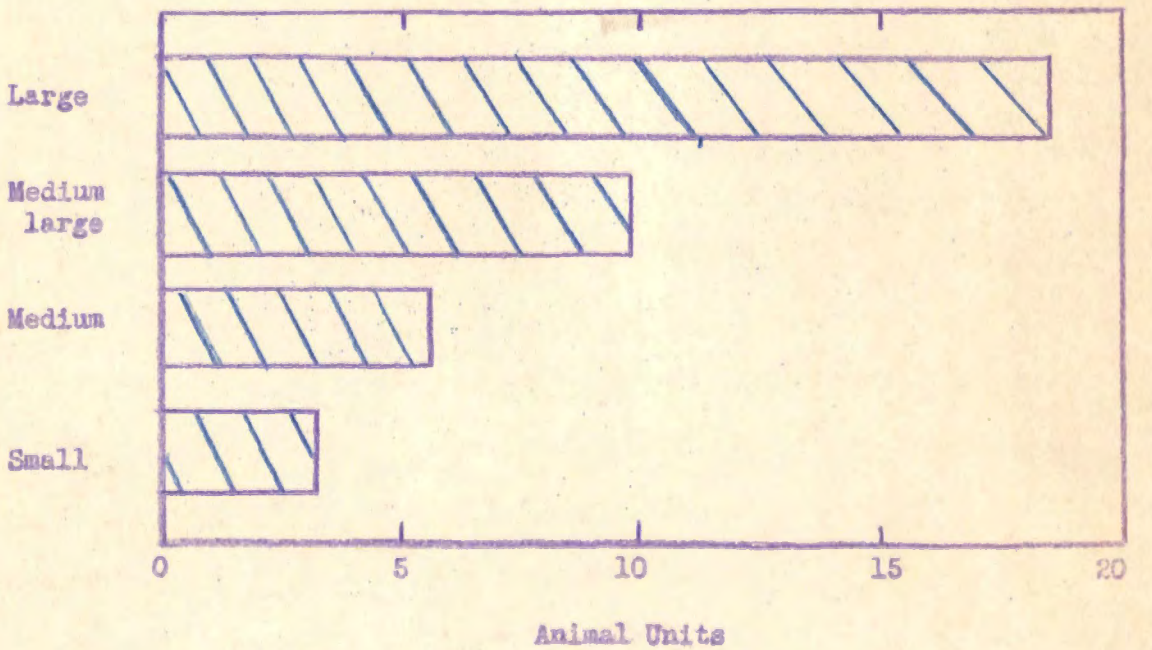
Livestock per Farm by Size of Farm. Small farms had an average of 1.1 workstock, 1.3 cows, 0.6 other cattle, 1.6 hogs and 32 poultry. None of the livestock were produced in large enough numbers to be of commercial importance.

With the average number of each class of livestock on small farms as a base, the medium size farms had twice as many horses, nearly twice as many mules, 50% more cows, and more than twice as many other cattle, hogs and poultry. Even with this comparison, the only livestock that are likely of commercial importance on medium size farms are a few poultry and a few cattle other than dairy.



Source: Table C.

Figure 57. Average number of acres in crops, with type of crop, by size of farm, 131 Overton County farms, 1936.



Source: Table CI.

Figure 58. Number of animal units per farm, by size of farm, 131 Overton County farms, 1936

Medium large farms had an average of 0.6 horses, 1.8 mules, 3.1 cows, 3.0 other cattle, 3.2 sheep, 8.0 hogs and 71 poultry. In comparison with medium size farms, medium large farms had the same number of horses, and about the same number of chickens, a slight increase in mules, 50% more cows, 3 more sheep per farm, and more than twice as many other cattle and hogs. Apparently medium large farms have enough of every class of productive livestock for each to be of some commercial importance in the farm business.

In comparison with medium large farms, large farms had twice as many horses, 50% more mules, more than 3 times as many cattle other than dairy, about the same number of hogs, and 20% more poultry. But they had slightly fewer dairy cows, and only 0.6 sheep per farm. Hence, productive livestock on large farms that are likely in excess of those needed for home consumption are a few dairy cows, some hogs and poultry, and quite a few other cattle.

From a commercial, or in excess of home need, standpoint, dairy cows are of slight importance on medium large and large farms. Other cattle are of slight importance on medium and medium large farms, and of considerable importance on large farms. Sheep are important only on medium large farms. Hogs are of some importance on medium large and large farms. Poultry are of some importance on medium, medium large and large farms.

On the basis of total animal units per farm, small farms had 3.2. Medium size farms had 5.6, or three-fourths more than small farms. Medium large farms had 9.8, or 75% more than medium farms. Large farms had 18.4, or nearly twice as many as medium large farms (Table CI, Figure 58).

TABLE CI. AVERAGE NUMBER OF EACH CLASS OF LIVESTOCK, AND TOTAL NUMBER OF ANIMAL UNITS(a) PER FARM, BY SIZE OF FARM, 131 OVERTON COUNTY FARMS, 1936

Class of Livestock	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Horses	.3	.6	.6	1.2
Mules	.8	1.4	1.8	2.9
Cows (b)	1.3	2.0	3.1	2.9
Other cattle	.6	1.3	3.0	10.8
Sheep	-	.2	3.2	.6
Hogs	1.6	3.9	8.0	8.1
Poultry	32.4	71.2	70.6	84.0
Total animal units	3.2	5.6	9.8	18.4

(a) Animal units are figured on average of stock at beginning and end of year.
(b) Cows kept for milk.

Sources of Receipts by Size of Farm. Small farms had average crop receipts of $12, livestock receipts $42, feed inventories $18, and other than farm sources $181. Thus livestock accounted for only $42 but this represented more than 50% of the farm receipts. "Other sources" accounted for more than 70% of the total receipts.

On medium size farms livestock accounted for an average of $141, which was nearly twice as much as crop receipts, and represented nearly one-half of the total income. "Other sources" amounted to only $57 per farm or less than one-fifth of all receipts.

Medium large farms had average livestock receipts of $252. Livestock receipts were more than 3 times as much as crop receipts, and represented more than 50% of the total receipts. "Outside sources" accounted for less than one-fifth of the total receipts.

On large farms livestock receipts amounted to $401 per farm or nearly one-half of the total receipts. Livestock receipts were nearly twice as much as crop receipts. "Outside sources" amounted to $80 per farm or only

9% of all receipts.

Thus, livestock were the principal source of receipts on all sizes except small farms where "outside sources" accounted for more than 70% of the total receipts.

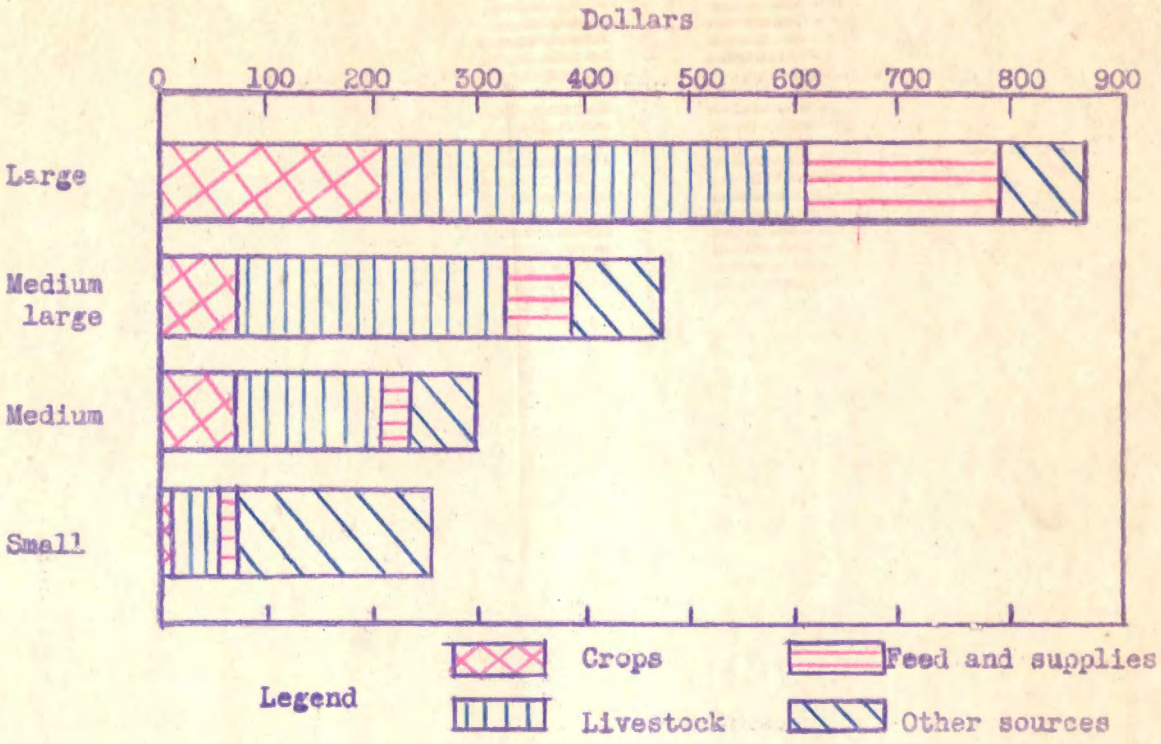
On the basis of total gross receipts, small farms had a total of $253 per farm. Medium size farms had an average of $296 or one-sixth more than small farms. Medium large farms had $477 per farm or 61% more than medium size farms. Large farms had average gross receipts of $877 per farm or 84% more than medium large farms (Table CII, Figure 59).

TABLE CII. SOURCES OF RECEIPTS, AND AVERAGE RECEIPTS PER FARM, BY SIZE OF FARM, 131 OVERTON COUNTY FARMS, 1936

Source	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Crops	$12	$73	$74	$210
Livestock	42	141	252	401
Feed and supply (inc.)	18	25	65	186
Other sources	181	57	86	80
Total	$253	$296	$477	$877

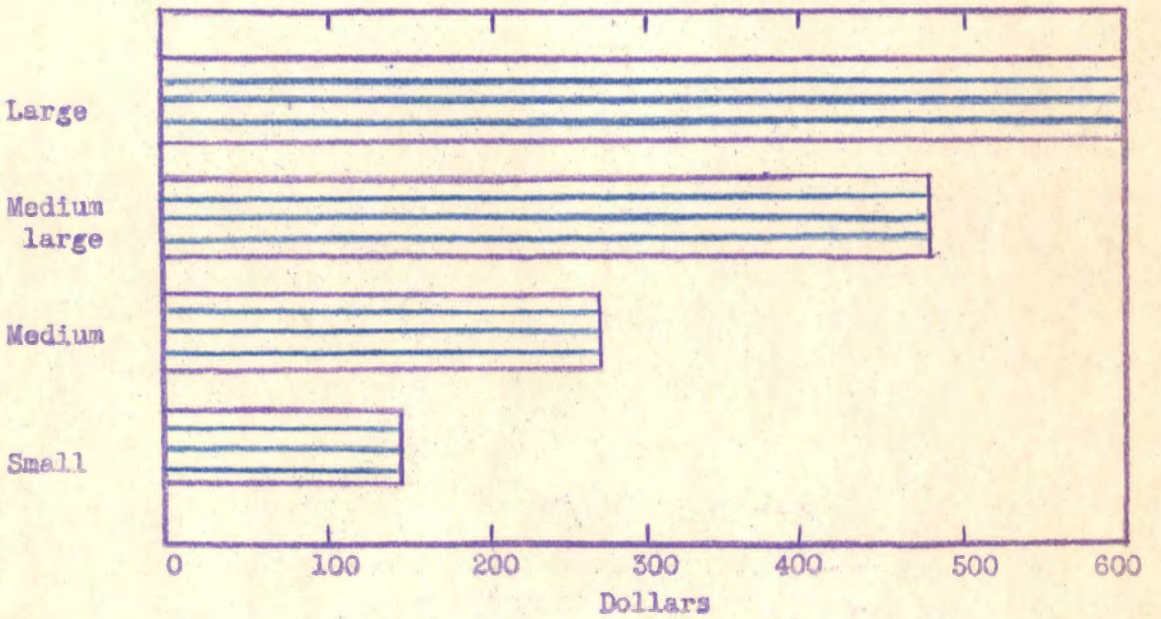
Relation of Farm Expenses to Size of Farm. Small farms had current expenses totaling $60 per farm. Unpaid family labor amounted to an average of $35, decreased livestock inventories $16, depreciation $14, and decreased feed inventories $30 per farm.

In comparison with small farms, medium size farms had over 50% more current expenses and decreased livestock inventories. They had one-third more unpaid family labor. Medium size farms had more than twice as much



Source: Table CII.

Figure 59. Total receipts per farm, with sources, by size of farm, 131 Overton County farms, 1936



Source: Table CIII.

Figure 60. Total farm expenses, by size of farm, 131 Overton County farms, 1936

depreciation and decreased feed inventories.

Medium large farms had an average of $266 current expenses, $67 unpaid family labor, $20 livestock decreases, $50 depreciation, and $75 decreased feed inventories. In comparison with medium size farms, medium large farms had one-fifth less decrease in livestock inventories, but about 10% larger decreases in feed inventories. They had about 50% larger depreciation and family labor expense. Current expenses on medium large farms were nearly three times as much as on medium size farms.

In comparison with medium large farms, large farms had more than 50% larger total current expense, and had about 40% larger amount of depreciation. However, large farms had less unpaid family labor, and less decrease in both livestock and feed inventories.

TABLE CIII. TOTAL FARM EXPENSES PER FARM, BY SIZE OF FARM, 131 OVERTON COUNTY FARMS, 1936

Item	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Current	$60	$97	$266	$414
Unpaid family labor	35	46	67	46
Livestock (dec.)	16	25	20	15
Depreciation	14	33	50	71
Dec. feed and supplies	30	68	75	54
Total	$155	$269	$478	$600

There is a direct correlation between the size of farm and the average total farm expense when farms are grouped by size. There are also direct correlations between the total expense, current expense and depreciation per farm.

On the basis of total expense, small farms had an average of $155 per farm. Medium size farms had an average of $269 or about two-thirds more than small farms. Medium large farms had an average of $478 or about three-fourths more than medium size farms. Large farms had an average of $800 which is one-fourth more than medium large farms (Table CIII, Figure 60).

Sources of Current Expenses, by Size of Farm. Purchase of feed amounted to $23 per farm, and was the largest current expense on small farms. Taxes amounted to $9 per farm, and were the second largest current expense for small farms. The purchase of both seed and fertilizer amounted to $6 per farm. Labor amounted to only $5 per farm.

On medium size farms, purchase of feed was the largest current expense amounting to $26 per farm, but was followed closely in importance by taxes which were $25 per farm. Labor costs were $17 per farm. Seed and fertilizer together amounted to $18 per farm.

The largest current expense item on medium large farms was the purchase of feed which amounted to $70 per farm. Labor was the second largest item with an average of $64. Taxes were the third largest item, and cost $45 per farm. Medium large farms had an average fertilizer cost of $26, and seed expense of $15.52 per farm.

Large farms had an average labor expense of $154 which was the largest current expense. Taxes were the second largest item with a total of $93 per farm. Purchase of feed was third in importance, and amounted to an average of $57. Large farms spent an average of $40 for fertilizer and $27 for seed.

Purchase of feed was the largest current expense item in every group except large farms where it was third in importance. Evidently large farms have a more flexible organizational set-up, or else the operators are more efficient in adjusting it to abnormal conditions such as the 1936 drought. Large farms had more livestock but less feed expense, and at the same time had smaller decreases in feed inventories than did medium large farms.

Taxes were the second largest current expense item in every group except medium large farms where they were third in importance. Labor was the largest current expense item on large farms, second largest on

TABLE CIV. CURRENT EXPENSES PER FARM BY SIZE OF FARM, 131 OVERTON COUNTY FARMS, 1936

Item	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Wage hands	$4.45	$8.61	$34.24	$63.17
Cropper labor	.47	8.22	29.36	90.42
Feed roughage	4.12	3.41	3.24	22.67
" grain	19.05	22.57	66.64	34.08
Seed	6.40	6.06	15.52	27.33
Fertilizer	5.85	9.78	26.20	40.25
Taxes	9.32	25.00	44.84	93.42
All other	10.70	13.52	45.92	42.17
Total	69.36	97.17	265.96	413.51

medium large farms, third largest on medium size farms, and amounted to only $5 per farm on small farms.

On the basis of total current expense, small farms had an average of $60, medium farms $97, medium large farms $266, and large farms $414 (Table CIV).

Relation of Diversity Index to Size of Farm. There is very little relation between the diversity index and size of farm in 1936 on 131 Overton County farms. However, there does appear to be a slight relationship.

Seventy per cent of the small farms, 63% of the medium farms, 56% of the medium large farms, and 42% of the large farms have a diversity index of 2.9 or less. Five per cent of the small farms, 11% of the medium size, 24% of medium large, and 17% of the large farms had a diversity index of 4.0 or larger.

On the basis of unweighted mean diversity index, small farms had 2.42, medium farms 2.76, medium large 3.14, and large farms 3.14. Thus there was a range in the mean index of only 0.72 (Table CV).

TABLE CV. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP, BY DIVERSITY INDEX, WITH MEAN DIVERSITY INDEX, 131 OVERTON COUNTY FARMS, 1936

Diversity Index	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
1.000 - 1.999	37.5	20.4	28.0	16.6
2.000 - 2.999	32.5	42.6	28.0	25.0
3.000 - 3.999	25.0	25.9	20.0	41.7
4.000 - 4.999	5.0	9.2	8.0	16.7
5.000 - 5.803	-	1.9	16.0	-
Total	100.0	100.0	100.0	100.0
Unweighted mean index	2.416	2,762	3.136	3.137

Relation of Outside Employment of Operator to Size of Farm. Small farms had more operators and a larger percentage of its operators having outside employment than any other group. Seventy per cent of the operators

on small farms worked some off the farm. Twenty-two per cent of the operators worked 12 months each, but 32% worked 4 months or less.

Forty-six per cent of the operators on medium size farms received some outside employment. Twenty-four per cent worked only one month or less. Only 3 operators worked more than 4 months, and none of them worked more than 8 months.

TABLE CVI. PERCENTAGE DISTRIBUTION OF OPERATORS ON EACH SIZE OF FARM, BY NUMBER MONTHS OUTSIDE EMPLOYMENT OF OPERATOR, 131 OVERTON COUNTY FARMS, 1936

Months	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Less than 15 days	10.0	18.5	-	-
1	5.0	5.6	16.0	8.3
2	2.5	7.4	-	-
3	5.0	3.7	-	-
4	10.0	5.6	-	-
5	2.5	1.8	-	-
6	7.5	1.8	-	-
7	-	-	-	-
8	2.5	1.8	-	-
9	-	-	4.0	-
10	-	-	4.0	-
11	2.5	-	-	-
12	22.5	-	4.0	16.7
Total	70.0	46.2	28.0	25.0
Average number months (a)	4.4	0.9	1.4	2.1

(a) Average figured on basis of all operators in each group.

Twenty-eight per cent of the medium large farm operators received some outside employment during the year. Sixteen per cent or 4 operators worked one month. One operator worked 9 months, 1 worked 10, and 1 worked 12 months.

Three of the 12 operators on large farms had some employment off the farm. One operator worked 1 month, and 2 of them worked 12 months each.

There is an inverse correlation between the size of farm and percentage of operators working off the farm. But when the outside employment is reduced to average months employment for all operators in each group, the relationship is irregular. Operators on small farms worked off the farm an average of 4.4 months, medium size farms 0.8, medium large farms 1.4, and large farms 2.1 months (Table CVI).

Sources and Amount of Farm Labor, by Size of Farm. On small farms, operators worked an average of 5 months and the family 2 months, but there was an average of only 0.5 months hired labor. On medium size farms, operators worked an average of 4.5 months, family labor 2.6 with 0.6 months hired labor. On medium large farms, operators worked 5.9, family labor 3.8, and there was 3 months hired labor per farm. Operators on large farms worked an average of 6.7 months, family labor 2.6, and hired labor amounted to 5.2 months per farm.

Medium large farms had an average of 3.8 months of family labor. This is nearly 50% more than for any other group. The least amount of family labor was on small farms where an average of only 2 months was reported.

There is a direct correlation between average, number of months of operator labor, and the size of farm. There is a direct correlation between both the amount of hired labor and proportion that hired labor is of all labor, and the size of farm. There is also a direct correlation between the average total number of months of labor and the size

of farm.

On the basis of average total months of labor, small farms had 5.3 months. Medium size farms had 7.7 months or nearly 50% more than small farms. Medium large farms had an average of 12.7 months which is about two-thirds more than medium farms. Large farms had an average of 14.5 which is nearly one-sixth more than medium large farms (Table CVII).

TABLE CVII. MONTHS OF FARM LABOR PER FARM, BY SOURCES, BY SIZE OF FARM, 131 OVERTON COUNTY FARMS, 1936

Item	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Operator	3.0	4.5	5.9	6.7
Family	2.0	2.6	3.8	2.6
Cropper	.01	.2	.9	2.0
Wage hands	.3	.4	2.1	3.2
Total	5.3	7.7	12.7	14.5

Relation of Tenure of Operator to Size of Farm. Fifty per cent of the operators on small farms, 59% on medium size farms, 80% on medium large, and 92% of the operators on large farms were full owners. Thirty per cent of the operators on small farms, 24% on medium, 12% on medium large, and none of the operators on large farms were part owners. Twenty per cent of the operators on small farms, 17% on medium size, and 8% each on medium large and large farms were tenants. Thus in this small sample that contained only 20 tenant operators, most of the tenants were on small and medium size farms (Table CVIII).

TABLE CVIII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP, BY TENURE OF OPERATOR, 131 OVERTON COUNTY FARMS, 1936

Tenure	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
Full owners	50.0	59.3	80.0	91.7
Part owners	30.0	24.1	12.0	-
Tenants	20.0	16.6	8.0	8.3
Total	100.0	100.0	100.0	100.0

Summary of Farm Organization by Size of Farm. Out of 131 farms included in the survey, 40 were small farms with an average total acreage of 48. There were 54 medium size farms with an average of 80 acres, 25 medium large farms with 130, and 12 large farms with an average of 250 acres. Small farms had an average of 21 acres improved land with 16 in crops. Medium size farms had 50 acres improved land with 36 in crops. Medium large farms had 80 acres improved land with 51 in crops. Large farms had an average of 141 acres improved land with 79 in crops.

Small farms had an average total investment of $1074, medium size farms $2577, medium large $4008, and large farms $7018 per farm. The average operating capital on small farms was $361, medium farms $824, medium large farms $1266, and large farms $1918.

Small farms had $253 total gross receipts per farm, medium farms $296, medium large $477, and large farms $877. Small farms had an average total expense of $155, medium size farms $289, medium large farms $478, and large farms $600 per farm. Current expenses on small farms amounted to an average of $60, medium farms $97, medium large farms $266, and large farms $414.

Small farms reported an average of 3.2 total animal units, medium farms 5.6, medium large farms 9.8, and large farms 18.4 animal units per farm.

Small farms had an unweighted mean diversity index of 2.42, medium farms 2.76, medium large 3.14, and large farms 3.14.

All operators on small farms worked off the farm an average of 4.4 months, medium farms 0.9, medium large farms 1.4, and large farms 2.1 Operators on small farms worked on the farm an average of 3 months, medium farms 4.5, medium large 5.9, and large farms 6.7 months. Family labor on small farms amounted to an average of 2.0 months, medium farms 2.6, medium large 3.8, and on large farms 2.6 months per farm. There was an average of 0.3 months hired labor on small farms, 0.6 months on medium, 3.0 months on medium large, and 5.2 months on large farms.

Small farms had an average of 98 man work units, medium farms 168, medium large 224, and large farms 309 man work units per farm. Small farms

TABLE CIX. SUMMARY OF FARM ORGANIZATION WITH AVERAGES FOR SELECTED ITEMS, BY SIZE OF FARM, 131 OVERTON COUNTY FARMS, 1936

Item	40 Small Farms	64 Medium Farms	25 Medium Large Farms	12 Large Farms
Size of farms, acres	47.7	79.5	130.1	249.9
Acres improved land	20.6	49.5	80.5	140.9
Acres in crops (a)	16.1	35.7	50.9	79.4
Ave. total investment	$1074	$2577	$4008	$7018
Operating capital	$ 361	$ 824	$1266	$1918
Total receipts	$ 253	$ 396	$ 477	$ 877
Current expenses	$ 60	$ 97	$ 266	$ 414
Farm expenses	$ 156	$ 269	$ 473	$ 800
Animal units	3.2	5.6	9.8	18.4
Average diversity index	2.416	2.762	3.136	3.137
Operator labor:				
Months off farm	4.4	0.9	1.4	2.1
Months on farm	3.0	4.5	5.9	6.7
Months family labor on farm	2.0	2.6	3.8	2.6
Months hired labor	.3	.6	3.0	5.2
Number man work units per farm	97.6	167.9	224.3	308.8
Man equivalents per farm	.44	.69	1.08	1.20
Per cent tenancy	20.0	16.6	8.0	8.3

(a) Includes double cropped acres.

had an average of 0.44 man equivalents per farm, medium farms 0.69, medium large 1.08, and large farms 1.20.

Twenty per cent of the small farms had tenant operators, 17% of the medium size farms, and 8% each of medium large and large farm operators were tenants (Table CIX).

Organization of 81 Overton County Farms by Tenure

In a study of the organization of farms by tenure, only those on Decatur loam and Clarksville silt loam soils are considered. They are used because they contain 11 of the 14, or 79% of the normal tenant farms.(16) By eliminating the other 4 soil types a wide variety of soil and farming conditions is avoided, with the loss of only 3 tenant farms.

Fifty-six or 69 per cent of the 81 operators are full owners. Only 16% of the operators were part-owners, and many of these were practically full owners. This group is too small and does not present a situation different enough to warrant a separate group study. Hence the group of 81 farms is made up largely of owners. Only 13.6% were normal tenants.

In this study of the organization of tenant farms, eleven tenant farms are compared with all of the 81 farms, including the tenant farms, on Decatur loam and Clarksville silt loam soils.

Relation of Soil Types to Tenure. Sixty-five farms were on Clarksville silt soil, 8 being operated by tenants. Three of the 16 farms on Decatur loam soil were operated by tenants. Thus 73% of the tenant farms were on Clarksville silt loam soil, and 27% on Decatur loam soil (Table CX).

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(16) Twenty tenants were included in the survey, but 5 were on Brier-Hill coal land, and one was on property belonging to the town of Livingston. These tenants were given all their agricultural production. They do not present the normal tenant situation, and should be excluded from a grouped tenure study.

TABLE CX. RELATION OF SOIL TYPES TO NUMBER AND PERCENTAGE OF FARMS, IN THE TENURE GROUPS, 81 OVERTON COUNTY FARMS, 1936

Soil Type	All Farms		Tenant Farms	
	Number	Per Cent	Number	Per Cent
Clarksville silt loam	65	80.2	8	72.7
Decatur loam	16	19.8	3	27.3
Total	81	100.0	11	100.0

Relation of Land Classes to Tenure. Only 1 of 12 farms on Class II land was operated by a tenant. Five of 45 farms on Class III land were tenant farms. Four of 20 farms on Class IV land were operated by tenants. None of the 3 farms on Class VI land, but the only farm on Class VII land was operated by a tenant. Thus 45% of the tenant farms were on Class III and 36% were on Class IV land (Table CXI).

TABLE CXI. RELATION OF LAND CLASSES TO NUMBER AND PERCENTAGE OF FARMS IN THE TENURE GROUPS, 81 OVERTON COUNTY FARMS, 1936

Land Class	All Farms		Tenant Farms	
	Number	Per Cent	Number	Per Cent
2	12	14.8	1	9.1
3	45	55.6	5	45.4
4	20	24.7	4	36.4
6	3	3.7	-	-
7	1	1.2	1	9.1
Total	81	100.0	11	100.0

Relation of Size of Farm to Tenure Groups. One of the 12 small farms was operated by a tenant. Seven of 40 medium size farms were operated by tenants. Two of 17 medium large were tenant farms. Only 1 of 12 large farms was operated by a tenant. Only one-half of all farms, but 64% of the tenant farms were medium sized (Table CXII).

TABLE CXII. RELATION OF TENURE OF FARM OPERATOR TO NUMBER AND PERCENTAGE OF FARMS IN THE SIZE GROUPS, 81 OVERTON COUNTY FARMS, 1936

Size of Farm Measured by Number of Improved Acres	All Farms		Tenant Farms	
	Number	Per Cent	Number	Per Cent
Small	12	14.8	1	9.1
Medium	40	49.4	7	63.6
Medium large	17	21.0	2	18.2
Large	12	14.8	1	9.1
Total	81	100.0	11	100.0

Major Land Uses by Tenure Groups. All farms had an average of 13.7 acres in woods pastured, 21.8 acres in woods not pastured, 39.7 in crops, 7.8 in idle crop land, 18.9 in cleared pasture, 6.8 waste, with an average of 108.7 total acreage. Tenant farms had an average of 5.9 acres in woods pastured, 37.3 in woods not pastured, 35.7 in crops, 7.6 in idle

TABLE CXIII. AVERAGE NUMBER OF ACRES PER FARM IN MAJOR LAND USES, BY TENURE GROUPS, 81 OVERTON COUNTY FARMS, 1936

Land Use	All 81 Farms	11 Tenant Farms
Woods pastured	13.7	5.9
Woods not pastured	21.8	37.3
Acres in crops	39.7	35.7
Crop land idle	7.8	7.6
Cleared pasture	18.9	14.7
Waste	6.8	5.2
Total	108.7	106.4

crop land, 14.9 in cleared pasture, and 5.2 in waste with a total of 106.4 acres per farm. Thus tenant farms have considerably larger acreage

in woods not pastured, and slightly less acreage in all other major land uses and total farm acreage. Major land uses in the two groups are very much similar (Table CXIII).

Relation of Investment per Farm to Tenure Groups. Seventeen per cent of all farms had a total investment of $1500 or less. Thirty-six per cent had an investment from $1501 to $3000; 22% from $3001 to $4500; 6% from $4501 to $6000; and 18% from $6001 to $11,035. Thirty-six per cent of the tenant farms had an investment of $1500 or less, and 36% had $1501 to $3,000. Three tenant farms had an investment of more than $4500, and two had from $6001 to $11,035.

Seventy-three per cent of the tenant farms, but only 53% of all farms had an investment of $3000 or less. However a slightly larger proportion of tenant farms had an investment of more than $4,500 than was true of all farms (Table CXIV).

TABLE CXIV. PERCENTAGE DISTRIBUTION OF FARMS IN TENURE GROUPS BY TOTAL INVESTMENT PER FARM, 81 OVERTON COUNTY FARMS, 1936

Investment Class	All 81 Farms	11 Tenant Farms
$ 213 - 1500	17.3	36.4
1501 - 3000	35.8	36.4
3001 - 4500	22.2	
4501 - 6000	6.2	9.1
6001 - 11035	18.5	18.1
Total	100.0	100.0

Distribution of Investment in the Farm Business by Tenure Groups. All farms had an average of $1684 invested in land, $428 in the dwelling, $290 in other buildings, $102 in fences, $1 in drains, $153 in machinery,

$489 in livestock, $355 in feed, and $70 in cash to run the farm with a total investment of $3572. Tenant farms had an average of $1416 invested in land, $381 in the dwelling, $214 in other buildings, $101 in fences, $412 in machinery, $120 in livestock, $259 in feed, and $51 in cash to run the farm with an average total investment of $2954.

Tenant farms had an average of slightly less invested in every item in the real estate group than was true of all farms. However the investment in operating capital items did not run so regularly. Tenant farms had an average of nearly three times as much invested in machinery as all farms. All farms had four times as much invested per farm in livestock as was true of tenant farms. All farms had an average of about one-third more in feed and 40% more in cash to run the farm than did tenant farms. All farms had an average of about one-sixth more total investment than did tenant farms (Table CXV).

TABLE CXV. AVERAGE INVESTMENT IN EACH ITEM, and TOTAL INVESTMENT PER FARM, BY TENURE GROUPS, 81 OVERTON COUNTY FARMS, 1936

Item	All 81 Farms	11 Tenant Farms
Land	$1,684	$1,416
Houses (a)	428	381
Other buildings (a)	290	214
Fences (a)	102	101
Drains	1	-
Machinery	153	412
Livestock	489	120
Feed and supplies	355	259
Cash to run farm	70	51
Total	3572	2954

(a) Investment beginning of year plus average of improvements of $100 or more during year.

Man Work Units Per Farm by Tenure Groups. Eleven per cent of all farms had 100 or less man work units per farm. One-fourth of the farms had from 101 to 150; 28% had 151 to 200; 25% from 201 to 300; 7% from 301 to 400; and 4% from 400 to 544.

Four of 11 tenant farms had from 101 to 150, and four had from 151 to 200, while the remaining 3 had from 201 to 300 man work units per farm.

Seventy-three per cent of the tenant farms, but only 53% of all farms had from 101 to 300 man work units. All tenant farms had from 101 to 300, while 11% of all farms were both above and below these limits. All farms had an average of 192 man work units which is 8% more than 177 for tenant farms. Thus there is very little difference in the number of man work units per farm in the tenure groups (Table CXVI).

TABLE CXVI. PERCENTAGE DISTRIBUTION OF FARMS IN EACH TENURE GROUP BY MAN WORK UNITS PER FARM, 81 OVERTON COUNTY FARMS, 1936

Man Work Unit Class	All 81 Farms	11 Tenant Farms
49 - 100	11.1	
101 - 150	24.7	36.4
151 - 200	28.4	36.4
201 - 300	24.7	27.2
301 - 400	7.4	
400 - 544	3.7	
Total	100.0	100.0
Average man work units per farm	192.5	177.4

Relation of Acreage and Types of Crops Planted to Tenure. All farms had an average of 18.8 acres in corn, 16.0 acres in hay, 5.2 in small grain, and 3.5 in all others with 43.5 average total acres in crops. Tenant farms had an average of 23.1 acres in corn, 9.5 in hay, 1.5 in small grain, and 1.7 in all others with an average of 35.8 total acres in crops.

All farms had an average of more than 20% larger acreage in all crops, but tenant farms had an average of 23% more acres in corn. Corn represented nearly two-thirds of all crop acres on tenant farms, but only 43% of the total crop acreage on all farms. All farms had an average of nearly twice as much hay, and more than three times as much small grain as did tenant farms.

TABLE CXVII. DISTRIBUTION OF AVERAGE CROP ACREAGE(a) PER FARM, BY TENURE GROUPS, 81 OVERTON COUNTY FARMS, 1936

Crop	All 81 Farms	11 Tenant Farms
Corn	18.8	23.1
Hay	16.0	9.5
Small grain	5.2	1.5
All others	3.5	1.7
Total	43.5	35.8
Total acres double cropped	3.8	0.1

(a) Includes acres double cropped.

Thus corn was decidedly the dominating crop on tenant farms. In the average of all farms corn was also the leading crop, but hay and small grains were utilized to a considerable extent (Table CXVII).

Relation of Livestock per Farm to Tenure. All farms had an average of 2.3 workstock, 2.4 cows, 3.3 other cattle, 0.9 sheep, 4.8 hogs, and 70 poultry with 8.4 animal units per farm. Tenant farms had an average of 2.2 workstock, 2.0 cows, 0.7 other cattle, no sheep, 3.4 hogs, and 53 poultry with an average of 5.7 animal units.

All farms had an average of more of every class of productive livestock than did tenant farms. All farms had an average of 20% more cows, nearly five times as many other cattle, nearly 50% more hogs, 31% more poultry, and nearly 50% more total animal units per farm (Table CXVIII).

TABLE CXVIII. AVERAGE NUMBER HEAD OF EACH CLASS, AND TOTAL ANIMAL UNITS(a) PER FARM, BY TENURE GROUPS, 81 OVERTON COUNTY FARMS, 1936

Class of Livestock	All 81 Farms	11 Tenant Farms
Horses	.7	.5
Mules	1.6	1.7
Cows (b)	2.4	2.0
Other cattle	3.3	.7
Sheep	.9	-
Hogs	4.8	3.4
Poultry	69.9	53.4
Total animal units	8.4	5.7

(a) Animal units are figured on average of stock at beginning of year and end of year.
(b) Cows kept for milk.

Sources of Gross Receipts by Tenure. All farms had an average of $87 crop receipts, $202 livestock receipts, $58 increase in feed inventories, and $74 receipts from outside sources with $421 gross farm receipts. Tenant farms had an average of $113 crop receipts, $119 livestock receipts, $11 increase in feed inventories, and $50 receipts from outside sources with average total receipts of $293.

Crop receipts represented only about one-fifth of gross receipts on all farms, but represented nearly 40% gross receipts on tenant farms. How-

over $87 of $113 or 77% of all crop receipts on the tenant farms was represented in the portion of the crops paid to landlords as rent on the farms. Average livestock receipts on all farms were two-thirds more than on tenant farms, and accounted for nearly one-half of gross receipts on all farms. The average increase in feed inventories on all farms was

TABLE CXIX. AVERAGE GROSS RECEIPTS PER FARM, WITH SOURCES, BY TENURE, 81 OVERTON COUNTY FARMS, 1936

Sources	All 81 Farms	11 Tenant Farms
Crops	87	113
Livestock (increase)	202	119
Feed and supplies (increase)	58	11
Other sources	74	50
Total	421	293

five times more than on tenant farms. Outside sources of income represented about one-sixth of gross receipts on both groups of farms. All farms had an average of 44% more gross receipts than tenant farms (Table CXIX).

Relation of Diversity Index to Tenure. One-fourth of all farms had a diversity index of 1.0 to 1.9, thirty-five per cent had an index from 2.0 to 2.9, twenty-eight per cent from 3.0 to 3.9, ten per cent from 4.0 to 4.9, and 2 farms had an index of more than 4.9.

One tenant farm had an index less than 2.0, twenty-seven per cent of the tenant farms had from 2.0 to 2.9, eighteen per cent from 3.0 to 3.9, thirty-six per cent from 4.0 to 4.9, and 1 farm had an index of more than 4.9.

Fifty-nine per cent of all farms, but only 36% of the tenant farms had an index less than 3.0. Only 12% of all farms, but 45% of the tenant farms had an index more than 3.9. The index on all farms ranged from 1.0 to 5.8 with an unweighted mean of 2.820. Tenant farms ranged from 1.8 to 5.2 with an average of 3.484. Thus tenant farms in the sample are slightly more diversified than all farms as a group (Table CXX).

TABLE CXX. PERCENTAGE DISTRIBUTION OF FARMS IN EACH TENURE GROUP BY DIVERSITY INDEX, WITH MEAN AND RANGE IN INDEX, 81 OVERTON COUNTY FARMS, 1936

Index Class	All 81 Farms	11 Tenant Farms
1.000 - 1.999	24.7	9.1
2.000 - 2.999	34.6	27.3
3.000 - 3.999	28.4	18.2
4.000 - 4.999	9.9	36.3
5.000 - 5.767	2.4	9.1
Total	100.0	100.0
Unweighted mean index	2.820	3.484
Range in index	1.0 to 5.8	1.8 to 5.2

Sources of Farm Expenses by Tenure. All farms had an average of $182 current expenses, $42 unpaid family labor, $21 decrease in livestock inventories, $43 depreciation, and $68 decrease in feed inventories with a total expense of $356. Current expenses amounted to slightly more than one-half of all expenses. Unpaid family labor and depreciation each amounted to less than one-eighth of all expenses.

TABLE CXXI. AVERAGE EXPENSES PER FARM, WITH SOURCES, BY TENURE, 81 OVERTON COUNTY FARMS, 1936

Expense	All 81 Farms	11 Tenant Farms
Current	$182	$ 112
Unpaid family labor	42	56
Livestock (decrease)	21	16
Depreciation	43	35
Feed and supplies (decrease)	68	52
Total	356	270

Average current expenses on all farms were 62% more than on tenant farms. Unpaid family labor was one-third more on tenant farms than on the average of all farms. Tenant farms had one-fourth less decrease in livestock inventories, one-seventh less depreciation, and about one-fourth less decrease in feed inventories. All farms had an average of 32% more total expense than did tenant farms (Table CXXI).

Distribution of Current Expenses by Tenure. All farms had an average of $22 expense for wage hands and $21 for cropper labor. All labor amounted to nearly one-fourth of the total current expense of all farms, while tenant farms had an average labor expense of only $4. Feed cost an average of $45 on all farms, and $28 on tenant farms. Feed represented one-fourth of all current expenses on both groups of farms. Seed cost an average of $11 on both groups. Fertilizer cost an average of $17 on all farms which was more than twice as much as the same item on tenant farms. Taxes cost $47, one-sixth more on tenant farms than on the average of all farms, and were the only current expense item in which tenant farms exceeded the average of all farms. The average total current expense on all

farms was 62% higher than on tenant farms (Table CXXXI).

TABLE CXXXI. AVERAGE CURRENT EXPENSES PER FARM, WITH SOURCES, BY TENURE, 81 OVERTON COUNTY FARMS, 1936

Expense	All 81 Farms	11 Tenant Farms
Wage hands	$22	$4
Cropper labor	21	-
Feed - roughage	7	1
" grain	38	27
Seed	11	11
Fertilizer	17	7
Taxes	40	47
Miscellaneous	26	15
Total	182	112

Relation of Outside Employment of Operator to Tenure. Thirty-three, or 41% of all operators received some employment off the farms. Fourteen per cent worked only 15 days or less, 6% worked 1, and 6% worked 2 months, two operators worked 3, two worked 4, one worked 5, one worked 6, one worked 8, and 5 operators or 6% worked 12 months.

Two tenant operators worked off the farm 15 days or less, and one worked one, two, three, four and twelve months respectively.

Seven tenant operators, or 64% received some outside employment, while only 41% of all operators had outside work. All operators worked off the farm an average of 1.38 months, while tenant operators worked an average of 2.02 months (Table CXXXII).

TABLE CXXIII. DISTRIBUTION OF FARMS IN EACH TENURE GROUP, BY NUMBER MONTHS OUTSIDE EMPLOYMENT OF OPERATOR, 81 OVERTON COUNTY FARMS, 1936

Number Months Outside Employment	All Farms		Tenant Farms	
	Number	Per Cent	Number	Per Cent
Less than 15 days	11	13.6	2	18.2
1	5	6.2	1	9.1
2	5	6.2	1	9.1
3	2	2.5	1	9.1
4	2	2.5	1	9.1
5	1	1.2	-	-
6	1	1.2	-	-
7	-	-	-	-
8	1	1.2	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	5	6.2	1	9.1
Total	33	40.8	7	63.7
Average number (a) months	1.38		2.02	

(a) Average based on all operators in each group.

Sources of Farm Labor by Tenure. All operators worked on the farm an average of 5.1 months which represented 55% of all labor. All farms had an average of 2.4 months family labor, 0.5 months cropper labor, and 1.2 months wage hands with a total of 9.2 months farm labor.

The operators on tenant farms worked on the farm an average of 4.6 months which represented 58% of all farm labor on these farms. Tenant farms had an average of 3.1 months family labor, no cropper labor, and only 0.2 months wage hands with a total of 7.9 months farm labor.

Operators of all farms worked on the farm an average of more than

TABLE CXXIV. AVERAGE NUMBER MONTHS LABOR PER FARM, WITH SOURCES, BY TENURE GROUPS, 81 OVERTON COUNTY FARMS, 1936

Source	All 81 Farms	11 Tenant Farms
Operator	5.1	4.6
Family	2.4	3.1
Cropper	.5	-
Wage hands	1.2	.2
Total	9.2	7.9

tenant operators. But there was 29% more family labor on tenant farms than on the average of all farms. All farms averaged 1.7 months labor by cropper and wage hands combined, while tenant farms only had 0.2 months. All farms had an average of one-sixth more total farm labor than did tenant farms (Table CXXIV).

Summary of Farm Organization by Tenure Groups. Eleven of 81 farms on Clarksville silt and Decatur loam soils were operated by tenants. All farms had an average 108.7 total acreage, which was only 2.3 acres more than the average of tenant farms. All farms had an average of 66.4 acres improved land, which was 8.4 acres or one-seventh more than tenant farms. They had 43.5 acres in crops per farm, which was 7.8 acres more than tenant farms.

All farms had an average of $3572 total investment which is about one-fifth more than $2954 the average of tenant farms. All farms had an average operating capital of $1067 which is about one-fourth more than $842 for tenant farms.

All farms had $421 gross receipts which was 44% more than $293 for tenant farms. They had $356 total expense per farm which was 32% more than

$270 total expense on tenant farms. They had $182 current expense which was 62% higher than on tenant farms.

They had an average of 8.4 animal units which was nearly 50% more than 5.7 units on tenant farms. However, tenant farms were slightly more diversified as they had an unweighted mean diversity index of 3.484 to compare with 2.820 on all farms.

TABLE CXXV. SUMMARY OF FARM ORGANIZATION, WITH AVERAGES FOR SELECTED ITEMS, BY TENURE GROUPS, 81 OVERTON COUNTY FARMS, 1936

Items	All 81 Farms	11 Tenant Farms
Number farms	81	11
Total acres per farm	108.7	106.4
Acres improved land	66.4	58.0
Acres in crops (a)	43.5	35.7
Total investment	$3572	$2954
Operating capital	$1067	$ 842
Total receipts	$ 421	$ 293
Farm expenses	$ 356	$ 270
Current expenses	$ 182	$ 112
Animal units	8.4	5.7
Unweighted mean diversity index	2.820	3.484
Months Operators work:		
Off farm	1.4	2.0
On farm	5.1	4.6
Months family labor	2.4	3.1
Months cropper and wage labor	1.7	0.2
Number man work units	192.5	177.4

(a) Includes acres double cropped.

Operators on all farms worked an average of 1.4 months off the farm and 5.1 on the farm, while tenant operators worked off the farm 2.0 and on the farm 4.6 months. Tenant farms had 3.1 months family labor per farm which was 29% more than the average of all farms. Tenant farms had an

average of only 0.2 months cropper and wage hand labor combined, while all farms had 1.7 months per farm. All farms had an average of 192 man work units to compare with 177 for tenant farms (Table CXXV).

CHAPTER IV

EFFICIENCY FACTORS

Efficiency Factors on 131 Overton County Farms, 1936

In studying efficiency factors it must be remembered that the records were taken for the 1936 crop year, which experienced a serious drought in Overton County. This naturally affects directly the efficiency of farms. It has a much greater bearing on efficiency factors than on such factors as the organizational set-up. Therefore, efficiency factors as here presented represent conditions on 131 Overton County farms in a dry season, rather than under normal conditions. Because of this, some factors in some groups may not be ranked exactly as they would in a normal season. The type of study that would be desirable in a normal year must herein be modified to meet the abnormal situation.

Receipts[1] per $100 Total Investment. Twelve of 131 farms had gross receipts of $2.50 or less per $100 total investment. Two farms had no receipts. Twenty-seven farms, or 21% had receipts of $2.51 to $5.00, with an average of $3.63 gross receipts per $100 total investment. Twenty farms had receipts from $5.01 to $7.50, averaging $6.31 per $100 invested. Twenty-six or one-fifth of the farms had receipts from $7.51 to $10 with an average of $8.96. Fifteen had receipts from $10.01 to $12.50, averaging $11.40. Twelve or 9% had receipts from $12.51 to $15.00

(1) As used in this chapter, "receipts" are gross farm receipts and do not include other than the farm sources of income.

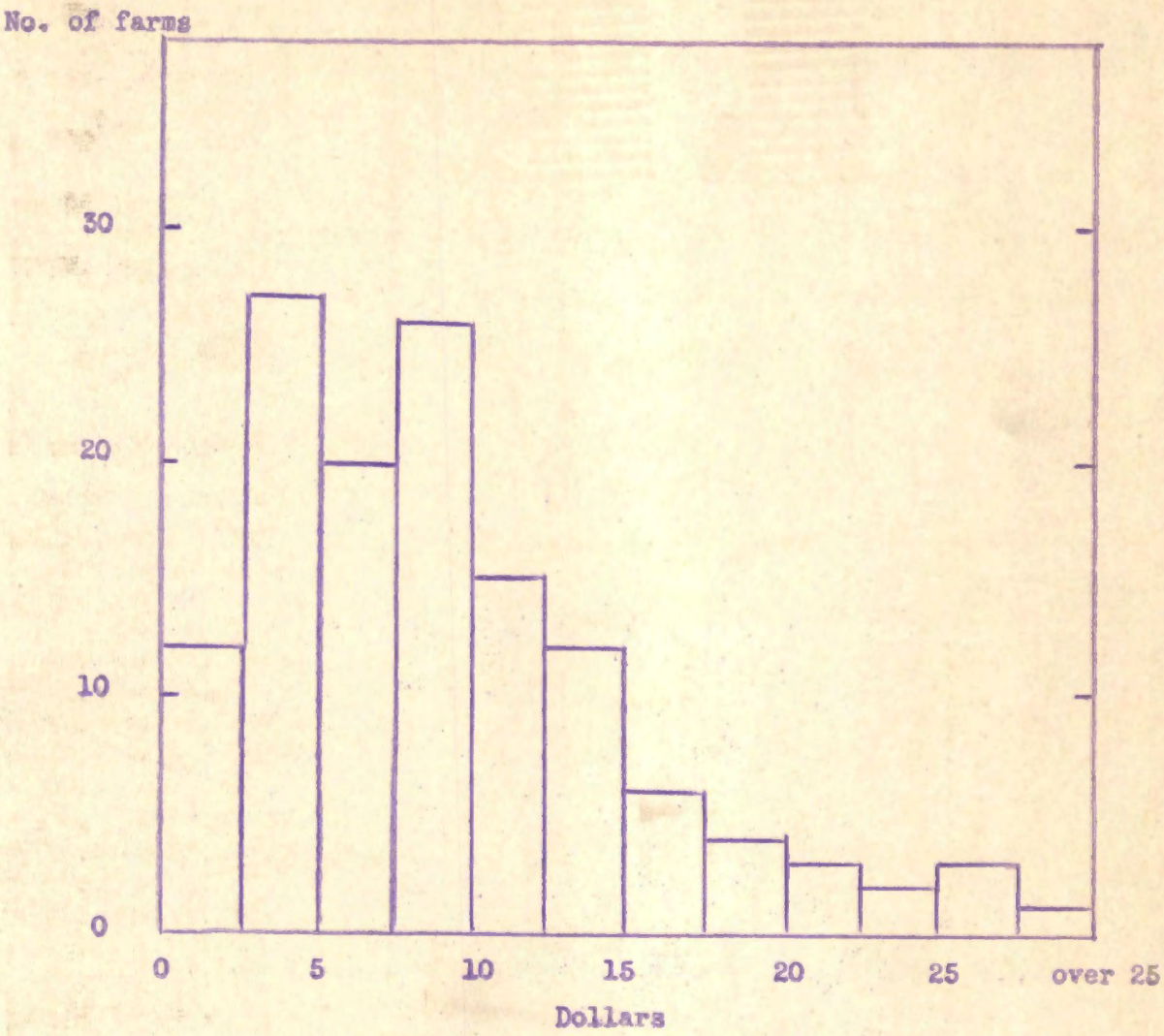
with an average of $13.66. Six farms had receipts from $15.01 to $17.50, four from $17.51 to $20.00, three from $20.01 to $22.50, two from $22.51 to $25.00, three from $25.01 to $27.50, and one farm had more than $27.50 receipts per $100 total investment.

Nearly two-thirds of the farms had receipts of $10.00 or less per $100 invested. Less than one-sixth had receipts of more than $15.00. All farms had a range from nothing to $39.96, and averaged $9.21 receipts per $100 total investment (Table CXXVI, Figure 61).

TABLE CXXVI. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY RECEIPTS PER $100 TOTAL INVESTMENT, 1936

Range in Receipts	Number of Farms	% of Farms	Average Receipts
$0.00 - $2.50	12	9.2	$1.46
2.51 - 5.00	27	20.6	3.63
5.01 - 7.50	20	15.3	6.31
7.51 - 10.00	26	19.8	8.96
10.01 - 12.50	15	11.4	11.40
12.51 - 15.00	12	9.2	13.66
15.01 - 17.50	6	4.6	15.87
17.51 - 20.00	4	3.0	18.71
20.01 - 22.50	3	2.3	20.26
22.51 - 25.00	2	1.5	22.87
25.01 - 27.50	3	2.3	27.05
27.51 - 39.96	1	0.8	39.96
Total	131	100.0	9.21

Receipts Per $1 Total Expense. Forty-five farms, or more than one-third of all farms, had receipts of $0.50 or less per $1 expense. Fifty-one farms or 39% had receipts of $0.51 to $1.00, with an average of $0.76 per $1 expense. Eighteen farms had receipts of $1.01 to $1.50 with an average of $1.17 per $1 expense. Twelve farms had from $1.51 to $2.50. Only 5 farms had more than $2.50 gross receipts per $1 expense.



Source: Table CXXVI.

Figure 61. Distribution of 151 Overton County farms by receipts per $100 total investment, 1936

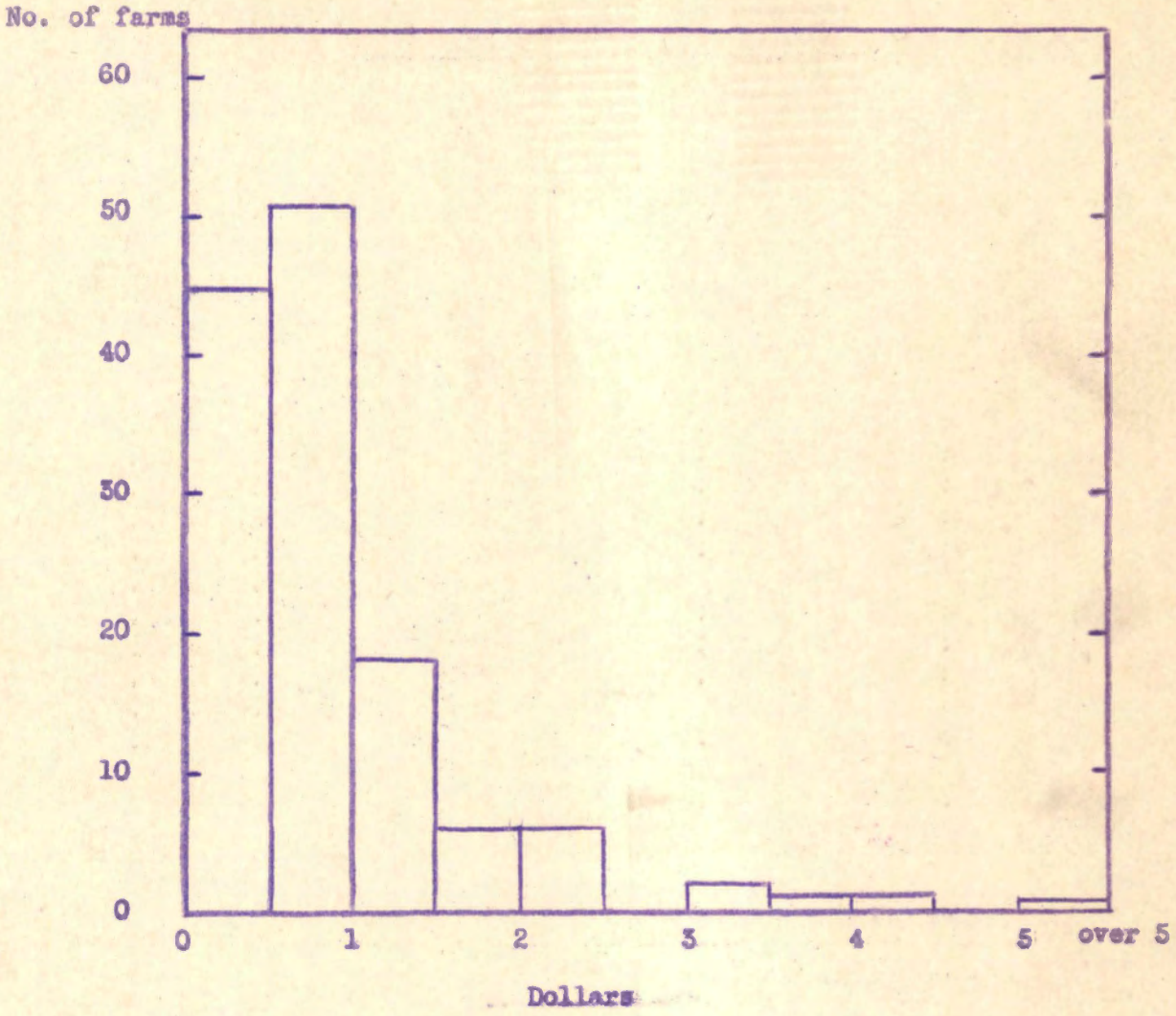
Nearly three-fourths of the farms had not more than $1.00 receipts per $1 expense. Only 3.9% had more than $2.50 receipts per $1 expense. All farms ranged from nothing to $5.48 with an average of $0.88 receipts per $1 expense (Table CXXVII, Figure 62).

TABLE CXXVII. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY RECEIPTS PER $1 EXPENSE, 1936

Range in Receipts	Number Farms	% of Farms	Average Receipts per Farm
$0.00 - .50	45	34.4	$ .26
0.51 - 1.00	51	38.8	.76
1.01 - 1.50	18	13.7	1.17
1.51 - 2.00	6	4.6	1.83
2.01 - 2.50	6	4.6	2.14
2.51 - 3.00	-		-
3.01 - 3.50	2	1.5	3.08
3.51 - 4.00	1	0.8	3.97
4.01 - 4.50	1	0.8	4.01
4.51 - 5.00	-		-
5.01 - 5.48	1	0.8	5.48
Total	131	100.0	0.88

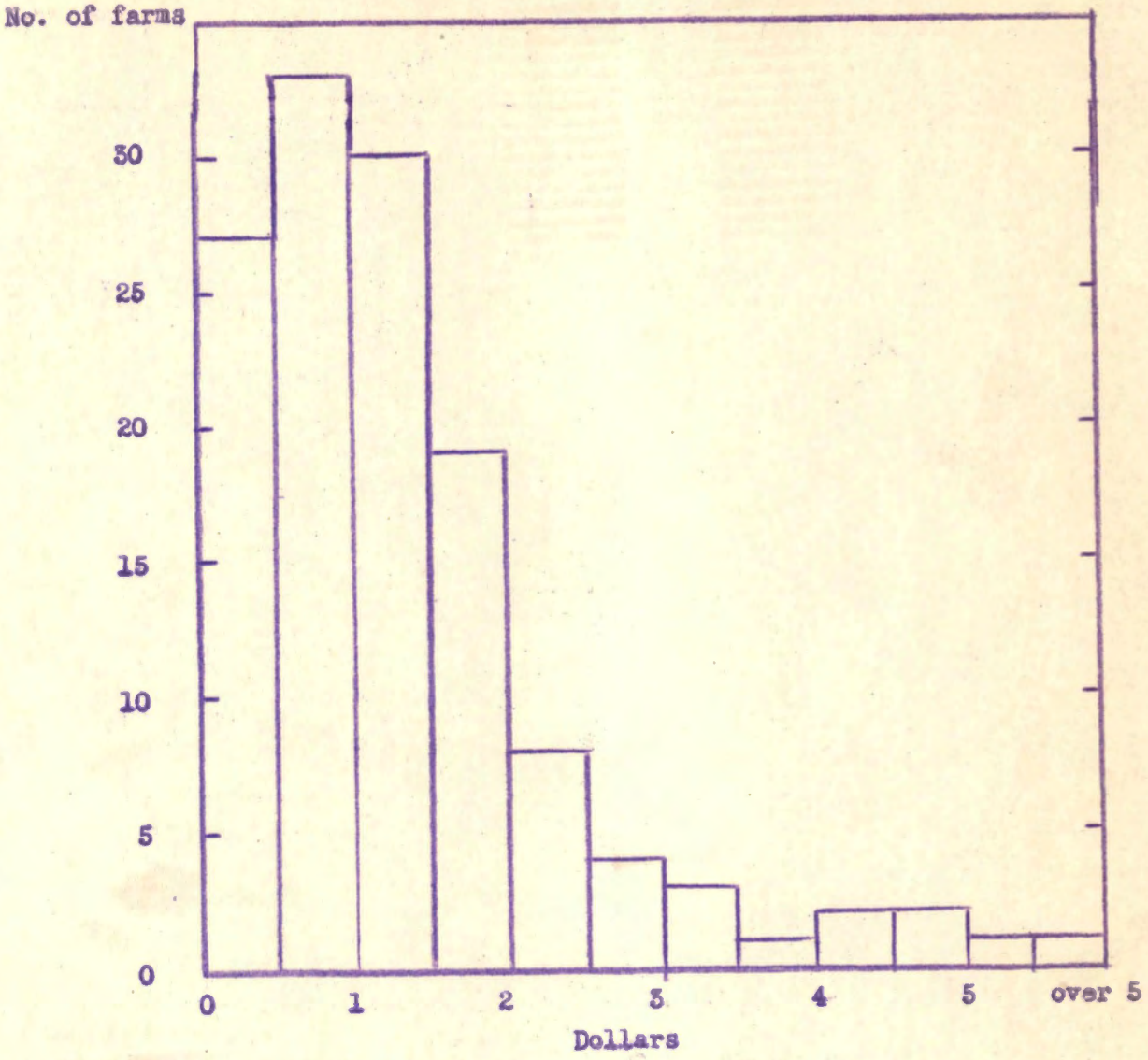
Receipts Per Man Work Unit. Twenty-seven or one-fifth of all farms had receipts of from nothing to $0.50, with an average of $0.33 per man work unit. Thirty-three or one-fourth of the farms had receipts of $0.51 to $1.00, averaging $0.73 per man work unit. Thirty farms or 23% had receipts from $1.01 to $1.50, and averaged $1.27 per man work unit. Nineteen had from $1.51 to $2.00, and 8 from $2.01 to $2.50. Fourteen had more than $2.50 receipts per man work unit. Only 2 had more than $5.00.

Forty-six per cent of the farms had gross receipts of $1 or less per man work unit. Eighty-three per cent had $2.00 or less. Only 8% had more than $3.00. All farms had a range of from nothing to $5.85, and averaged



Source: Table CXXVII.

Figure 62. Distribution of 151 Overton County farms by receipts per $1 expense, 1936



Source: Table CXXVIII.

Figure 63. Distribution of 131 Overton County farms by receipts per man work unit

$1.35 gross farm receipts per man work unit (Table CXXVIII, Figure 65).

TABLE CXXVIII. DISTRIBUTION OF 131 OVERTON COUNTY FARMS, BY RECEIPTS PER MAN WORK UNIT, 1936

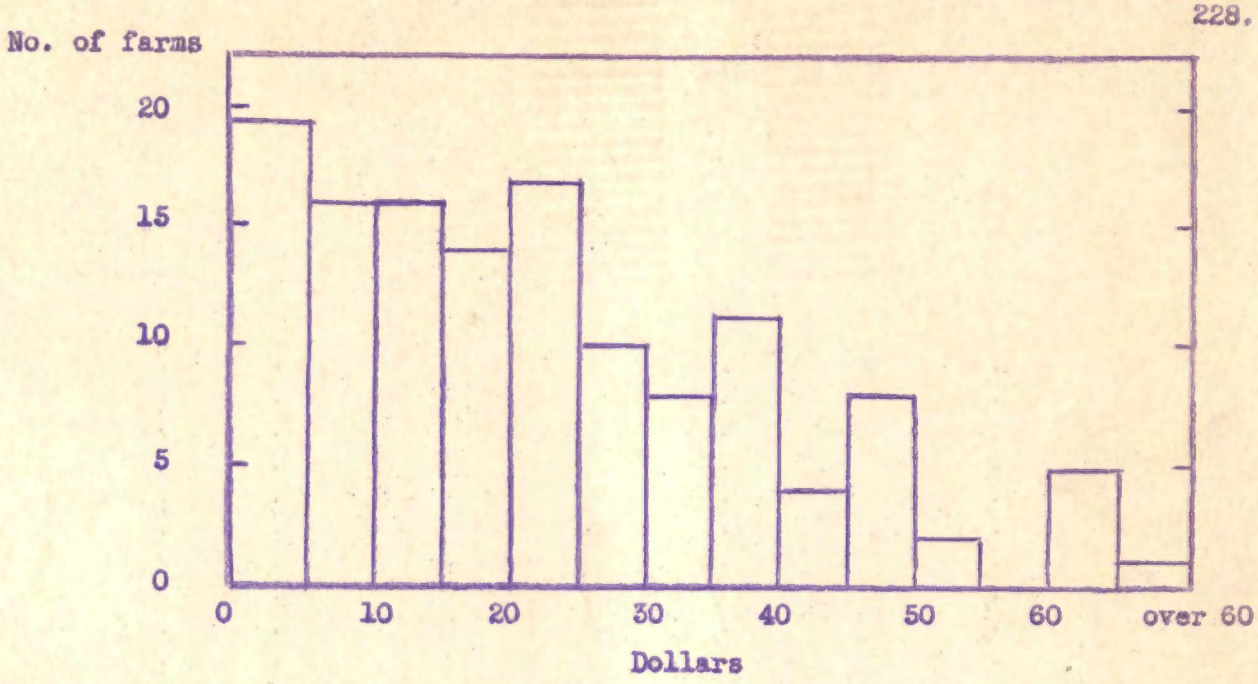
Range in Receipts	Number Farms	% of Farms	Average Receipts Per Farm
$ 0.0 - .50	27	20.6	$ 0.33
.51 - 1.00	33	25.2	0.73
1.01 - 1.50	30	22.9	1.27
1.51 - 2.00	19	14.5	1.75
2.01 - 2.50	8	6.1	2.34
2.51 - 3.00	4	3.0	2.79
3.01 - 3.50	3	2.3	3.36
3.51 - 4.00	1	0.8	3.62
4.01 - 4.50	2	1.5	4.17
4.51 - 5.00	2	1.5	4.69
5.01 - 5.50	1	0.8	5.16
5.51 - 5.85	1	0.8	5.85
Total	131	100.0	1.35

Livestock Receipts per Productive Unit. Nineteen or about one-seventh of all farms had $5 or less, with average of $1.34 livestock receipts per productive unit. Sixteen or 12% of all farms had from $6 to $10, and the same number had from $11 to $15 livestock receipts per productive unit. Fourteen had from $16 to $20 with an average of $18.96.

Seventeen had from $21 to $25, and averaged $22.84. Ten farms had from $26 to $30, eight from $31 to $35, and 11 from $36 to $40. Twenty farms had livestock receipts of more than $40 per productive unit, but only 8 had more than $50.

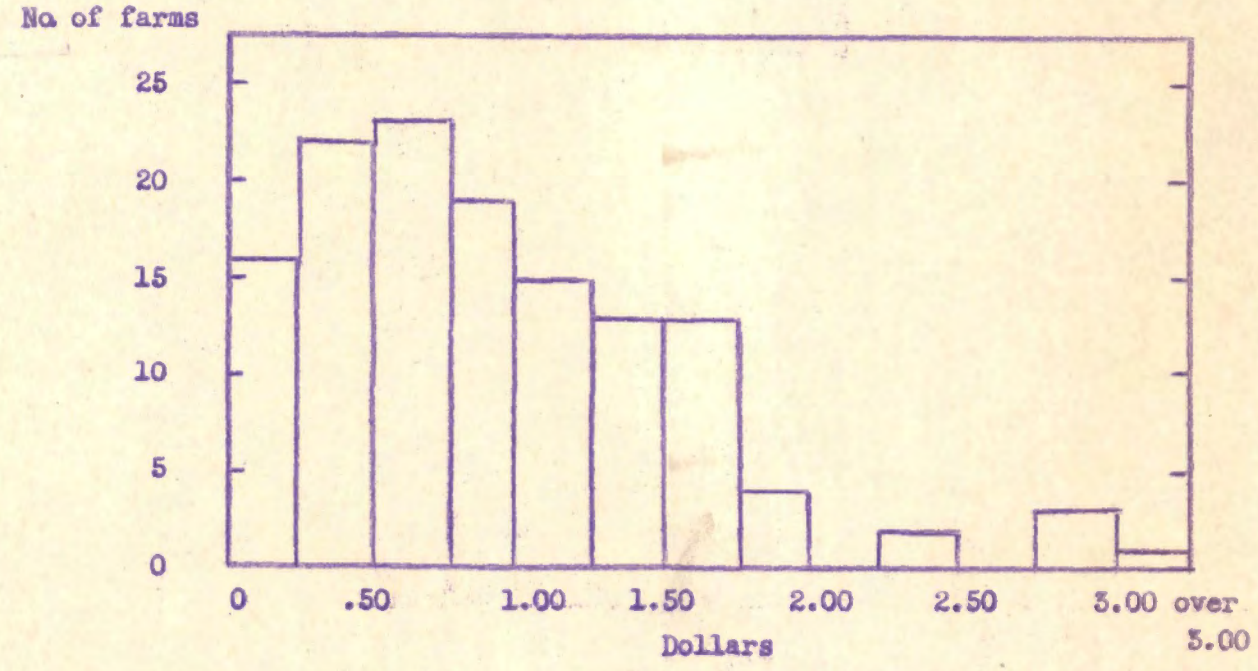
More than one-fourth of all farms had livestock receipts of $10 or less per productive unit. Sixty-three per cent had $25 or less. Only 6% had more than $50. All farms had a range of from nothing to $113[2]

(2) The farm having $113 livestock receipts per productive unit had a small dairy. It had high feed costs because of the drought, and lost money as measured by the farm income.



Source: Table CXXIX.

Figure 64. Distribution of 131 Overton County farms by livestock receipts per productive unit



Source: Table CXXX.

Figure 65. Distribution of 131 Overton County farms by poultry receipts per hen

and averaged $23.84 livestock receipts per productive unit. Only 1 farm had more than $65 (Table CXXIX, Figure 64).

TABLE CXXIX. DISTRIBUTION OF 131 OVERTON COUNTY FARMS, BY LIVESTOCK RECEIPTS PER PRODUCTIVE UNIT, 1936

Range in Receipts	Number Farms	% of Farms	Average Receipts
$ 0 - 5	19	14.5	$1.34
6 - 10	16	12.2	8.08
11 - 15	16	12.2	14.04
16 - 20	14	10.7	18.96
21 - 25	17	13.0	22.84
26 - 30	10	7.6	27.90
31 - 35	8	6.1	33.41
36 - 40	11	8.4	38.67
41 - 45	4	3.1	44.12
46 - 50	8	6.1	48.37
51 - 55	2	1.5	53.69
56 - 60	-		-
61 - 65	5	3.8	63.60
66 -113	1	0.8	115.09
Total	131	100.0	$23.84

Poultry Receipts per Hen. Sixteen farms had poultry receipts of $0.25 or less, with an average of $0.09, per hen. Twenty-two or one-sixth of the farms had poultry receipts of $0.26 to $0.50, averaging $0.40 per hen. Twenty-three had from $0.51 to $0.75 with an average of $0.64. Nineteen or one-seventh of the farms had from $0.76 to $1.00, and averaged $0.91 per hen. Fifteen had from $1.01 to $1.25, thirteen from $1.26 to $1.50, thirteen from $1.51 to $1.75, and four from $1.76 to $2.00. Six farms had more than $2.00 poultry receipts per hen.

Twenty-nine per cent of the farms had $0.50 or less poultry receipts per hen. Sixty-one per cent had receipts of $1.00 or less. Only 5% had

more than $2.00 per hen, and only one farm had more than $3.00. All farms ranged from nothing to $3.58, and averaged $0.94 poultry receipts per hen (Table CXXX, Figure 65).

TABLE CXXX. DISTRIBUTION OF 131 OVERTON COUNTY FARMS BY POULTRY RECEIPTS PER HEN, 1936

Range in Receipts	Number Farms	% of Farms	Average Receipts per Hen
$ .00 - .25	16	12.2	$ .09
.26 - .50	22	16.8	.40
.51 - .75	23	17.6	.64
.76 - 1.00	19	14.5	.91
1.01 - 1.25	15	11.4	1.14
1.26 - 1.50	13	9.9	1.40
1.51 - 1.75	13	9.9	1.66
1.76 - 2.00	4	3.0	1.83
2.01 - 2.25	-		-
2.26 - 2.50	2	1.5	2.49
2.51 - 2.75	-		-
2.76 - 3.00	3	2.4	2.87
3.00 - 3.58	1	0.8	3.58
Total	131	100.0	0.94

Crop Receipts per Acre in Crops. Thirty farms had crop receipts of $3 or less with an average of $1.92 per acre in crops. Forty farms or 30% had crop receipts from $3.01 to $6.00 with an average of $4.69 per acre in crops. Twenty-nine had from $6.01 to $9.00 with an average of $7.64. Fourteen had from $9.01 to $12.00, and averaged $10.36. Six had from $12.01 to $15.00, four from $15.01 to $18.00, three from $18.01 to $21.00, and 3 from $21.01 to $24.00. Only 2 farms had more than $24.00, and only 1 had more than $30.

More than one-half of the farms had crop receipts of $6.00 or less per acre in crops. Eighty-six per cent had $12.00 or less. Only 2 farms had

more than $24.00. All farms had a range of from nothing to $34.00, with an average of $7.22 crop receipts per acre in crops (Table CXXXI).

TABLE CXXXI. DISTRIBUTION OF 131 OVERTON COUNTY FARMS, BY CROP RECEIPTS PER ACRE IN CROPS, 1936

Range in Receipts	Number Farms	% of Farms	Average Receipts Per Acre
$ 0 - 3.00	30	22.9	$ 1.92
3.01 - 6.00	40	30.5	4.69
6.01 - 9.00	29	22.1	7.64
9.01 -12.00	14	10.7	10.36
12.01 -15.00	6	4.6	13.41
15.01 -18.00	4	3.0	16.31
18.01 -21.00	3	2.3	19.63
21.01 -24.00	3	2.3	22.97
24.01 -27.00	-		-
27.01 -30.00	1	0.8	27.19
30.01 -33.00	-		-
33.01 -34.00	1	0.8	34.00
Total	131	100.0	7.22

Crop Index.(3) Seven farms had a crop index of 10 or less. Ten had a crop index of 11 to 20 with an unweighted average of 15. Nineteen had an index from 21 to 30 with an unweighted mean of 26. Eighteen had from 31 to 40 with a mean of 36. Twenty-five had from 41 to 50 with a mean of 46. Sixteen had an index of 51 to 60, sixteen from 61 to 70, seven from 71 to 80, seven from 81 to 90, two from 91 to 100, and only 4 had an index of more than 100.

(3) Crop Index is used as meaning either single or composite crop index. It is based on average yields of the state, as reported in agricultural yearbooks for the five-year period of 1931 to 1935.

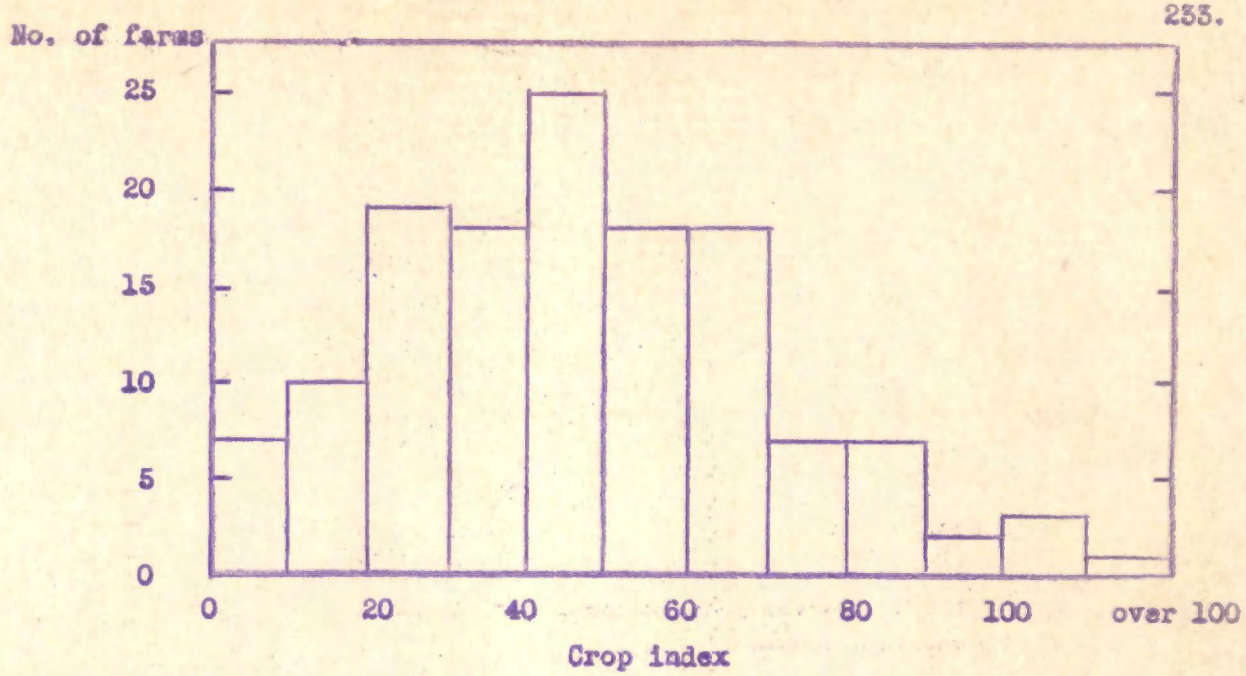
Sixty per cent of the farms had a crop index of 50 or less. Only 4 of 131 farms had an index of more than 100. All farms ranged from 2 to 117 with an unweighted mean index of 47 (Table CXXXII, Figure 66).

TABLE CXXXII. DISTRIBUTION OF 131 OVERTON COUNTY FARMS, BY CROP INDEX, 1936

Range in Index	Number Farms	% of Farms	Unweighted Mean Index
2 - 10	7	5.3	7
11 - 20	10	7.6	15
21 - 30	19	14.5	26
31 - 40	18	13.7	36
41 - 50	25	19.2	46
51 - 60	16	12.2	56
61 - 70	16	12.2	65
71 - 80	7	5.3	75
81 - 90	7	5.3	88
91 - 100	2	1.6	95
101 - 117	4	3.1	108
Total	131	100.0	47

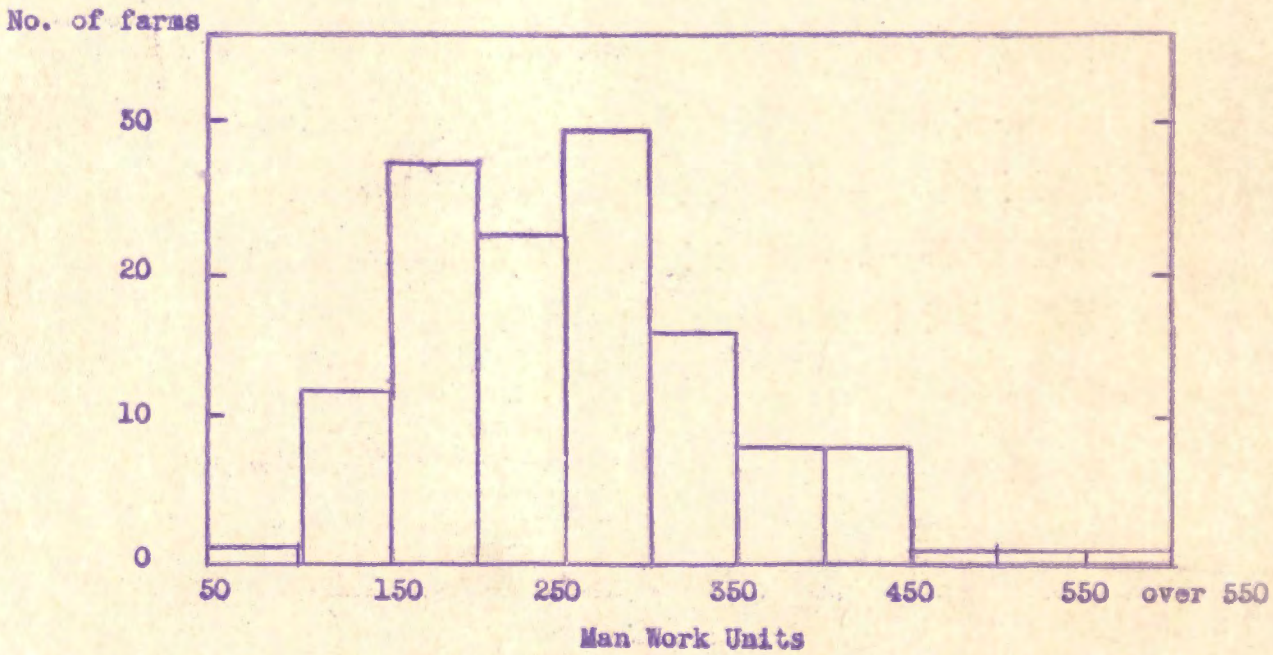
Crop Acres Per Man.(4) Nine farms had 20 acres or less in crops per man. Eighteen farms had from 21 to 30, with an average of 25.7 acres in crops per man. Nineteen had from 31 to 40 with an average of 35.3. Twenty-five had from 41 to 50 with an average of 44.9. Twenty-eight or more than one-fifth of all farms had from 51 to 60, and averaged 54.6. Thirteen had from 61 to 70, and 9 from 71 to 80. Ten farms had more than 80, but only 4 had more than 100.

(4) Crop Acres per man is a measure of efficiency in that it expresses the number of acres in crops per man-equivalent on a given farm. The reliability of this factor, as a definite measure for comparing efficiency of farms, is limited to the extent that it does not allow for the extensiveness of the crops, nor does it consider livestock cared for. However, in comparing rather similar conditions on general farms as covered in the survey, it is a valuable measure.



Source: Table CXXXII.

Figure 66. Distribution of 151 Overton County farms by crop index, 1956



Source: Table CXXXIV.

Figure 67. Distribution of 151 Overton County farms by man work units per man, 1956

One-fifth of the farms had 30 acres or less per man. Three-fourths had 60 or less. Eight per cent had more than 80. All farms ranged from 12 to 160, with an average of 47 acres in crops per man (Table CXXXIII).

TABLE CXXXIII. DISTRIBUTION OF 131 OVERTON COUNTY FARMS, BY CROP ACRES PER MAN, 1936

Range in Acres per Man	Number Farms	% of Farms	Average Acres per Man
12 - 20	9	6.9	16.6
21 - 30	18	13.7	25.7
31 - 40	19	14.5	35.3
41 - 50	25	19.1	44.9
51 - 60	28	21.4	54.6
61 - 70	13	9.9	63.3
71 - 80	9	6.9	74.4
81 - 90	3	2.3	85.0
91 - 100	3	2.3	94.7
101 - 110	2	1.5	106.7
111 - 160	2	1.5	143.7
Total	131	100.0	47.0

Man Work Units per Man.(5) One farm had less than 100 man work units per man. Twelve had from 101 to 150, with an average of 131.6 man work units per man. Twenty-eight, or more than one-fifth of all farms, had from 151 to 200 with an average of 175.6. Twenty-three had 201 to 250. Thirty-one or nearly one-fourth had 251 to 300 with an average of 272.7. Seventeen had from 301 to 350, eight from 351 to 400, and 8 from 401 to 450. Only 3 had more than 450 man work units per man.

(5) The efficiency factor of man work units per man is an expression of the number of man work units on a given farm per man-equivalent. It has the advantage over the "crop acres per man" measure, because it considers both crops and livestock, and the intensiveness of each.

Thirty-one per cent of the farms had 200 or less man work units per man. Seventy-three per cent or nearly three-fourths of all farms had 300[6] or less. Only 3 farms had more than 450. All farms ranged from 96 to 573, with an average of 238 man work units per man (Table CXXXIV, Figure 67).

TABLE CXXXIV. DISTRIBUTION OF 131 OVERTON COUNTY FARMS, BY MAN WORK UNITS PER MAN, 1936

Range in Man Work Units per Man	Number Farms	% of Farms	Average Man Work Units Per Man
96 - 100	1	0.8	95.9
101 - 150	12	9.2	131.6
151 - 200	28	21.4	175.6
201 - 250	23	17.6	222.6
251 - 300	31	23.7	272.7
301 - 350	17	13.0	331.5
351 - 400	8	6.1	370.6
401 - 450	8	6.1	429.9
451 - 500	1	.7	499.3
501 - 550	1	.7	530.4
551 - 573	1	.7	572.8
Total	131	100.0	237.9

Horse Work Units per Horse.[7] One farm had less than 15 horse work units per horse. Five had from 15 to 30, with an average of 21.4 horse work units per horse. Nineteen farms had 30 to 45 with an average of 38.1.

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(6) Since man work unit requirements are based on averages, and one man-equivalent is equal to the work of one man for 12 months, it follows that for a farm to have full time productive work, with average labor efficiency, it should have 300 MWU per man.

(7) Horse work units per horse is an expression of the number of horse work units during the year for each head of workstock on a given farm November 1, 1936, the closing inventory date. Eight of 131 farms are excluded from this study because they had no workstock November 1, 1936. Four of these farms owned no workstock at any time during the year.

Twenty-eight, or nearly one fourth of the 123 farms, had from 45 to 60 with an average of 52.9. Twenty-eight also had from 60 to 75 with an average of 65.1 Fifteen had from 75 to 90, six from 90 to 105, five from 105 to 120, ten from 120 to 135, and 4 from 135 to 150. Only 2 farms had more than 150 horse work units per horse, and none had more than 200.

Six farms had 30 or less horse work units per horse. Eighty-one or about two-thirds of 123 farms had 75 or less horse work units per horse. Only 2 farms had more than 150. All farms ranged from 14 to 200 with an average of 66.2 horse work units per horse (Table CXXXV).

TABLE CXXXV. DISTRIBUTION OF 123 OVERTON COUNTY FARMS BY NUMBER OF HORSE WORK UNITS PER HORSE, 1936

Range in Horse Work Units per Horse	Number Farms	Average Horse Work Units Per Horse
13.6 - 15.0	1	13.6
15.1 - 30.0	5	21.4
30.1 - 45.0	19	38.1
45.1 - 60.0	28	52.9
60.1 - 75.0	28	65.1
75.1 - 90.0	15	79.9
90.1 -105.0	6	99.4
105.1 -120.0	5	109.7
120.1 -135.0	10	129.8
135.1 -150.0	4	141.6
150.1 -165.0	1	159.2
165.1 -200.2	1	200.2
Total	123	66.2

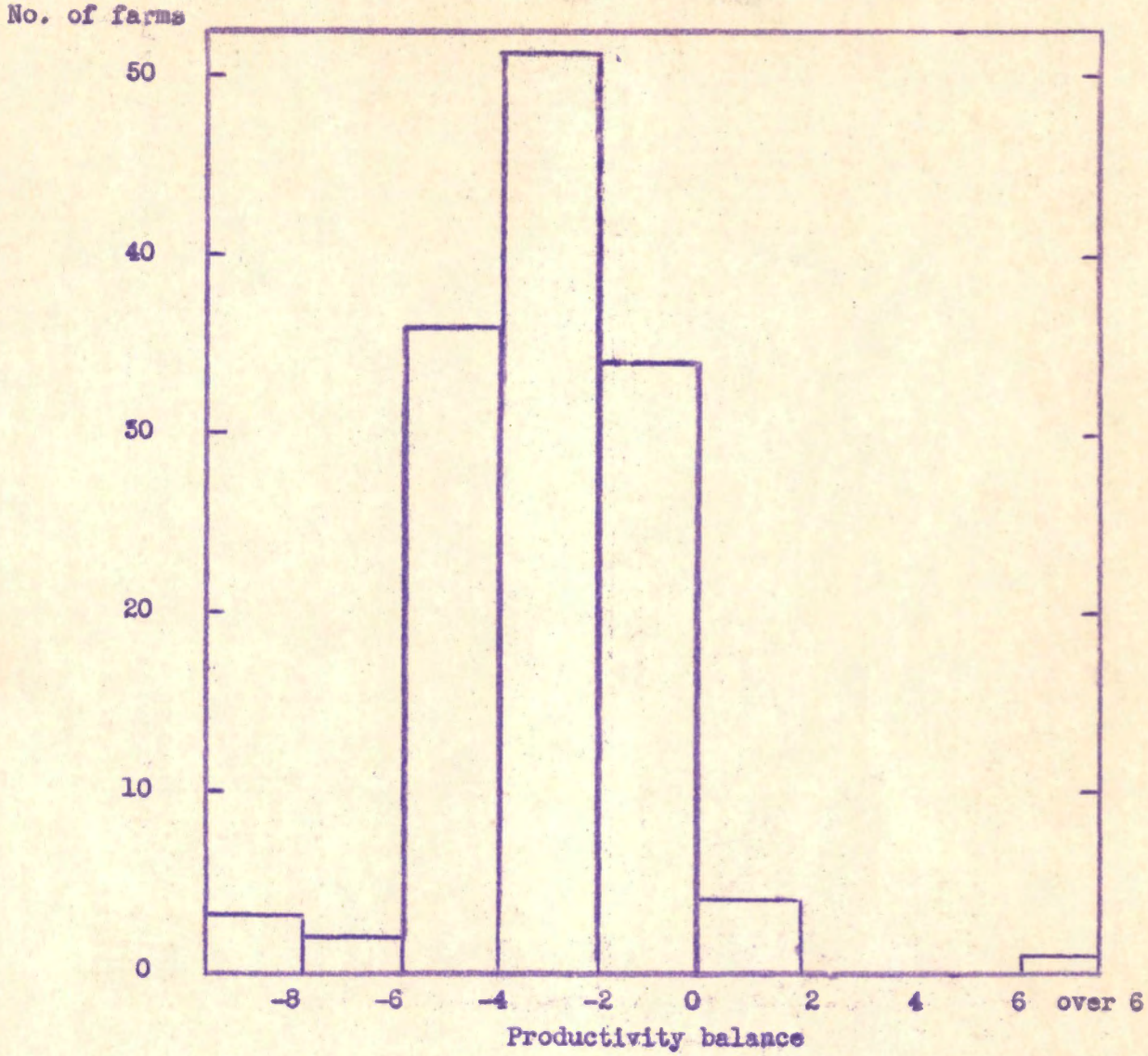
Productivity Balance.[8] Three farms had a productivity balance of -8.71 to -8.01. Two had from -8.00 to -6.01. Thirty-six, or more than one-fourth of all farms, had a productivity balance of -6.00 to -4.01 with an unweighted average of -5.24. Fifty-one or 39% had a balance of -4.00 to -2.01 with an unweighted mean of -3.06. Thirty-four, or 26% had a balance of -2.00 to -0.01 with a mean of -1.34. Four farms had from 0.00 to 2.00. One farm with a balance of 6.12 was the only farm with a positive balance greater than 2.00.

Ninety-two per cent of all farms had a productivity balance of -6.00 to -0.01 with 39% having from -4.00 to -2.01. Five farms had a negative

TABLE CXXXVI. DISTRIBUTION OF 131 OVERTON COUNTY FARMS, BY PRODUCTIVITY BALANCE, 1936

Range in Balance	Number Farms	% of Farms	Unweighted Mean Balance
-8.71 to - 8.01	3	2.3	-8.44
-8.00 to - 6.01	2	1.5	-6.65
-6.00 to - 4.01	36	27.5	-5.24
-4.00 to - 2.01	51	38.9	-3.06
-2.00 to - 0.01	34	26.0	-1.34
0.00 to 2.00	4	3.0	0.91
2.01 to 4.00	0	-	-
4.01 to 6.00	0	-	-
6.01 to 6.12	1	0.8	6.12
Total	131	100.0	-3.20

(8) "Productivity Balance" is a measure of efficiency insofar as it measures the effectiveness or efficiency of the current program of a given form toward maintaining the present fertility of the soil. If the current farm program is such that the fertility of the soil is probably being depleted, the farm is given a negative productivity balance rating. Likewise, if the program is such that the fertility is being increased, the farm is given a positive rating. The extent to which the productivity balance rating varies above or below zero is the percentage measure of the extent to which the fertility of the farm is being increased or depleted during the present crop year. See Appendix A for explanation and calculation.



Source: Table CXXXVI.

Figure 68. Distribution of 131 Overton County farms by productivity balance, 1956

balance greater than -6.00, and only five had a positive balance. All farms ranged from -8.71 to 6.12 with an unweighted mean of -3.20 (Table CXXXVI, Figure 68).

Efficiency Factors on 131 Overton County Farms, by Soil Type

Receipts per $100 Total Investment by Soil Type. One-fourth of the farms on Decatur loam soil had receipts of $5 or less, and one-fourth had $6 to $10 gross farm receipts per $100 total investment. Thirty-one per cent had from $11 to $15. One farm had from $16 to $20, and 2 had more than $25. Decatur loam farms had an average of $11.48, and ranged from nothing to $27.50 farm receipts per $100 total investment.

Thirty-one per cent of the farms on Clarksville silt loam soil had total farm receipts of $5 or less per $100 total investment. Thirty-seven per cent had from $6 to $10, and 23% had from $11 to $15. Nine per cent had more than $15, and one farm had more than $25. Clarksville silt farms had average receipts of $9.24 with a range from $1.30 to $39.96 farm receipts per $100 invested.

Twenty-four per cent of the Clarksville stony farms had receipts of $5 or less. Thirty-five per cent had from $6 to $10. Twenty four per cent had from $11 to $15, and 18% had from $16 to $20. These farms had average receipts of $10.57 with a range from $1.86 to $20.25 per $100 invested.

Fifty-six per cent of the DeKalb silt farms had receipts of $5 or less per $100 invested. One-fourth of the farms had from $6 to $10. Two farms

had from $11 to $15, and 1 had more than $15. These farms had average receipts of $6.66 with a range from $0.52 to $18.58 per $100 invested.

One-third of the DeKalb sandy farms had receipts of $5 or less. Forty-two per cent had from $6 to $10, two farms had from $11 to $15, and 1 had more than $25. These farms had average receipts of $8.71, with a range from nothing to $27.11 per $100 total investment.

Four of 5 DeKalb stony farms had receipts of $5 or less. They all had a range of $3.10 to $16.50 with an average of $6.47 total farm receipts per $100 invested.

Decatur loam farms had the highest average receipts with $11.48 per $100 total investment. Clarksville stony farms were second with $10.57, and DeKalb stony were lowest with an average of $6.47 receipts per $100 invested. A Clarksville silt farm had the highest upper range limit with $39.96, while all Clarksville silt farms had an average of

TABLE CXXXVII. PERCENTAGE DISTRIBUTION OF FARMS ON EACH SOIL TYPE, BY RECEIPTS PER $100 TOTAL INVESTMENT, WITH AVERAGE AND RANGE IN RECEIPTS, 131 OVERTON COUNTY FARMS, 1936

Receipts	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
$ 0 - 5	25.0	30.8	23.5	56.2	33.3	80.0
6 - 10	25.0	36.9	35.3	25.0	41.7	
11 - 15	31.2	23.1	23.5	12.5	16.7	
16 - 20	6.3	4.6	17.7	6.3		20.0
21 - 25		3.1				
26 - 40	12.5	1.5			8.3	
Total	100.0	100.0	100.0	100.0	100.0	100.0
Average receipts	$11.48	$9.24	$10.57	$6.66	$8.71	$6.47
Range	0-27.50	1.30-39.96	1.85-20.25	.052-18.58	0-27.11	3.10-16.50

$9.24 which was the third highest average. A DeKalb stony farm had the highest lower range limit of $3.19, while all DeKalb stony farms had the lowest average receipts per $100 invested (Table CXXXVII).

Receipts per Man Work Unit by Soil Type. Only 1 farm on Decatur loam soil had less than $0.50 total farm receipts per man work unit. Nineteen per cent of them had receipts of $0.51 to $1.00 per man work unit. Thirty-eight per cent had from $1.01 to $1.50. Two farms had from $2.01 to $3.00, and one-fourth of Decatur loam farms had more than $3.00 farm receipts per man work unit. Decatur loam farms had an average of $1.90 and a range from nothing to $4.87 receipts per man work unit.

Nine per cent of the Clarksville silt farms had receipts of $0.50 or less per man work unit. One-fourth of the farms had from $0.51 to $1.00. Forty-six per cent had from $1.01 to $2.00, and 20% had more than $2.00. Nine per cent had more than $3.00 total farm receipts per man work unit. They had an average of $1.56, and ranged from $0.31 to $5.85.

Four of 17 Clarksville stony farms had total farm receipts of $0.50 or less per man work unit, and the same number had from $0.51 to $1.00. Forty-seven per cent had from $1.01 to $2.00. Only one farm had more than $2.00. Clarksville stony farms averaged $1.16, and ranged from $0.18 to $2.04 receipts per man work unit.

Forty-four per cent of the DeKalb silt farms had farm receipts of $0.50 or less. One-fourth of the farms had from $0.51 to $1.00, but only 2 farms had more than $2.00. They had an average of $0.94, and

ranged from $0.12 to $2.76 farm receipts per man work unit.

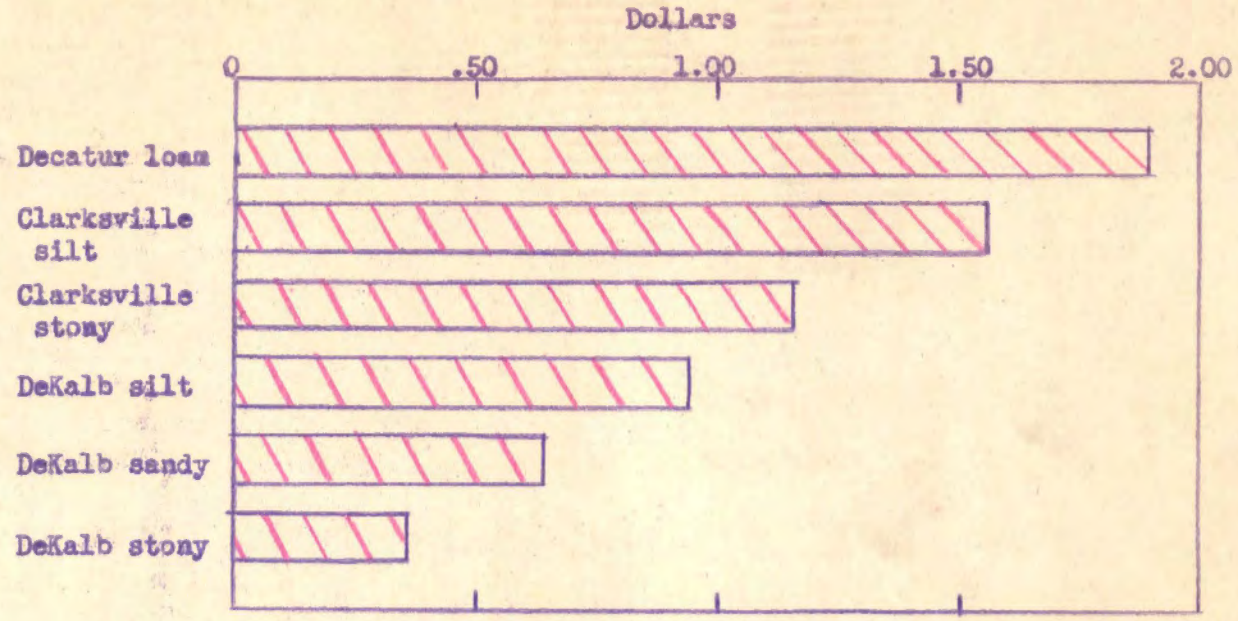
Forty-two per cent of the 12 DeKalb sandy farms had farm receipts of $0.50 or less and the same percentage had from $0.51 to $1.00 receipts per man work unit. Only 2 farms had more than $1.00. DeKalb sandy farms had an average of $0.64, and ranged from nothing to $1.67 receipts per man work unit.

Only 1 of 5 DeKalb stony farms had more than $0.50 farm receipts per man work unit. They had an average of $0.36 and ranged from $0.20 to $0.68.

Decatur loam farms had the highest average with $1.90 farm receipts per man work unit. Clarksville silt farms were second with $1.56. DeKalb stony farms were lowest with an average of only $0.36. Farms having both the highest lower range limit and the highest upper range

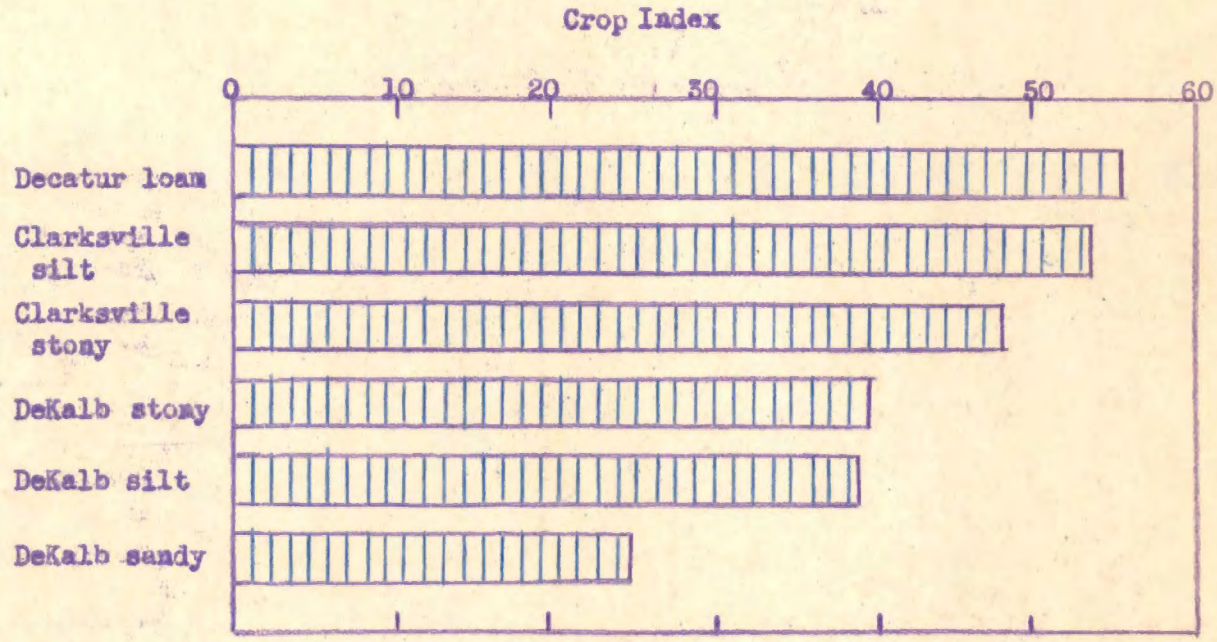
TABLE CXXXVIII. PERCENTAGE DISTRIBUTION OF FARMS ON EACH SOIL TYPE BY FARM RECEIPTS PER MAN WORK UNIT? WITH AVERAGE AND RANGE IN RECEIPTS, 131 OVERTON COUNTY FARMS, 1936

Receipts	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
$0.00 - 0.50	6.2	9.2	23.5	43.8	41.7	80.0
0.51 - 1.00	18.8	24.6	23.5	25.0	41.7	20.0
1.01 - 1.50	37.5	30.8	5.9	12.5	8.3	
1.51 - 2.00		15.4	41.2	6.2	8.3	
2.01 - 3.00	12.5	10.8	5.9	12.5		
3.01 - 5.85	25.0	9.2				
Total	100.0	100.0	100.0	100.0	100.0	100.0
Average receipts	$1.90	$1.56	$1.16	$0.94	$0.64	$0.36
Range	0.00-4.87	0.31-5.85	0.18-2.04	0.12-2.76	0-1.67	0.20-0.68



Source: Table CXXXVIII.

Figure 69. Average total farm receipts per man work unit by soil types, 131 Overton County farms, 1956



Source: Table CXXXIX.

Figure 70. Unweighted mean crop index by soil types, 131 Overton County farms, 1956

limit for the groups were on Clarksville silt loam soil, with $0.31 and $5.85 per man work unit respectively (Table CXXXVIII, Figure 69).

Relation of Crop Index to Soil Types. Fifty-six per cent of the 16 farms on Decatur loam soil had a crop index of 50 or less. One-fourth of the farms had an index of more than 75. Decatur loam farms had an unweighted mean crop index of 54.0, and ranged from 11 to 106.

Fifty-five per cent of the 65 Clarksville silt loam farms had a crop index of 50 or less. Twelve per cent had an index of more than 75. They had an unweighted mean index of 52.5 and ranged from 13 to 117.

Fifty-nine per cent of the 17 Clarksville stony farms had a crop index of 50 or less. They had an unweighted mean crop index of 46.9, and ranged from 9 to 75.

Sixty-nine per cent of the 16 DeKalb silt loam farms had an index of 50 or less. Only one farm had more than 75. They had a mean index of 38.5, and ranged from 12 to 86.

Eighty-three per cent of the 12 DeKalb sandy farms had an index of 50 or less. Only one farm had more than 75. They had a mean crop index of 24.3, and ranged from 2 to 81.

Three of 5 DeKalb stony farms had a crop index of 25 or less. Only 1 had more than 75. They averaged 38.8 and ranged from 11 to 90.

Decatur loam farms had the highest unweighted mean crop index amounting to 54.0. Clarksville silt farms were second with 52.5. DeKalb sandy farms had the lowest mean index of 24.3, and a farm on this type of soil had the lowest lower range limit. Farms on Clarksville silt soil had the highest lower limit and the highest upper range limit with 13 and 117 respectively (Table CXXXIX, Figure 70).

TABLE CXXXIX. PERCENTAGE DISTRIBUTION OF FARMS ON EACH SOIL TYPE BY CROP INDEX, WITH MEAN AND RANGE IN INDEX, 131 OVERTON COUNTY FARMS, 1936

Crop Index	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
2 - 25	12.5	9.2	11.8	31.3	66.7	60.0
26 - 50	43.7	46.2	47.0	37.5	16.7	
51 - 75	18.8	32.3	41.2	25.0	8.3	20.0
76 - 100	18.8	7.7		6.2	8.3	20.0
101 - 117	6.2	4.6				
Total	100.0	100.0	100.0	100.0	100.0	100.0
Unweighted average index	54.0	52.5	46.9	38.5	24.3	38.8
Range	11-106	13-117	9-75	12-86	2-81	11-90

Man Work Units per Man by Soil Type. One-fourth of the Decatur loam farms had 200 or less man work units per man. Thirty-one per cent had more than 300. They had an average of 244, and ranged from 108 to 438 man work units per man.

Twenty-three per cent of the Clarksville silt farms had 200 or less man work units per man. Thirty-two per cent had more than 300. They had an average of 250, and ranged from 122 to 573.

Eighteen per cent of the Clarksville stony farms had 200 or less man work units per man. Twenty-nine per cent had more than 300. They had an average of 249 and ranged from 136 to 419.

One-half of the DeKalb silt farms had 200 or less. One-fourth had more than 300. They had an average of 205, and ranged from 96 to 530 man work units per man.

Three-fourths of the DeKalb sandy farms had not more than 200. Only 1 farm had more than 300. They averaged 189, and ranged from 119 to 328 man work units per man.

Two of 5 DeKalb stony farms had 200 or less, and none had more than 300 man work units per man. They averaged 202, and ranged from 126 to 286.

Clarksville silt farms had the highest average number of man work units per man with 250 per man. They were followed closely by Clarksville stony farms with 249 and Decatur loam with an average of 244. There was very little difference in the average number of man work units per man, or in the percentage distribution of farms by man work units per man on Decatur loam, Clarksville silt and Clarksville stony farms. DeKalb sandy farms were lowest with an average of only 189 man work units per man (Table CXL).

TABLE CXL. PERCENTAGE DISTRIBUTION OF FARMS ON EACH SOIL TYPE BY MAN WORK UNITS PER MAN, WITH MEAN AND RANGE IN EFFICIENCY, 131 OVERTON COUNTY FARMS, 1936

Man Work Units Per Man	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
96 - 200	25.0	23.1	17.7	50.0	75.0	40.0
201 - 300	43.7	44.6	52.9	25.0	16.7	60.0
301 - 400	18.8	23.1	23.5	12.5	8.3	
401 - 573	12.5	9.2	5.9	12.5		
Total	100.0	100.0	100.0	100.0	100.0	100.0
Average per man	244	250	249	205	189	202
Range	108-438	122-573	136-419	96-530	119-328	126-286

Relation of Productivity Balance to Soil Type. None of the Decatur loam farms had a negative productivity balance greater than 6.00. Thirty-eight per cent had a balance of -6.00 to -2.01. Two of the 16 farms had a positive balance. Decatur loam farms had an unweighted average productivity balance of -1.46, and had a range from -5.55 to 6.12.

Six per cent of the Clarksville silt farms had a negative productivity balance greater than 6.00. Two-thirds of the Clarksville silt farms had a productivity balance from -6.00 to -2.01. Two of the farms had a positive balance. Clarksville silt farms had an unweighted mean productivity balance of -3.23 with a range from -8.45 to 1.09.

All the Clarksville stony farms had a negative productivity balance. Fifty-three per cent had from -6.00 to -4.01. They had a mean balance of -3.90 with a range from -5.92 to -1.11.

Only 1 DeKalb silt farm had a negative balance greater than 6.00. But 63% had a balance from -6.00 to -2.01. Only 1 farm had a positive balance. They all had an average of -3.32, and ranged from -8.71 to 0.13.

One-fourth of the DeKalb sandy farms had a productivity balance from -6.00 to -4.01. All the rest had from -4.00 to -2.01. They had an average of -4.01 with a range from -5.85 to -2.88.

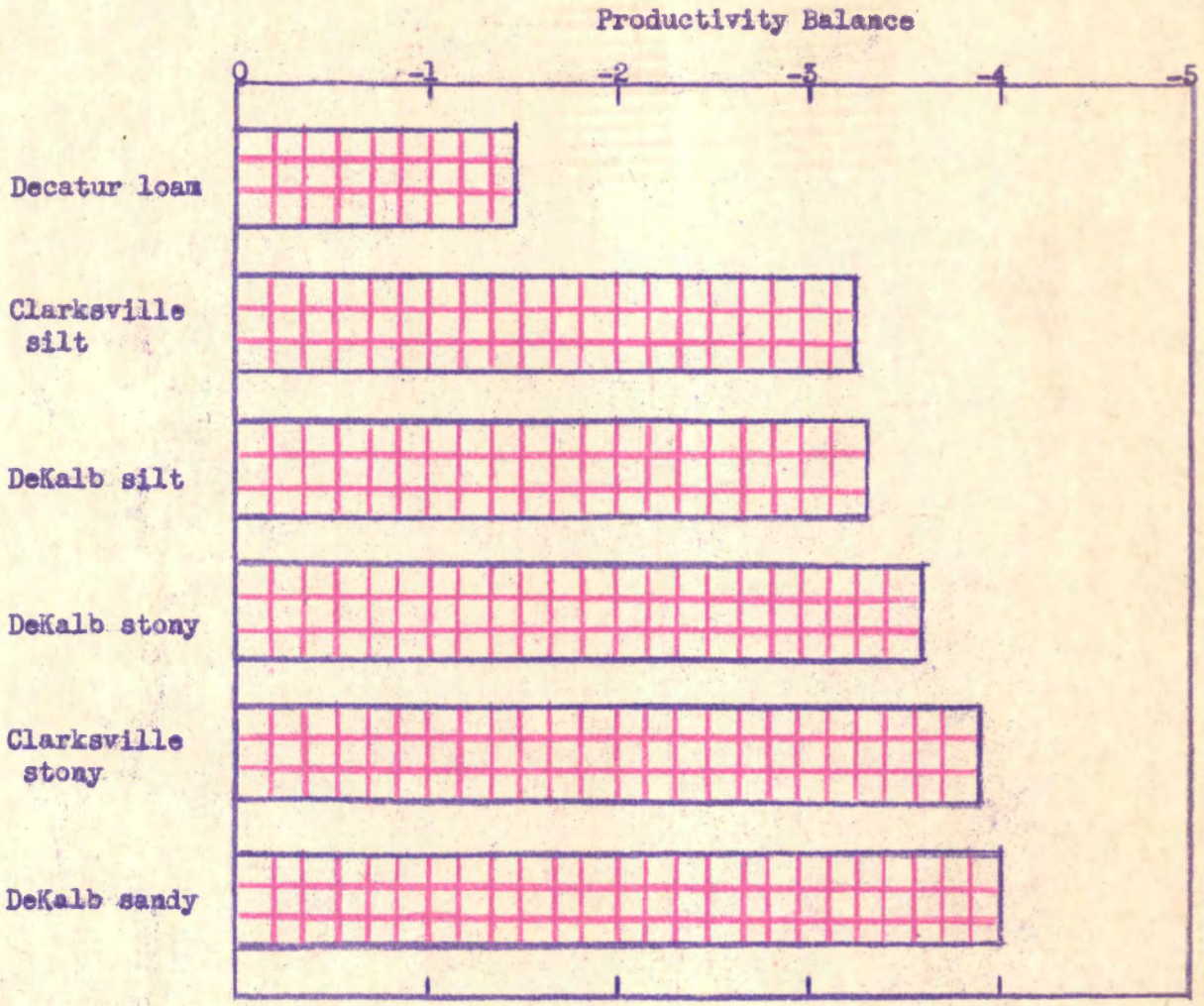
All the DeKalb stony farms had a negative productivity balance. Four of the 5 farms had from -6.00 to -2.01, with 2 having from -4.00 to -2.01. They had an average of -3.61, and ranged from -5.10 to -1.48.

All soil type groups had a negative mean productivity balance. Decatur loam farms had the best mean productivity balance with an average of only -1.46. All other groups had a much higher negative mean balance. Thus Decatur, which is probably the best type for agricultural purposes in the study, has the better practices and the soil is being conserved better than the poorer soil types. DeKalb sandy farms had the poorest mean balance with an average of -4.01.

Only 5 farms had a negative balance greater than 6.00. The same number had a positive productivity balance. All farms ranged from -8.71 to 6.12 (Table CXLI, Figure 71).

TABLE CXLI. PERCENTAGE DISTRIBUTION OF FARMS ON EACH SOIL TYPE BY PRODUCTIVITY BALANCE, WITH MEAN AND RANGE IN BALANCE, 131 OVERTON COUNTY FARMS, 1936

Productivity Balance	16 Decatur Loam Farms	Clarksville Loam		DeKalb Loam		
		65 Silt Farms	17 Stony Farms	16 Silt Farms	12 Sandy Farms	5 Stony Farms
- 8.71 to -6.01	-	6.2	-	6.2	-	-
- 6.00 to -4.01	6.2	26.1	53.0	25.0	25.0	40.0
- 4.00 to -2.01	31.4	40.0	17.6	37.6	75.0	40.0
- 2.00 to -0.01	50.0	24.6	29.4	25.0	-	20.0
0.00 to 2.00	6.2	3.1	-	6.2	-	-
2.01 to 6.12	6.2	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0
Unweighted mean balance	-1.46	-3.23	-3.90	-3.32	-4.01	-3.61
Range	-5.53 to 6.12	-8.45 to 1.09	-5.92 to -1.11	-8.71 to 0.13	-5.85 to -2.8	-5.10 to -1.48



Source: Table CXLI.

Figure 71. Unweighted mean productivity balance by soil types, 151 Overton County farms, 1936

Efficiency Factors on 131 Overton County Farms, by Land Class

Receipts per $100 Total Investment by Land Class. One-third of 12 farms on Class II land had $5 or less, and one-third had from $6 to $10 farm receipts per $100 total investment. Only 1 farm had more than $15. All farms in Class II land areas had an average of $9.56, and ranged from $1.31 to $27.50 receipts per $100 invested.

Twenty-six per cent of the 50 farms on Class III land had receipts of $5 or less per $100 total investment. Thirty-six per cent had from $6 to $10. Twelve per cent had more than $15, but only 2 farms had more than $25. All farms on Class III land had an average of $10.05, and ranged from nothing to $39.96 receipts per $100 total investment.

Forty-one per cent of 39 farms in Class IV land areas had farm receipts of $5 or less per $100 total investment. Thirty-one per cent had from $6 to $10. Only 10% had more than $15, and only 1 farm had more than $20. All farms had an average of $8.26, and ranged from $1.30 to $23.14.

Two of 6 farms on Class VI land had $5 or less, and only 1 had more than $15 farm receipts per $100 total investment. They had an average of $10.05, and ranged from $4.40 to $20.25.

Forty-two per cent of 24 farms on Class VII land had receipts of $5 or less per $100 invested. One-third of the farms had from $6 to $10. Only 1 farm had more than $20. They averaged $8.64 with a range from nothing to $27.11.

Farms on Classes III and VI land were highest, each having an average

of $10.05 farm receipts per $100 total investment. Farms on Class IV land were lowest with an average of $8.26. A farm on Class III land had the highest upper range limit with $39.96. A farm on Class VI land had the highest lower range limit of $4.40 receipts per $100 total investment (Table CXLII).

TABLE CXLII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH LAND CLASS, BY RECEIPTS PER $100 TOTAL INVESTMENT, WITH MEAN AND RANGE IN RECEIPTS, 131 OVERTON COUNTY FARMS, 1936

Receipts	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
$ 0 - 5	33.3	26.0	41.0	33.3	41.7
6 - 10	33.3	36.0	30.8	16.7	33.3
11 - 15	25.0	26.0	17.9	33.3	12.5
16 - 20		6.0	7.7	16.7	8.3
21 - 25		2.0	2.6		
26 - 40	8.4	4.0			4.2
Total	100.0	100.0	100.0	100.0	100.0
Average receipts	$9.56	$10.05	$8.26	$10.05	$8.64
Range	$1.31-27.50	$0 - 39.96	$1.30-23.14	4.40-20.26	$0-27.11

On the basis of total farm receipts per $100 invested the poorer land classes compare favorably with the better classes. This may be partially explained by the fact that poorer classes have a much smaller total investment, and even a relatively small amount of total receipts would make a comparatively high rate of capital turnover. The abnormal season and small sample especially on Class VI land may also be largely responsible for this situation. The favorable ranking of farms on Class VI land may

also be partially due to the fact that the farming programs of these farms are such that the soil fertility is being undermined at a much more rapid rate than any other group (Table CXLVII).

Receipts Per Man Work Unit By Land Class. None of the 12 farms on Class II land had as low as $0.50, but two had from $0.51 to $1.00. Forty-two per cent of the farms had more than $2.00, and 25% had more than $3.00 receipts per man work unit. They had an average of $2.28 with a range from $0.56 to $5.85.

Twenty-two per cent of the farms in Class III land areas had farm receipts of $1.00 or less per man work unit. Twenty-six per cent had over $2.00, and 14% had more than $3.00. The farms in this group had an average of $1.70, and ranged from nothing to $4.87 receipts per man work unit.

Sixty-two per cent of the farms on Class IV land had $1.00 or less receipts per man work unit. Only 10% had more than $2.00. All farms had an average of $1.06, and ranged from $0.29 to $2.89.

Four of six farms on Class VI land had receipts of $1.00 or less per man work unit. Farms on Class VI land averaged $0.92, and ranged from $0.35 to $1.56.

Seventy-nine per cent of the farms on Class VII land had receipts of $1.00 or less per man work unit. All farms on Class VII land had an average of $0.71 with a range from nothing to $1.96.

Farms on Class II land had the highest receipts with an average of $2.28 per man work unit. Farms on this land class had both the highest

lower range and the highest upper range limits, amounting to $0.56 and $5.85 respectively. Farms on Class VII land were lowest with an average of only $0.71 per man work unit (Table CXLIII, Figure 72).

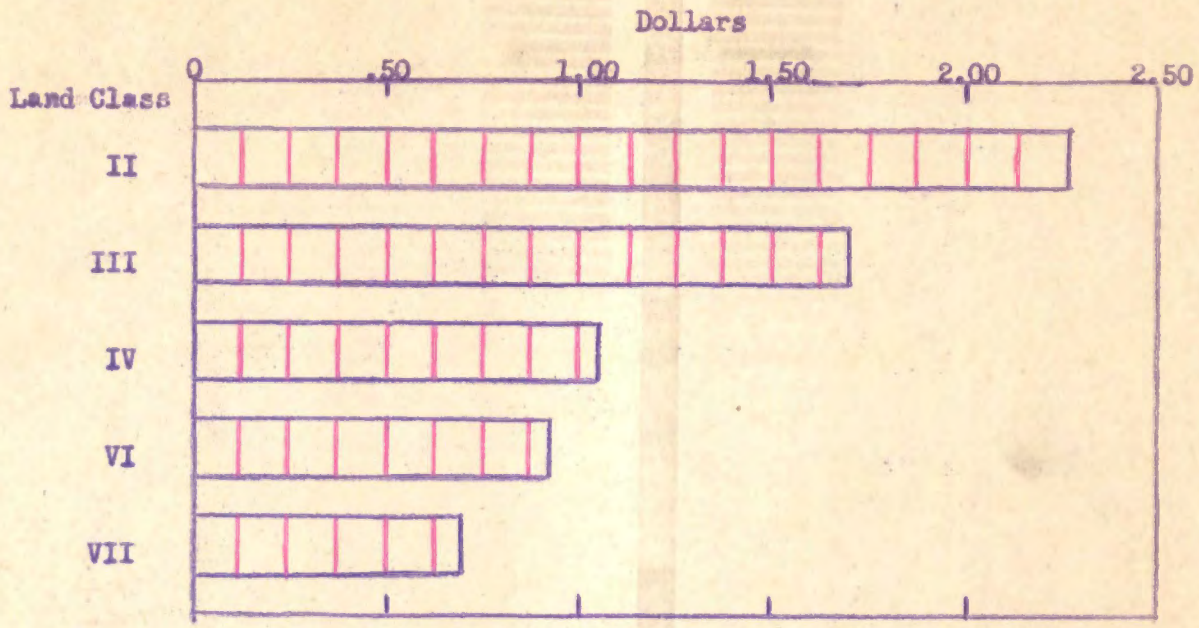
TABLE CXLIII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH LAND CLASS BY RECEIPTS PER MAN WORK UNIT, WITH AVERAGE AND RANGE IN RECEIPTS, 131 OVERTON COUNTY FARMS, 1936

Receipts	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
$ 0.00-0.50	-	10.0	28.2	16.6	41.7
0.51-1.00	16.7	12.0	33.3	50.0	37.5
1.01-1.50	33.3	38.0	10.3	16.7	8.3
1.51-2.00	8.3	14.0	17.9	16.7	12.5
2.01-3.00	16.7	12.0	10.3	-	-
3.01-5.85	25.0	14.0	-	-	-
Total	100.0	100.0	100.0	100.0	100.0
Average receipts	$2.28	$1.70	$1.06	$0.92	$0.71
Range	$0.56 to 5.85	$0 to 4.87	$0.29 to 2.89	$0.35 to 1.56	$0 to 1.96

Relation of Crop Index to Land Classes. Forty-two per cent of the farms on Class II land had a crop index of 50 or less. Two of the 12 farms had more than 75. Farms on Class II land had an unweighted mean index of 60.9 with a range from 37 to 106.

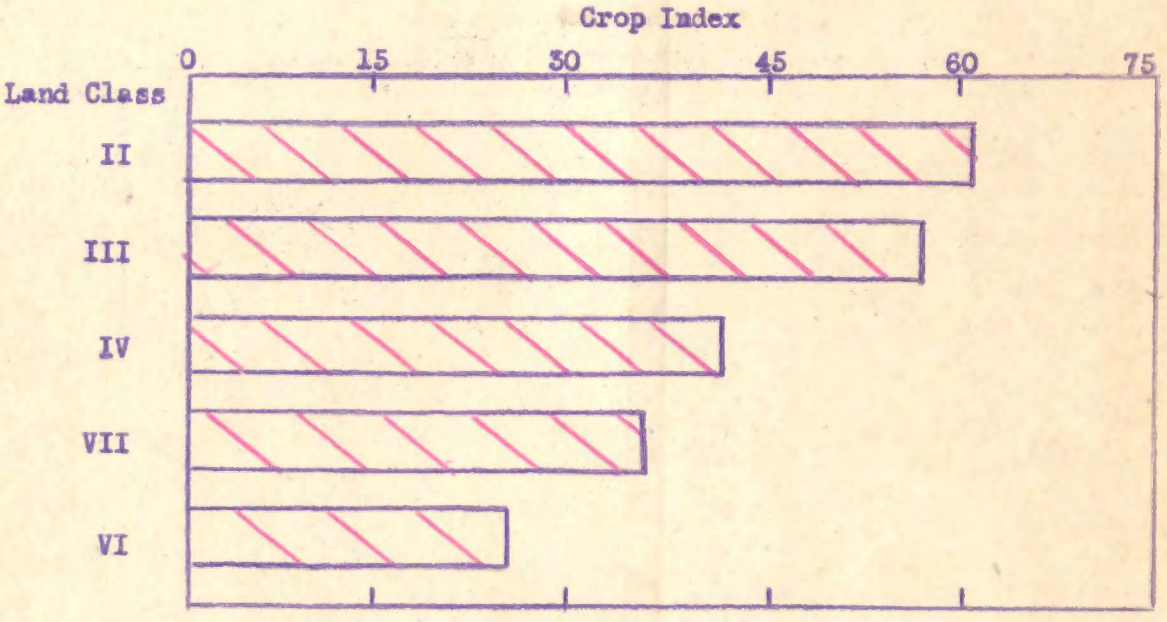
Forty-eight per cent of 50 farms on Class III land had a crop index of 50 or less. Twenty-two per cent had more than 75, and 4% had more than 100. These farms had an unweighted average index of 57.0 with a range from 13 to 117.

Sixty-nine per cent of 39 farms on Class IV land had a crop index of 50 or less. Farms on Class IV land had an average crop index of 41.2, and



Source: Table CXLIII.

Figure 72. Average total farm receipts per man work unit by land classes, 151 Overton County farms, 1936



Source: Table CXLIV.

Figure 73. Unweighted mean crop index by land classes, 151 Overton County farms, 1936

ranged from 11 to 71.

None of the 6 farms on Class VI land had a crop index of more than 50, and 3 farms had 25 or less. They had an average of 25.3, and ranged from 9 to 45.

Seventy-one per cent of 24 farms on Class VII land had a crop index of 50 or less. Two farms had more than 75. These farms had an average of 35, and ranged from 2 to 90.

Farms on Class II land had the highest mean crop index amounting to 60.9. A farm on this land class had the highest lower range limit. However, a farm on Class III land had the highest upper range limit of 117. Farms on Class VI land had the lowest mean index, amounting to only 25.3 (Table CXLIV, Figure 73).

TABLE CXLIV. PERCENTAGE DISTRIBUTION OF FARMS IN EACH LAND CLASS BY CROP INDEX, WITH MEAN AND RANGE IN INDEX, 131 OVERTON COUNTY FARMS, 1936

Crop Index	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
2 - 25	-	6.0	23.1	50.0	45.8
26 - 50	41.7	42.0	46.2	50.0	25.0
51 - 75	41.7	30.0	30.7	-	20.8
76 -100	-	18.0	-	-	8.4
101 -117	16.6	4.0	-	-	-
Total	100.0	100.0	100.0	100.0	100.0
Unweighted mean index	60.9	57.0	41.2	25.3	35.0
Range	37-106	13-117	11-71	9-45	2-90

Man Work Units per Man by Land Class. One-fourth of the farms on Class II land had 200 or less man work units per man. One-third of the farms had more than 300, and one-fourth had more than 400. They had an average of 256 and ranged from 136 to 421 man work units per man.

Thirty per cent of the farms on Class III land had 200 or less man work units per man. Twenty-six per cent had more than 300, and 8% had more than 400. They had an average of 240, and had a range from 108 to 499.

Twenty-six per cent of 39 farms on Class IV land had 200 or less man work units per man. Thirty-eight per cent had more than 300, and 10% had more than 400. They had an average of 238 and ranged from 96 to 573.

Four of 6 farms on Class VI land had from 201 to 300, and 2 had more than 300 man work units per man. They had an average of 270 and ranged from 208 to 344.

Fifty-four per cent of the farms on Class VII land had 200 or less man work units per man. Only 2 farms had more than 300. They averaged 203 and ranged from 119 to 332.

Farms on Class VI land had the highest average with 270 man work units per man. It will be noted that this group is the only one out of line to prevent there being a correlation between land classes and average man work units per man. This group being out of line, and having the high average is probably due to there being only 6 farms included.

Should this small group be added and averaged with farms on land Class VII, there would be a decline in average for each group proceeding from Class II to the combined Classes of VI and VII.

However as they stand, farms on Class VI land have the highest average. There is very little difference between averages for Land Classes II, III, and IV. Farms on Class VII land had the lowest with an average of 203 man work units per man (Table CXLV).

TABLE CXLV. PERCENTAGE DISTRIBUTION OF FARMS IN EACH LAND CLASS BY MAN WORK UNITS PER MAN, WITH MEAN AND RANGE IN EFFICIENCY, 131 OVERTON COUNTY FARMS, 1936

Man Work Units Per Man	Land Class				
	II (12 farms)	III (60 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
96 - 200	25.0	30.0	25.6	-	54.2
201 - 300	41.7	44.0	35.9	66.7	37.5
301 - 400	8.3	18.0	28.2	33.3	8.3
401 - 573	25.0	8.0	10.3	-	-
Total	100.0	100.0	100.0	100.0	100.0
Average per man	256	240	238	270	203
Range	136-421	108-499	96-573	208-344	119-332

Horse Work Units Per Horse by Land Class. Thirty-six per cent of 11 farms on Class II land had 50 or less horse work units per horse. Twenty-seven per cent had more than 100. Farms on Class II land had an average of 75 with a range from 35 to 140 horse work units per horse.

Nineteen per cent of 48 farms on Class III land had 50 or less horse work units per horse. Twenty-one per cent had more than 100, and one farm

had more than 150. They had an average of 68 and ranged from 20 to 200.

Thirty-four per cent of 38 farms on Class IV land had 50 or less horse work units per horse. Eighteen per cent had more than 100, and 1 farm had more than 150. Farms on Class IV land had an average of 65 with a range from 14 to 159.

None of the 6 farms on Class VI land had more than 100, and 2 had 50 or less horse work units per horse. They averaged 59 with a range from 39 to 82.

TABLE CXLVI. PERCENTAGE DISTRIBUTION OF FARMS IN EACH LAND CLASS, BY HORSE WORK UNITS PER HORSE, WITH AVERAGE AND RANGE IN EFFICIENCY, 123[a] OVERTON COUNTY FARMS, 1936

Horse Work Units per Horse	Land Class				
	II (11 farms)	III (48 farms)	IV (38 farms)	VI (6 farms)	VII (20 farms)
14 - 50	36.3	18.8	34.2	33.3	40.0
51 - 100	36.3	60.4	47.4	66.7	50.0
101 - 150	27.4	18.8	15.8	-	10.0
151 - 200	-	2.0	2.6	-	-
Total	100.0	100.0	100.0	100.0	100.0
Average per horse	75	68	65	59	60
Range	35-140	20-200	14-159	39-82	15-124

(a) Only 123 farms are used in this table because 8 farms had no work stock at the end of the year.

Forty per cent of 20 farms on Class VII land had 50 or less horse work units per horse. Two farms had more than 100. Farms on Class VII land averaged 60 and ranged from 15 to 124.

On the basis of average horse work units per horse, farms on Class II land were most efficient with an average of 75. They were 25% more efficient than farms on Classes VI and VII land that averaged 59 and 60 respectively. Thus farms on Class II land probably have a lower overhead cost per unit of horse labor, because they get a larger number of units of work from each horse. The most efficient single farm was on Class III land with 200 horse work units per horse. Farms on Class VI land were least efficient with an average of 59 horse work units per horse (Table CXLVI).

Relation of Productivity Balance to Land Classes. Two of 12 farms on Class II land had a productivity balance from -4.00 to -2.01, and the same number had a positive balance. Two-thirds of the farms had a negative balance of not more than 2.00. The farms had an average of -0.89, and ranged from -3.16 to 1.57.

Eighteen per cent of 50 farms on Class III land had a negative productivity balance greater than 4.00. Forty per cent had a balance from -4.00 to -2.01. Three farms had a positive balance. All farms on Class III land had an unweighted mean balance of -2.53, and ranged from -8.16 to 6.12.

All farms on Class IV land had a negative balance. Eight per cent had a negative balance greater than 6.00. Eighty-two per cent had a balance from -6.00 to -2.01. They had an unweighted mean of -4.09 with a range from -8.71 to -1.11.

Six farms on Class VI land had an average productivity balance of

-5.69, and had the narrow range limits of -5.92 and -5.25.

All farms on Class VII land had a negative productivity balance. Twenty-nine per cent had a negative balance greater than 4.00. Fifty-four per cent had from -4.00 to -2.01. They had an average of -3.66, and ranged from -5.85 to -1.48.

Farms on all land classes had a negative mean productivity balance. Farms on Class II land had the best farming programs and conservation practices for maintenance of the soil fertility. They had a mean negative balance of only 0.89 to compare with the nearest group of farms on Class III land having a mean of -2.53. Farms on Class VI land were depleting their soil fertility at the most rapid rate having a mean balance of -5.69 (Table CXLVII).

TABLE CXLVII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH LAND CLASS BY PRODUCTIVITY BALANCE, WITH MEAN AND RANGE IN BALANCE, 131 OVERTON COUNTY FARMS, 1936

Productivity Balance	Land Class				
	II (12 farms)	III (50 farms)	IV (39 farms)	VI (6 farms)	VII (24 farms)
- 8.71 to-6.01	-	4.0	7.7	-	-
- 6.00 to-4.01	-	14.0	41.0	100.0	29.2
- 4.00 to-2.01	16.7	40.0	41.0	-	54.1
- 2.00 to-0.01	66.6	36.0	10.3	-	16.7
0.00 to 2.00	16.7	4.0	-	-	-
2.01 to 6.12	-	2.0	-	-	-
Total	100.0	100.0	100.0	100.0	100.0
Unweighted mean balance	-0.89	-2.53	-4.09	-5.69	-3.66
Range in balance	-3.16 to 1.57	-8.16 to -6.12	-8.71 to -1.11	-5.92 to -5.25	-5.85 to -1.48

From a productivity balance standpoint, the most efficient farm was on Class III land with a balance of 6.12. The least efficient farm was on Class IV land with a balance of -8.71.

Efficiency Factors on 131 Overton County Farms, by Size of Farm

Receipts per $100 Total Investment by Size of Farm. Forty-eight per cent of 40 small farms had farm receipts of $5 or less per $100 total investment. Eighteen per cent had more than $10, but only 1 farm had more than $20 receipts per $100 invested. The farms had an average of $7.51 with a range from nothing to $27.11.

Twenty-eight per cent of 54 medium size farms had receipts of $5 or less per $100 total investment. Forty-three per cent had more than $10, but only 1 farm had more than $20. Medium size farms had an average of $9.73 with a range from nothing to $39.96.

Thirty-two per cent of 25 medium large farms had receipts of $5 or less per $100 total investment. Thirty-two per cent also had more than $10, but only 1 farm had more than $20. They had an average of $9.38, and ranged from $0.52 to $27.50.

One-fourth of 12 large farms had farm receipts of $5 or less per $100 total investment. Forty-two per cent had more than $10, and 25% had more than $20. They averaged $12.21, and ranged from $2.72 to $26.52.

Large farms were most efficient on the basis of receipts per $100 total investment. They had an average of $12.21. Small farms were least efficient with an average of only $7.51. A medium size farm had the highest upper range limit with $39.96. A large farm had the highest lower range

limit with $2.72 farm receipts per $100 total investment (Table CXLVIII).

TABLE CXLVIII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP, BY RECEIPTS PER $100 TOTAL INVESTMENT, WITH AVERAGE AND RANGE IN RECEIPTS, 131 OVERTON COUNTY FARMS, 1936

Receipts	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
$ 0 - 5	47.5	27.8	32.0	25.0
6 -10	35.0	29.6	36.0	33.3
11 -15	10.0	31.5	20.0	16.7
16 -20	5.0	9.3	8.0	
21 -25				16.7
26 -40	2.5	1.8	4.0	8.3
Total	100.0	100.0	100.0	100.0
Average receipts	$7.51	$9.73	$9.38	$12.21
Range	0 to $27.11	0 to $39.96	$.52 to $27.50	$2.72 to $26.52

Receipts Per Man Work Unit by Size of Farm. Three-fourths of 40 small farms had total farm receipts of $1.00 or less per man work unit. Only 1 small farm had more than $2. Small farms had an average of $0.75, and ranged from nothing to $5.85 receipts per man work unit.

Thirty-seven per cent of 54 medium size farms had receipts of $1.00 or less per man work unit. Seventeen per cent had more than $2.00. Medium Size farms had an average of $1.39, and ranged from nothing to $4.03.

Thirty-six per cent of 25 medium large farms had total farm receipts of $1.00 or less per man work unit. Twenty p r cent had more than $2.00. Medium large farms averaged $1.58 and ranged from $0.12 to $4.87.

Only 1 of 12 large farms had total farm receipts of less than $1 per

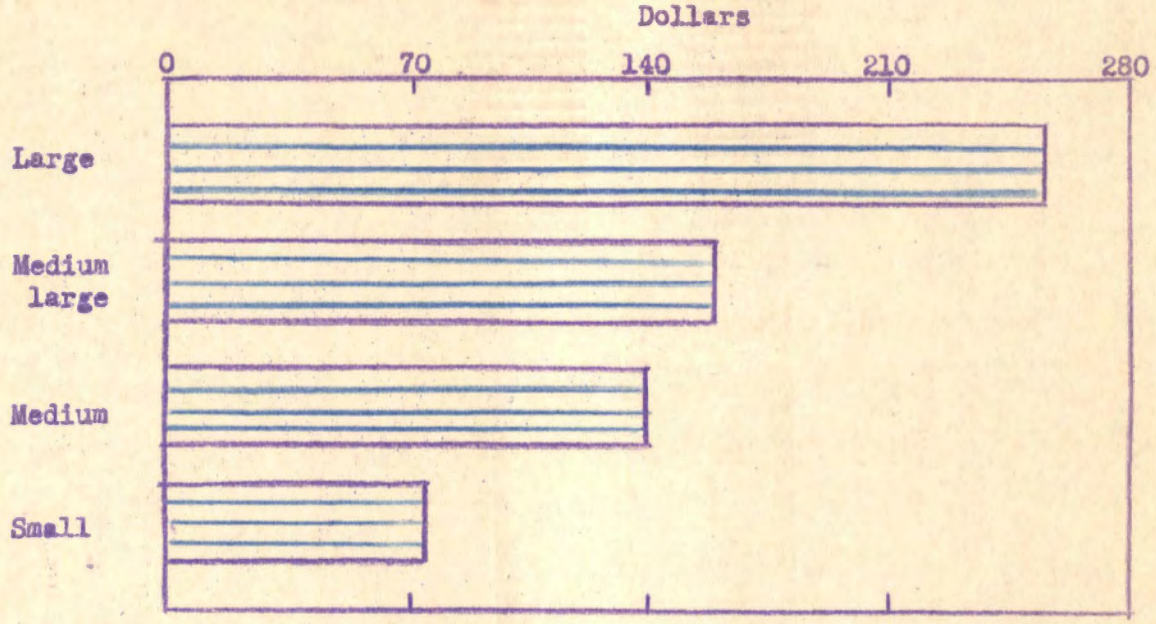
man work unit. Fifty-eight per cent had more than $2.00, and 25% had more than $3.00. Large farms had an average of $2.52, and ranged from $0.78 to $5.16.

Large farms had considerably the highest receipts with an average of $2.52 per man work unit, to compare with $1.58 on medium large farms which had the second highest average. Small farms had the lowest with an average of only $0.75. However, a small farm had the highest upper range limit with $5.85 farm receipts per man work unit (Table CXLIX, Figure 74).

TABLE CXLIX. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP BY FARM RECEIPTS PER MAN WORK UNIT, WITH AVERAGE AND RANGE IN RECEIPTS, 131 OVERTON COUNTY FARMS, 1936

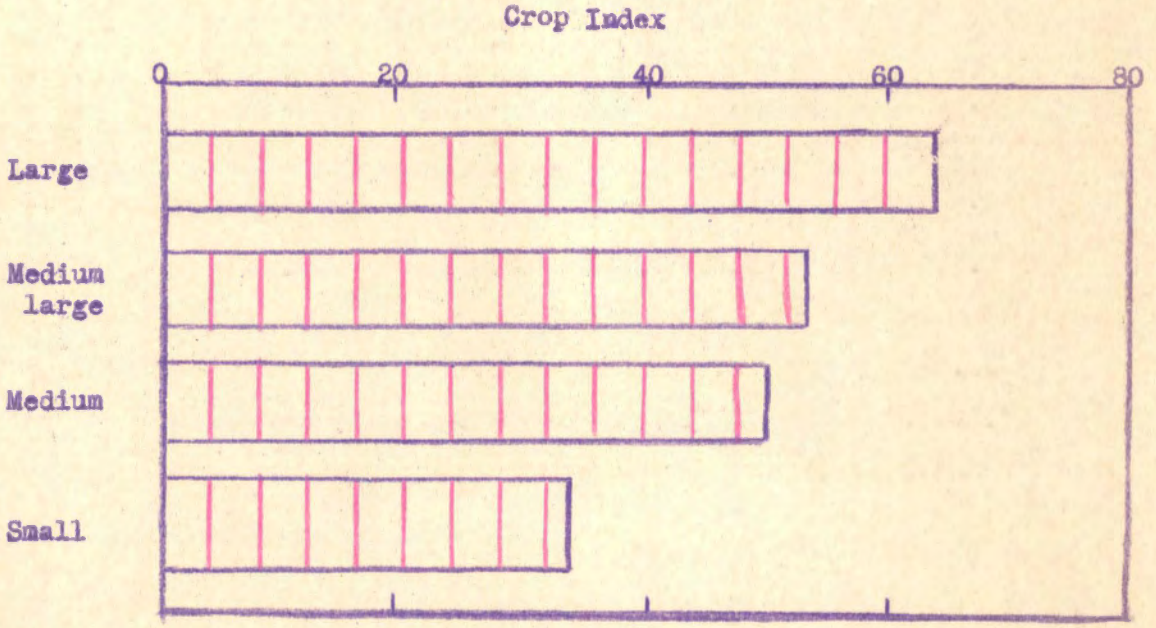
Receipts	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
$0.00 - 0.50	45.0	9.2	16.0	-
0.51 - 1.00	30.0	27.8	20.0	8.3
1.01 - 1.50	17.5	29.6	20.0	16.7
1.51 - 2.00	5.0	16.7	24.0	16.7
2.01 - 3.00		11.1	8.0	33.3
3.01 - 5.85	2.5	5.6	12.0	25.0
Total	100.0	100.0	100.0	100.0
Average receipts	$ .75	$1.39	$1.58	$2.52
Range	$0-5.85	$0-4.03	$0.12-4.87	$.78-5.16

Relation of Crop Index to Size of Farms. Seventy-eight per cent of 40 small farms had a crop index of 50 or less. Only 2 farms had an index of more than 75. Small farms had an unweighted mean crop index of 33.8 with



Source: Table CXLIX.

Figure 74. Average farm receipts per man unit by size of farm, 131 Overton County farms, 1936



Source: Table CL.

Figure 75. Unweighted mean crop index by size of farm, 131 Overton County farms, 1936

a range from 2 to 90.

Fifty-seven per cent of 54 medium size farms had a crop index of 50 or less. Nine per cent had more than 75. Medium farms had an unweighted mean crop index of 50.2, and ranged from 12 to 117.

Fifty-two per cent of 25 medium large farms had a crop index of 50 or less. Twenty per cent had more than 75. They had an average of 53.4 and ranged from 9 to 106.

One-third of 12 large farms had a crop index of 50 or less. One-fourth had more than 75. Large farms had an average of 64.2, and ranged from 27 to 103.

There is a direct correlation between the unweighted mean crop index and the size of farm. Small farms had the lowest average crop index amounting to only 33.8. Large farms had an average crop index of 64.2 which was the highest of all groups. A medium size farm had the highest crop index for a single farm which was 117. A small farm had a crop index of only 2, and was the lowest figure recorded (Table CL, Figure 75).

TABLE CL. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP BY CROP INDEX, WITH MEAN AND RANGE IN INDEX, 131 OVERTON COUNTY FARMS, 1936

Crop Index	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
0 - 25	45.0	9.3	12.0	-
26 - 50	32.5	48.1	40.0	33.3
51 - 75	17.5	33.3	28.0	41.7
76 -100	5.0	7.4	12.0	16.6
101 and over	-	1.9	8.0	8.4
Total	100.0	100.0	100.0	100.0
Unweighted mean index	33.8	50.2	53.4	64.2
Range	2-90	12-117	9-106	27-103

Man Work Units per Man by Size of Farm. Forty-two per cent of 40 small farms had 200 or less man work units per man. Twenty per cent had more than 300. Small farms had an average of 223, and ranged from 119 to 447 man work units per man.

Eighteen per cent of 54 medium size farms had 200 or less man work units per man. Thirty-five per cent had more than 300, and nine per cent had more than 400. They had an average of 263 ranging from 168 to 573.

Forty per cent of 25 medium large farms had not more than 200 man work units per man. Twenty-four per cent had more than 300. Medium large farms had an average of only 208 man work units per man, and ranged from 96 to 499.

TABLE CLI. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP BY MAN WORK UNITS PER MAN, WITH AVERAGE AND RANGE IN EFFICIENCY, 131 OVERTON COUNTY FARMS, 1936

Man Work Units per Man	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
96 - 200	42.5	18.5	40.0	33.3
201 - 300	37.5	46.3	36.0	41.7
301 - 400	12.5	25.9	16.0	16.6
401 - 573	7.5	9.3	8.0	8.4
Total	100.0	100.0	100.0	100.0
Average per man	223	263	208	256
Range	119-447	168-573	96-499	173-421

One-third of 12 large farms had 200 or less man work units per man. One-fourth had more than 300 with only 1 farm having more than 400. Large farms had an average of 256 and ranged from 173 to 421.

On the basis of average man work units per man, medium size farms were

most efficient with an average of 263. Medium large farms were least efficient with an average of 208 man work units per man. A medium size farm was the most efficient single farm with 573. A medium large farm was the least efficient single farm with only 96 man work units per man. Apparently there is no definite correlation between the size of farm and man work units per man in the 1936 records of 131 Overton County farms (Table CLI).

Horse Work Units per Horse by Size of Farm. Forty-six per cent of 35 small farms had 50 or less horse work units per horse. Fourteen per cent had more than 100. Small farms had an average of 58 with a range from 15 to 159.

Nineteen per cent of 52 medium size farms had not more than 50 horse work units per horse. Seventeen per cent had more than 100. They averaged 63 and ranged from 14 to 147.

Twenty-one per cent of 24 medium large farms had 50 or less horse work units per horse. Twenty-five per cent had more than 100. They had an average of 200, and ranged from 20 to 200.

Forty-two per cent of 12 large farms had not more than 50 horse work units per horse. Only 2 farms had more than 100. Large farms had an average of 59 and a range from 31 to 134.

On the basis of average horse work units per horse, medium large farms were most efficient with 78 per horse. The most efficient single farm was a medium large farm with 200 horse work units per horse. Small farms were the least efficient with an average of only 58. With the ex-

ception of large farms[9] there is a direct relation between the size of farm and the average number of horse work units per horse (Table CLII).

TABLE CLII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP BY HORSE WORK UNITS PER HORSE, WITH AVERAGE AND RANGE IN EFFICIENCY, 123[a] OVERTON COUNTY FARMS, 1936

Horse Work Units per Horse	35 Small Farms	52 Medium Farms	24 Medium Large Farms	12 Large Farms
14 - 50	45.7	19.2	20.8	41.7
51 - 100	40.0	63.5	54.2	41.7
101 - 150	11.4	17.3	20.8	16.6
151 - 200	2.9		4.2	
Total	100.0	100.0	100.0	100.0
Average per horse	58	68	78	59
Range	15-159	14-147	20-200	31-134

(a) Only 123 farms used in this table because 8 farms had no work stock November 1, 1936, the closing inventory date.

Relation of Productivity Balance to Size of Farm. Eight per cent of the small farms had a negative balance greater than 6.00. Forty-two per cent had a negative balance greater than 4.00. Forty-eight per cent had a balance from -4.00 to -2.01. Small farms had an unweighted mean productivity balance of -4.32, and ranged from -8.71 to -0.70.

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(9) Large farms may be out of line in this efficiency factor for any one or more of several reasons. They may have a surplus number of work stock. They may have an organization that demands the present number of workstock, but not large enough to use them all efficiently. However the most probable explanation is the fact that large farms had a much larger hay acreage than any other group. Hay on all farms in the county was almost a complete failure in 1936, and greatly reduced the normal number of horse work units because the hay was not harvested.

None of the medium size farms had a positive productivity balance. Only 1 farm had a negative balance greater than 6.00. However 32% had from -6.00 to -4.01, and 48% had a balance of -4.00 to -2.01. Medium farms had an unweighted mean balance of -3.29 and ranged from -6.02 to -0.24.

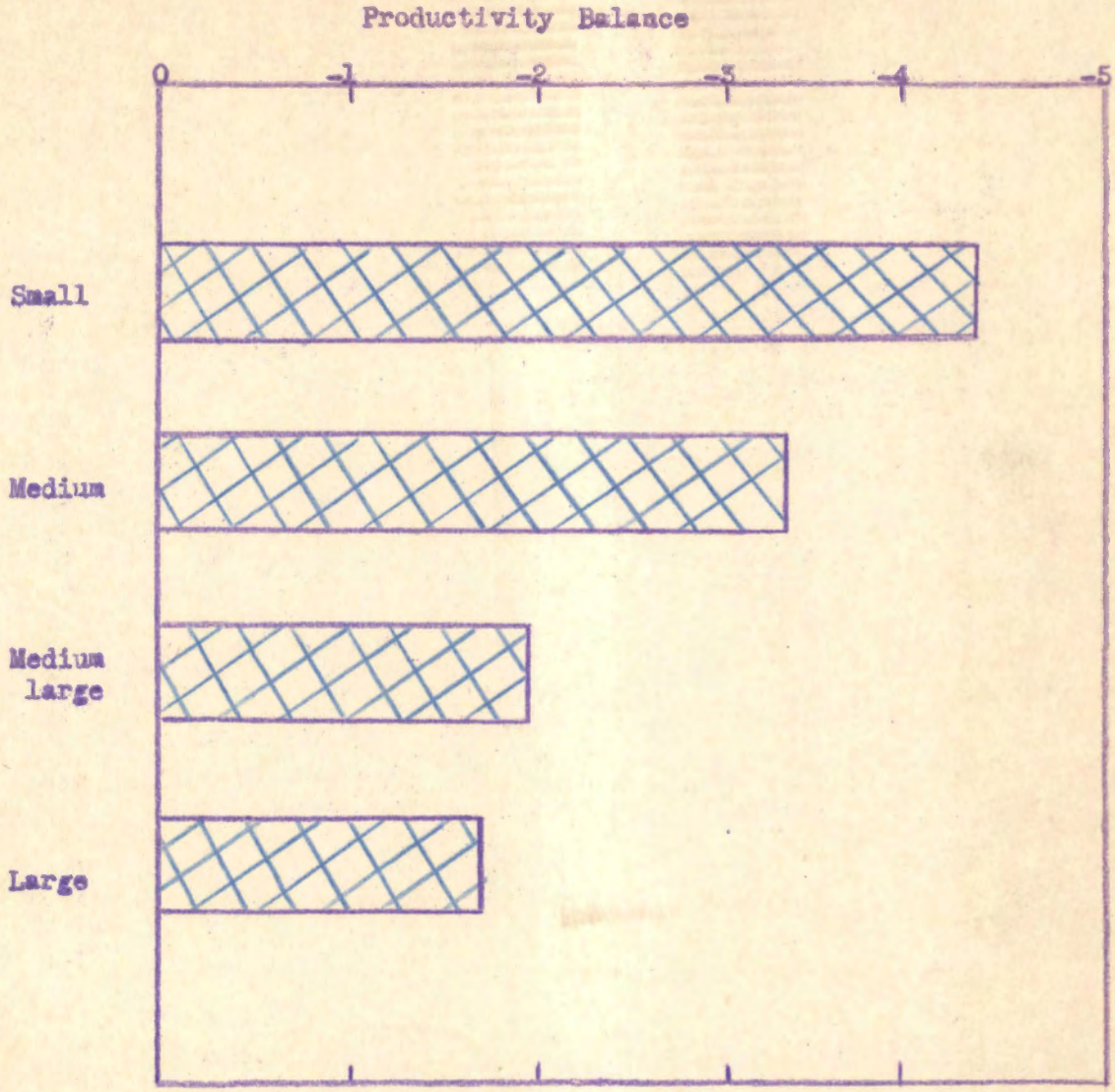
Only 1 medium large farm had a negative balance greater than 6.00. Twenty-eight per cent had a balance of -6.00 to -2.01. Fifty-six per cent had a negative balance of not more than 2.00. Twelve per cent had a positive balance. They had an average of -1.93, and ranged from -7.29 to 6.12.

None of the large farms had a negative balance greater than 6.00. Fifty per cent had a negative balance not greater than 2.00. Seventeen per cent had a positive balance. They had an average of -1.71, and ranged from -5.56 to 1.09.

There is a direct relation between the size of farm and mean efficiency in maintaining the present fertility of the soil. Large farms

TABLE CLXII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH SIZE GROUP BY PRODUCTIVITY BALANCE, WITH MEAN AND RANGE IN BALANCE, 131 OVERTON COUNTY FARMS, 1936

Productivity Balance	40 Small Farms	54 Medium Farms	25 Medium Large Farms	12 Large Farms
-8.71 to -6.01	7.5	1.9	4.0	-
-6.00 to -4.01	35.0	31.5	12.0	16.7
-4.00 to -2.01	47.5	48.1	16.0	16.7
-2.00 to -0.01	10.0	18.5	56.0	50.0
0.00 to 2.00	-	-	8.0	16.6
2.01 to 6.12	-	-	4.0	-
Total	100.0	100.0	100.0	100.0
Unweighted mean balance	-4.32	-3.29	-1.93	-1.71
Range	-8.71 to -0.70	- 6.02 to -0.24	-7.29 to 6.12	-5.56 to 1.09



Source: Table CLIII.

Figure 76. Unweighted mean productivity balance by size of farm, 131 Overton County farms, 1956

were most efficient with a mean negative productivity balance of only 1.71. Small farms were least efficient with a mean negative balance of 4.32. Large farms more nearly approach the maintenance of their present soil fertility probably because they have a much smaller proportion of their total crop acreage in inter-tilled crops, and also because they have considerably larger numbers of livestock which produce manure to help maintain the soil fertility. A medium large farm was the most efficient single farm, and a small farm was least efficient in maintaining the soil fertility (Table CLIII, Figure 76).

Efficiency Factors on 81 Overton County Farms[10] by Tenure Group

Receipts per $100 Total Investment by Tenure. Thirty per cent of all 81 farms had total farm receipts of $5 or less per $100 total investment. Thirty-five per cent had from $6 to $10. Only 11% had more than $15, but three farms had more than $25 farm receipts per $100 invested. They had an average of $9.68 with a range from nothing to $39.96.

Thirty-six per cent of 11 tenant farms had farm receipts of $5 or less per $100 invested. Eighteen per cent had more than $15. Tenant farms had an average of $10.51 and ranged from $3.18 to $20.24.

Sixty-four per cent of all farms, but only 45% of the tenant farms had $10 or less farm receipts per $100 total investment. Eleven per cent

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(10) Eighty-one farms were located on Decatur loam and Clarksville silt loam soils combined. The tenure study is limited to these two soil types because they contain all but 3 normal tenants in the survey. By limiting the study to the 2 soil types, a wide variation in the farming systems of 4 other soil types is eliminated with the loss of only 3 tenant farms. This study is a comparison of 11 tenant farms with all 81 farms including tenant farms on Decatur loam and Clarksville silt loam soils.

of all farms, but 18% of the tenant farms had more than $15. However, none of the 5 most efficient farms in this respect were tenant farms. But tenant farms had average receipts of $10.51 to compare with $9.68 for all farms (Table CLIV).

TABLE CLIV. PERCENTAGE DISTRIBUTION OF 81 FARMS IN EACH TENURE GROUP BY RECEIPTS PER $100 TOTAL INVESTMENT, WITH AVERAGE AND RANGE IN RECEIPTS, 81 OVERTON COUNTY FARMS, 1936

Receipts	All 81 Farms	11 Tenant Farms
$ 0 - 5	29.6	36.4
6 - 10	34.6	9.0
11 - 15	24.7	36.4
16 - 20	4.9	18.2
21 - 25	2.5	
26 - 40	3.7	
Total	100.0	100.0
Average receipts	$9.68	$10.51
Range	0 - $39.96	$3.18 - $20.24

Receipts per Man Work Unit by Tenure. Thirty-two per cent of all farms, and 27% of the tenant farms had farm receipts of $1.00 or less per man work unit. Thirty-six per cent of all farms but only 18% of the tenant farms had receipts of more than $1.50 per man work unit. Twelve per cent of all farms but none of the tenant farms had more than $3.00.

All farms had an average of $1.63, and ranged from nothing to $5.85 receipts per man work unit. Tenant farms had an average of only $1.31, and ranged from $0.71 to $2.12 (Table CLV).

TABLE CLV. PERCENTAGE DISTRIBUTION OF FARMS IN EACH TENURE GROUP BY RECEIPTS PER MAN WORK UNIT, WITH AVERAGE AND RANGE IN RECEIPTS, 81 OVERTON COUNTY FARMS, 1936

Receipts	All 81 Farms	11 Tenant Farms
$0.00 - 0.50	8.6	-
0.51 - 1.00	23.4	27.3
1.01 - 1.50	32.1	54.5
1.51 - 2.00	12.4	9.1
2.01 - 3.00	11.1	9.1
3.01 - 5.85	12.4	
Total	100.0	100.0
Average receipts	$1.63	$1.31
Range	0-$5.85	$0.71-2.12

Relation of Crop Index to Tenure. Ten per cent of all farms, and 9% of the tenant farms had a crop index of 25 or less. Fifty-six per cent of

TABLE CLVI. PERCENTAGE DISTRIBUTION OF FARMS IN EACH TENURE GROUP BY CROP INDEX, WITH MEAN AND RANGE IN INDEX, 81 OVERTON COUNTY FARMS, 1936

Crop Index	All 81 Farms	11 Tenant Farms
11 - 25	9.9	9.1
26 - 50	45.7	72.7
51 - 75	29.6	18.2
76 - 100	9.9	-
101 - 117	4.9	-
Total	100.0	100.0
Unweighted mean index	52.8	41.3
Range	11.2-117.0	22.5-63.8

all farms, but 32% of the tenant farms had a crop index of 50 or less. Fifteen per cent of all farms, but none of the tenant farms had a crop index of more than 75.

All farms had an unweighted mean crop index of 52.8 with a range from 11.2 to 117.0. Tenant farms had an average index of 41.3 with a range from 22.5 to 63.8 (Table CLVI).

Man Work Units per Man by Tenure. Twenty-three per cent of all farms had 200 or less man work units per man. Thirty-two per cent of all farms, but 45% of the tenant farms had more than 300 man work units per man. However, ten per cent of all farms, but none of the tenants farms had more than 400.

All farms had an average of 248 with a range from 108 to 573. Tenant farms averaged 269 and ranged from 196 to 378 (Table CLVII).

TABLE CLVII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH TENURE GROUP BY MAN WORK UNITS PER MAN, WITH AVERAGE AND RANGE IN EFFICIENTY, 81 OVERTON COUNTY FARMS, 1936

Man Work Units per Man	All 81 Farms	11 Tenant Farms
108 - 200	23.4	9.2
201 - 300	44.4	45.4
301 - 400	22.2	45.4
401 - 573	10.0	
Total	100.0	100.0
Average per man	248	269
Range	108-573	196-378

Horse Work Units per Horse by Tenure Groups. Twenty-seven per cent of all farms, and the same proportion of 11 tenant farms had 50 or less

horse work units per horse. Twenty per cent of all farms, and 27% of the tenant farms had more than 100 horse work units per horse. Only 1 farm had more than 150.

All farms had an average of 66 with a range from 14 to 200. Tenant farms had an average of 64 with a range from 21 to 144. With the exception of 1 farm that was comparatively very efficient in the use of horse labor, there was practically no difference in the efficiency in use of horse labor for the two groups (Table CLVIII).

TABLE CLVIII. PERCENTAGE DISTRIBUTION OF FARMS IN EACH TENURE GROUP BY HORSE WORK UNITS PER HORSE, WITH MEAN AND RANGE IN EFFICIENCY, 77[a] OVERTON COUNTY FARMS, 1936

Horse Work Units per Horse	77 Farms	11 Tenant Farms
14 - 50	27.3	27.3
51 - 100	53.2	45.4
101 - 150	18.2	27.3
151 - 200	1.3	-
Total	100.0	100.0
Average per horse	66	64
Range	14-200	21-144

(a) Only 77 farms used because 4 of 81 had no workstock at ending inventory.

Relation of Productivity Balance to Tenure. Twenty-seven per cent of all farms, but 54% of the tenant farms had a negative productivity balance greater than 4.00. Thirty-eight per cent of all farms, and 27% of the tenant farms had a balance from -4.00 to -2.01. Five per cent of all farms, but none of the tenant farms had a positive productivity balance.

All farms had an unweighted mean productivity balance of -2.88 with a

range from -8.45 to 6.12. Tenant farms had an unweighted mean balance of -3.81 with a range from -6.02 to -0.80. Thus the soil fertility or productivity was being depleted at a much more rapid rate on tenant farms than on the average of all farms (Table CLIX).

TABLE CLIX. PERCENTAGE DISTRIBUTION OF FARMS IN EACH TENURE GROUP BY PRODUCTIVITY BALANCE, WITH MEAN AND RANGE IN BALANCE, 81 OVERTON COUNTY FARMS, 1936

Productivity Balance	All 81 Farms	11 Tenant Farms
- 8.45 to - 6.01	4.9	9.1
- 6.00 to - 4.01	22.3	45.4
- 4.00 to - 2.01	38.3	27.3
- 2.00 to - 0.01	29.6	18.2
0.00 to 2.00	3.7	-
2.01 to 6.12	1.2	-
Total	100.0	100.0
Unweighted mean balance	-2.88	-3.81
Range	-8.45 to 6.12	- 6.02 to - 0.80

Summary of Select Efficiency Factors on 131 Overton County Farms.

In a study of most of the farms, or in noting the average of all farms in the survey, the farms were very low in efficiency. However a study of the 1936 business does not represent normal conditions, because efficiency of the farms was reduced by the drought.

When the farms are grouped by soil types, farms on Decatur loam soil were most efficient in 4 of 6 measures. Farms on Clarksville silt loam soil were second most efficient by three measures, and were most efficient in man work units per man. DeKalb sandy and DeKalb stony farms were least efficient in most of the 6 measures.

When the farms are grouped by Land Classes, those on Class II land were most efficient in 4 of 6 measures. Farms on Class III land were second most efficient in 4 of 6 measures, were third most efficient in

TABLE CLX. SUMMARY OF SELECT EFFICIENCY FACTORS, WITH AVERAGE PER FARM BY DIFFERENT GROUPINGS, 131 OVERTON COUNTY FARMS, 1936

Farm Group	Receipts per $100 Total Investment	Receipts per Man Work Unit	Crop Index (% of 5-year State Average)	Man Work Units per Man	Horse Work Units per Horse	Productivity Balance
All farms	$ 9.21	$ 1.35	47	238	66	- 3.20
Soil type:						
Decatur loam	11.48	1.90	54.0	244	72	- 1.46
Clarksville silt	9.24	1.56	52.5	250	64	- 3.23
Clarksville stony	10.57	1.16	46.9	249	64	- 3.90
DeKalb silt	6.66	0.94	38.5	205	80	- 3.32
DeKalb sandy	8.71	0.64	24.3	189	51	- 4.01
DeKalb stony	6.47	0.36	38.8	202	56	- 3.61
Land Class						
Class II	9.56	2.28	60.9	256	75	- 0.89
Class III	10.05	1.70	57.0	240	68	- 2.53
Class IV	8.26	1.06	41.2	238	65	- 4.09
Class VI	10.05	0.92	25.3	270	59	- 5.69
Class VII	8.64	0.71	35.0	203	60	- 3.66
Size of Farm						
Small	7.51	0.75	33.8	223	58	- 4.32
Medium	9.73	1.39	50.2	263	68	- 3.29
Medium large	9.38	1.58	53.4	208	78	- 1.93
Large	12.21	2.52	64.2	256	59	- 1.71
Tenure						
81 farms	9.68	1.63	52.8	248	66	- 2.88
11 tenant farms	10.51	1.31	41.3	269	64	- 3.81

in 4 of 6 measures. Medium large farms were most efficient in horse work units per horse, and were second most efficient in three other measures. Small farms were least efficient in 5 of 6 measures.

In comparing efficiency of farms in the 2 tenure groups, tenant farms had more receipts per $100 total investment, but were less efficient by 4 other measures. Tenant farms were considerably less efficient than the average of all farms in their crop index and in maintaining the present fertility of their soils (Table CLX).

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CHAPTER V

RELATION OF CERTAIN FACTORS TO ADJUSTED FARM EARNINGS[1]

In studying the relation of certain factors to income or earnings, "adjusted farm earnings" were selected as a measure of the returns from the farm business. Farm earnings were selected instead of farm income, because the farms are located in a self-sufficing type of farming area, and the major proportion of the farm business on many of the farms is devoted to furnishing items for direct use by the family.

"Farm earnings" were selected instead of labor earnings because of the effects of the abnormal season. As previously discussed larger farms had larger investments. Larger farms had proportionately much more expense for labor that remained nearly the same even though the drought occurred. They had a much higher proportion of their total crop acreage in hay, and hay was the principal crop in accounting the acreage of complete crop failure, thus penalizing larger farms proportionately heavier (Chapter III). It is believed that the weighted effect of these factors

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(1) Adjusted farm earnings include the farm income the farm income plus the value of items for family living furnished by the farm, plus the estimated annual increment in the value of woodland, plus or minus the net change in the value of the land as affected by the productivity balance, which is determined from natural characteristics and the organizational set-up of the farm (see Appendix A for explanation and calculation.)

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during the dry season of 1936 have a tendency to penalize larger farms in somewhat the same manner as would subtracting interest on investment in a normal season. Hence in studying the relation of certain factors to returns, it is possible that farms tend to group themselves under the measure of "farm earnings" for the 1936 season as they would under labor earnings in a normal season.

"Farm earnings" were adjusted for each farm to account for annual timber increment, and the effect on the value of the land as determined from the productivity balance. The summary of the farm business should consider the annual timber increment even though no timber is sold during the particular year. In measuring the success of the year's farm business, the increase or decrease in value of farm land due to the productivity balance should be considered. This will give credit for soil building practices and penalize the farm organization that is undermining the soil fertility. With these adjustments for individual farms applied to their respective farm earnings, the measure of "adjusted farm earnings" is obtained, to which certain factors are related.

Relation of Soil Types to Adjusted Farm Earnings. Sixteen Decatur loam farms had a range in adjusted farm earnings from -$141 to $1301, and had the highest average with $352 per farm. Sixty-five Clarksville silt loam farms had a range in adjusted farm earnings from -$107 to $1244, and had the second highest average with $253 per farm. Seventeen Clarksville stony farms had the next highest average of $249 with a range from $55 to $557. Sixteen DeKalb silt farms had the next highest average with $128 and a range from -$286 to $570. Twelve DeKalb sandy farms had the second lowest average of $84, and ranged from -$49 to $145. Five DeKalb stony

stony farms had the lowest average amounting to only $49 with a range from -$65 to $340 (Table CLXI, Figure 77).

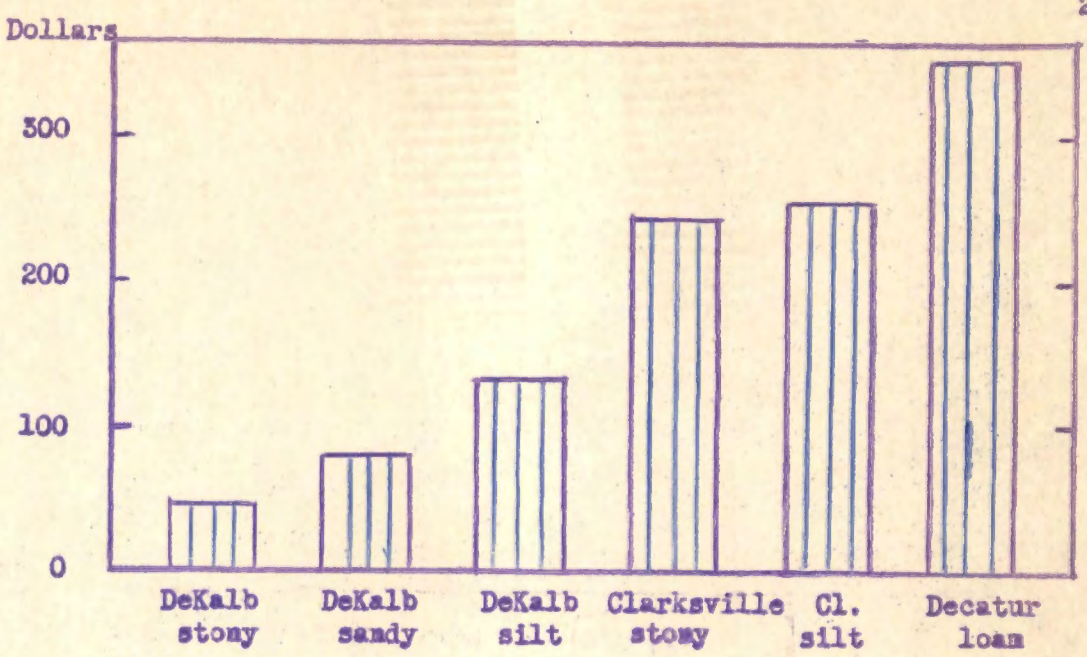
TABLE CLXI. RELATION OF SOIL TYPES TO ADJUSTED FARM EARNINGS, 131 OVERTON COUNTY FARMS, 1936

Soil Type	Number Farms	Adjusted Farm Earnings	
		Range	Average per Farm
Decatur loam	16	-$141 to $1301	$352
Clarksville silt	65	-$107 to $1244	253
Clarksville stony	17	$ 55 to $557	249
DeKalb silt	16	-$286 to $570	128
DeKalb sandy	12	-$ 49 to $145	84
DeKalb stony	5	-$ 65 to $340	49

Relation of Land Classes to Adjusted Farm Earnings. When farms on Land Classes II and III are combined, there are 62 farms in the group with an average of $314 adjusted farm earnings. They had a range in earnings from -$141 to $1301. Thirty-nine farms on Class IV land had a range in adjusted farm earnings from -$286 to $563 with an average of $164. There are 30 farms on Land Classes VI and VII combined, with a range in adjusted farm earnings from -$68 to $557 and an average of $125 (Table CLXII, Figure 78).

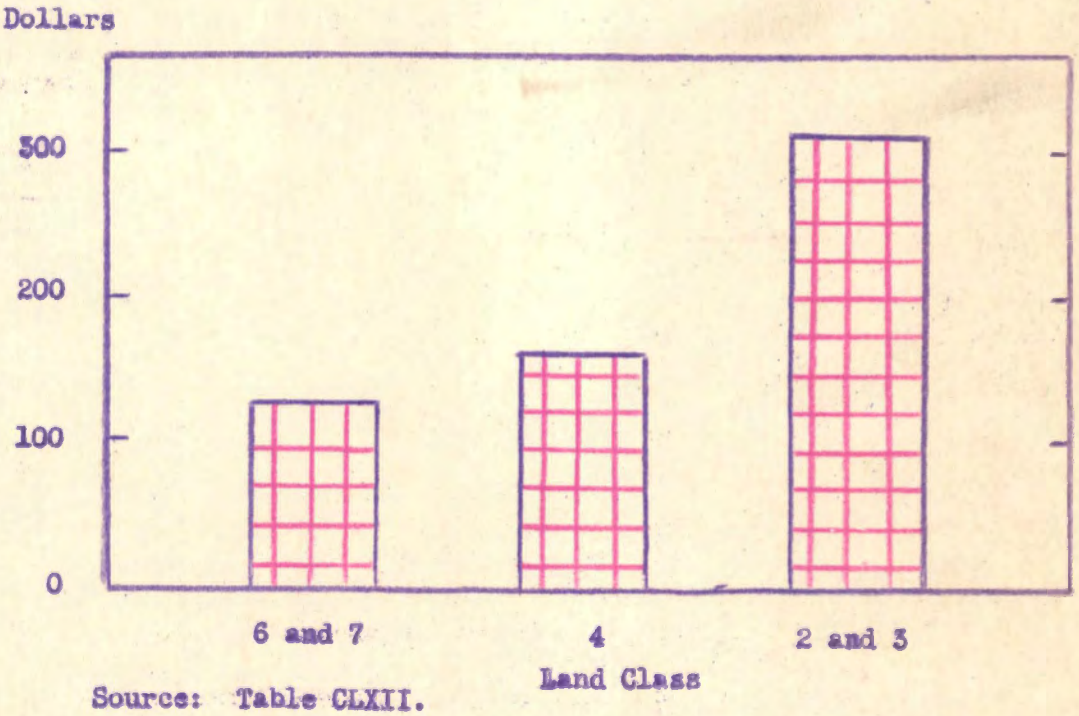
TABLE CLXII. RELATION OF LAND CLASSES TO ADJUSTED FARM EARNINGS, 131 OVERTON COUNTY FARMS, 1936

Land Class	Number Farms	Adjusted Farm Earnings	
		Range	Average per Farm
2 and 3 combined	62	-$141 to 1301	$314
4	39	-$286 to 563	164
6 and 7 combined	30	-$ 68 to 557	125



Source: Table CLXI.

Figure 77. Relation of soil types to average adjusted farm earnings, 151 Overton County farms, 1936



Source: Table CLXII.

Figure 78. Relation of land classes to average adjusted farm earnings, 151 Overton County farms, 1936

Relation of Total Acres in the Farm to Adjusted Farm Earnings.

Twenty-one farms had a total farm acreage from 3 to 39 with an average of 23 acres per farm. They had a range in adjusted farm earnings from -$65 to $340 with an average of $95.

Thirty-two farms had from 40 to 69 acres in the farm with an average of 57 acres per farm. These farms ranged from -$141 to $563 in adjusted farm earnings with an average of $188.

Thirty-five farms had from 70 to 99 acres with an average of 82. They had a range in adjusted farm earnings from -$137 to $1244 with an average of $216.

Nineteen farms had from 100 to 129 total acres with an average of 112. They had a range in adjusted farm earnings from nothing to $690 with an average of $238.

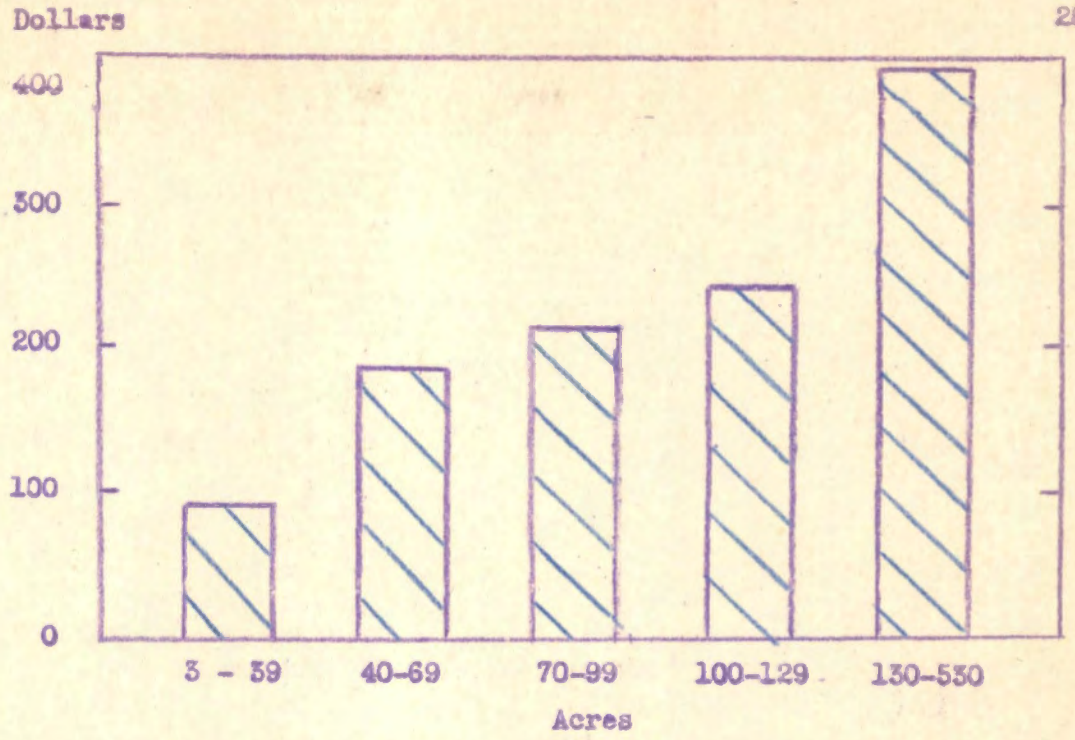
Twenty-four farms had from 130 to 530 acres with an average of 214. They had a range in adjusted farm earnings from -$286 to $1301 with an average of $397.

As the size of farm increased, when measured by total acreage, the range in adjusted farm earnings became much greater in all but one of the size groups. The average adjusted farm earnings increased with each larger size group of farms (Table CLXIII, Figure 79).

TABLE CLXIII. RELATION OF TOTAL ACRES IN THE FARM TO ADJUSTED FARM EARNINGS, 131 OVERTON COUNTY FARMS, 1936

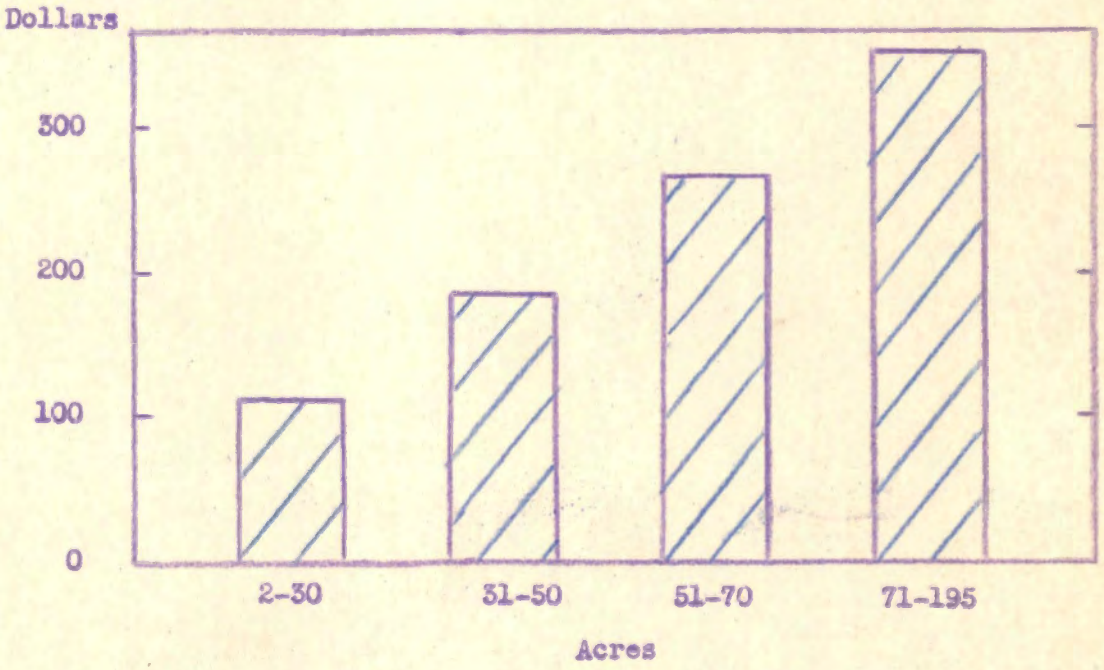
Total Acres	Number Farms	Average Acres per Farm	Adjusted Farm Earnings	
			Range	Ave.per Farm
3 - 39	21	22.7	-$65 to $340	$95
40 - 69	32	57.2	-141 to 563	188
70 - 99	35	82.3	-137 to 1244	216
100 - 129	19	111.9	-(a) to 690	238
130 - 530	24	214.1	-286 to 1301	397

(a) Negative earning less than $0.50.



Source: Table CLXIII.

Figure 79. Relation of the number of acres in the farm to average adjusted farm earnings, 151 Overton County farms, 1956



Source: Table CLXIV.

Figure 80. Relation of number of improved acres in the farm to average adjusted farm earnings, 151 Overton County farms, 1956

Relation of Improved Acreage to Adjusted Farm Earnings. Thirty-five farms had from 2 to 30 with an average of 19 acres of improved land per farm. They had a range from -$65 to $340 with an average of $114 adjusted farm earnings per farm.

Thirty-three farms had from 31 to 50 with an average of 40 acres improved land per farm. The farms ranged from -$141 to $636 in adjusted farm earnings with an average of $185.

Thirty-two farms having from 51 to 70 averaged 60 acres improved land per farm. They had a range from -$7 to $1244 and averaged $264 adjusted farm earnings per farm.

TABLE CLXIV. RELATION OF NUMBER OF IMPROVED ACRES TO ADJUSTED FARM EARNINGS, 131 OVERTON COUNTY FARMS, 1936

Acres Improved Land	Number Farms	Ave.No. Acres	Adjusted Farm Earnings	
			Range	Ave.per Farm
2 - 30	35	18.9	-$65 to $340	$114
31 - 50	33	40.2	-141 to 636	185
51 - 70	32	60.2	- 7 to 1244	264
71 - 195	31	106.1	-286 to 1301	356

As the size of farm increased the range in adjusted farm earnings also increased, with both the lower limit being lowered and the upper limit being raised. The average earnings increased with each larger sized group of farms, rising from $114 on farms having 30 acres or less improved land to $356 on farms having more than 70 acres cleared land (Table CLXIV, Figure 80).

Relation of Total Investment to Adjusted Farm Earnings. Forty-three farms had a total investment from $213 to $1500 with an average of $862 per farm. They had a range from -$68 to $340 and averaged $112 adjusted farm earnings per farm.

Forty-four farms had an investment from $1501 to $3000 with an average of $2150. They had a range in adjusted farm earnings from -$286 to $1244 and averaged $214.

Twenty-two farms had a total investment from $3001 to $4500 with an average of $3687. They had a range in adjusted farm earnings from $-141 to $690 and averaged $260.

Seven farms had an investment of $4501 to $6000 with an average of $5344. They had a range in adjusted farm earnings from nothing to $693 and averaged $309 per farm.

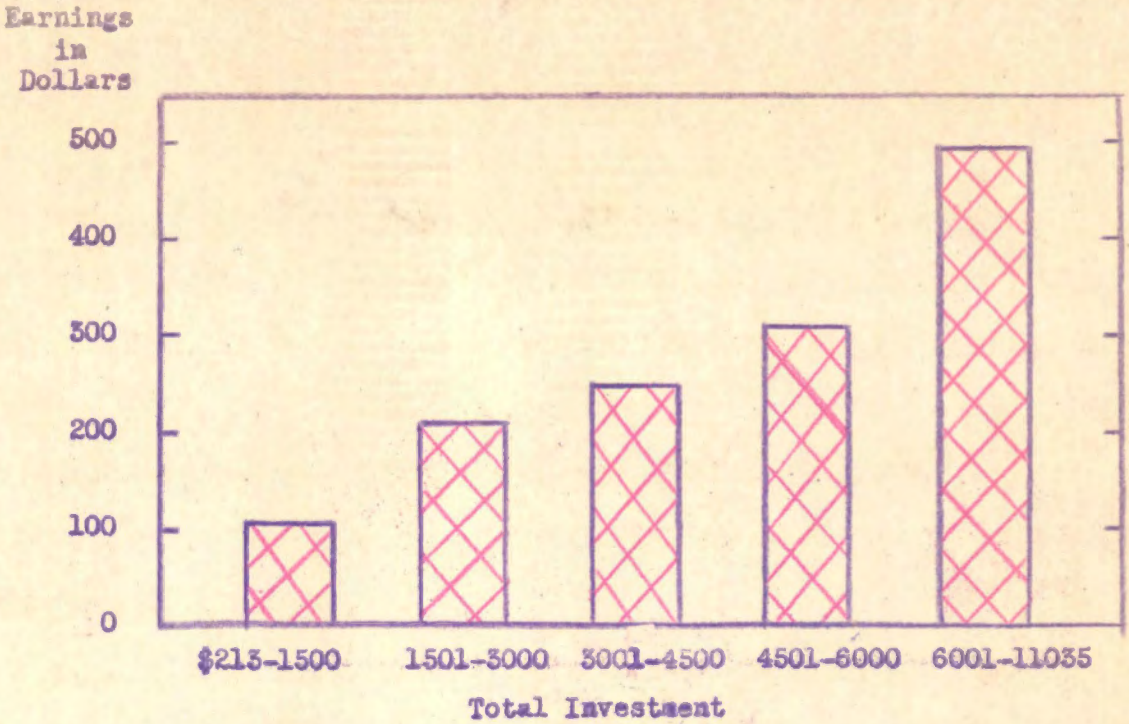
Fifteen farms had a total investment from $6001 to $11,035 with an average of $7758. They had a range in adjusted farm earnings from -$107 to $1301 with an average of $493 per farm.

The average adjusted farm earnings increased with each larger sized investment group. It increased from $112 for farms having $1,500 or less total investment to $493 on farms having more than $6000 invested (Table CLXV, Figure 81).

TABLE CLXV. RELATION OF TOTAL INVESTMENT IN THE FARM BUSINESS TO ADJUSTED FARM EARNINGS, 131 OVERTON COUNTY FARMS, 1936

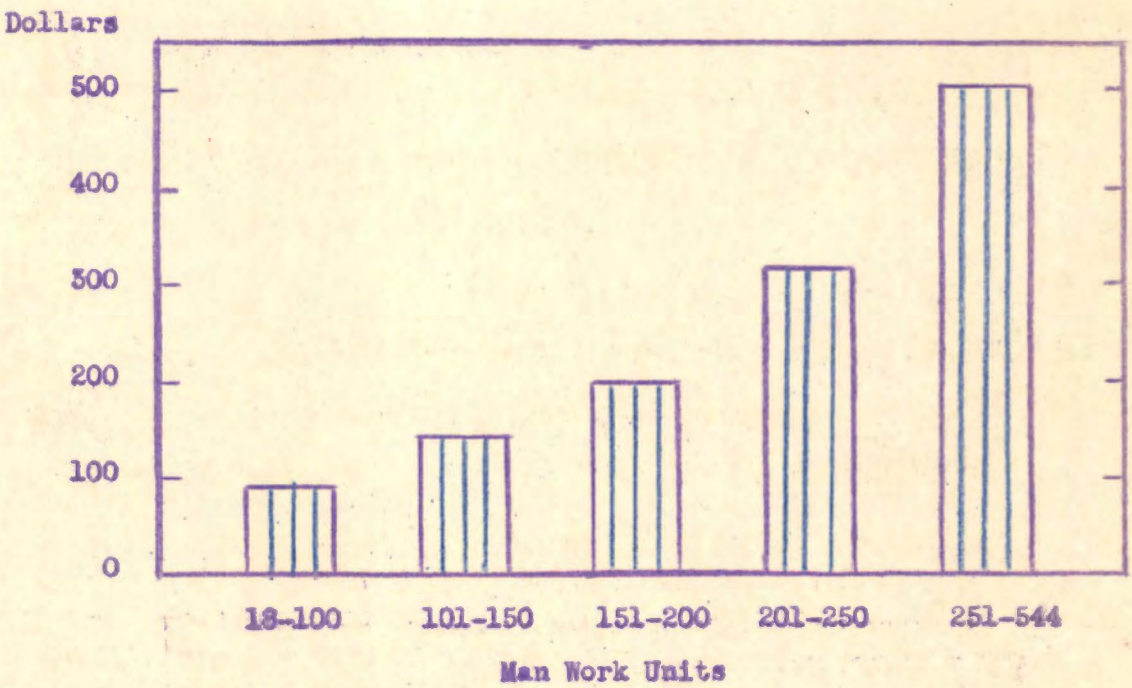
Total Investment Class	Number Farms	Ave. Inv. per Farm	Adjusted Farm Earnings	
			Range	Ave.per Farm
$213 - 1500	43	862	-$68 to $340	$112
1501 - 3000	44	2150	-286 to 1244	214
3001 - 4500	22	3687	-141 to 690	260
4501 - 6000	7	5344	-(a) to 693	309
6001 -11035	15	7758	-107 to 1301	493

(a) Negative earnings less than $0.50.



Source: Table CLXV.

Figure 81. Relation of amount of investment in the farm to average adjusted farm earnings, 131 Overton County farms, 1936



Source: Table CLXVI.

Figure 82. Relation of number of man work units per farm to average adjusted farm earnings, 131 Overton County farms, 1936

Relation of Man Work Units to Adjusted Farm Earnings. Twenty-seven farms had 100 or less man work units with an average of 68 per farm. The farms had a range from -$68 to $267 with an average of $93 adjusted farm earnings.

Thirty-four farms had from 101 to 150 man work units with an average of 130. They had a range in adjusted farm earnings from -$286 to $693 with an average of $148.

Thirty-three farms had from 151 to 200 and averaged 171 man work units per farm. They had a range from -$141 to $490 with an average of $202 adjusted farm earnings.

Eighteen farms had from 201 to 250 with an average of 221 man work units. They had a range in adjusted farm earnings from -$107 to $690 with an average of $321.

Nineteen farms had from 251 to 544 man work units, and had an average of 336 per farm. They had a range in adjusted farm earnings from $14 to $1301 with an average of $505.

TABLE CLXVI. RELATION OF NUMBER OF MAN WORK UNITS PER FARM TO ADJUSTED FARM EARNINGS, 131 OVERTON COUNTY FARMS, 1936

Man Work Units per Farm	Number Farms	Ave.MWU per Farm	Adjusted Farm Earnings	
			Range	Ave.per Farm
18 - 100	27	68	-$68 to $267	$93
101 - 150	34	130	-286 to 693	148
151 - 200	33	171	-141 to 490	202
201 - 250	18	221	-107 to 690	321
251 - 544	19	336	14 to 1301	505

There is a direct relation between the number of man work units and the adjusted farm earnings. The average earnings increased with each larger group of man work units per farm. It increased from $93 on farms having

100 or less man work units to $505 on farms having more than 250 man work units (Table CLXVI, Figure 82).

Relation of Harvested Crop Acreage to Adjusted Farm Earnings. Nineteen farms had 10 or less with an average of 6 acres of harvested crops per farm. They had a range in adjusted farm earnings from -$65 to $267 with an average of $89 per farm.

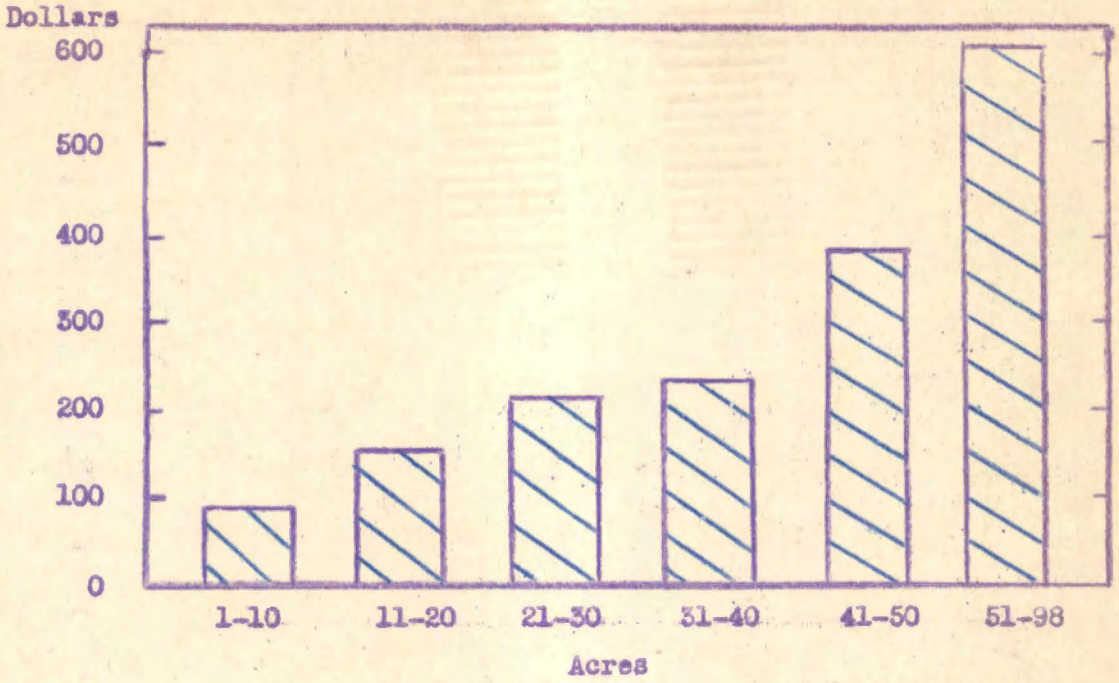
Thirty-five farms had from 11 to 20 acres with an average of 15 acres in harvested crops per farm. They had a range from -$98 to $693 with an average of $150 adjusted farm earnings per farm.

TABLE CLXVII. RELATION OF NUMBER OF ACRES OF CROPS HARVESTED TO ADJUSTED FARM EARNINGS, 131 OVERTON COUNTY FARMS, 1936

Acres in Harvested Crops	Number Farms	Ave. No. Acres Harvested	Adjusted Farm Earnings	
			Range	Ave.per Farm
1 - 10	19	6.2	-$65 to $267	$89
11 - 20	35	15.4	- 98 to 693	150
21 - 30	39	25.0	-286 to 690	212
31 - 40	16	33.6	-137 to 563	244
41 - 50	12	44.8	9 to 1244	373
51 - 98	10	70.6	143 to 1301	604

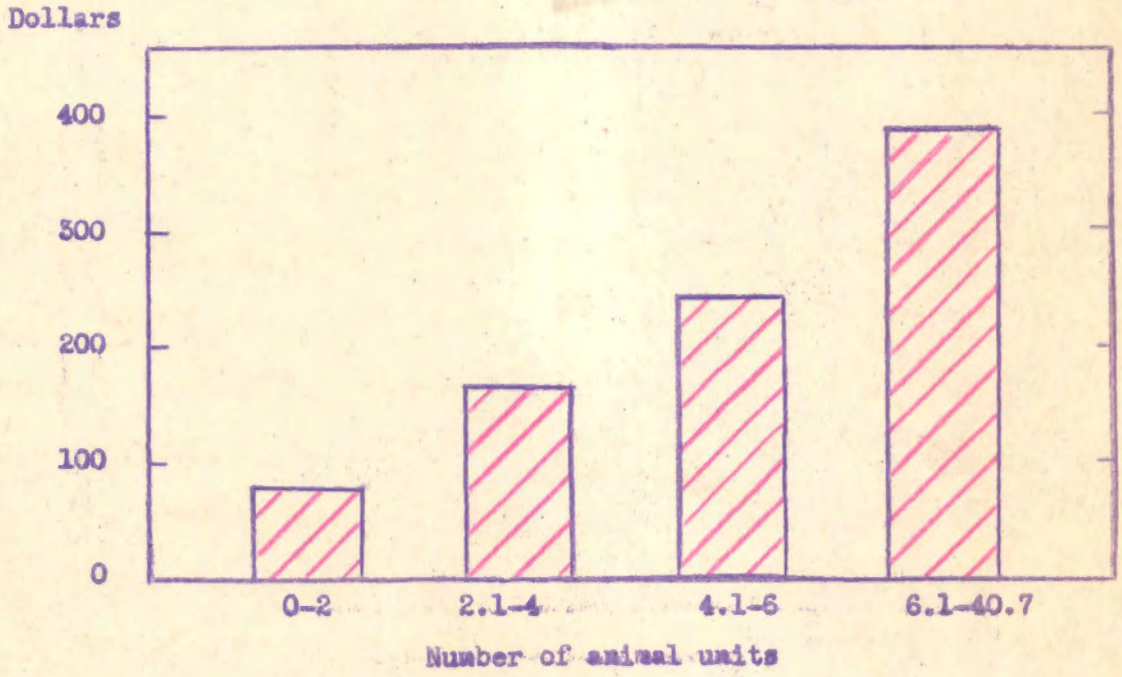
Thirty-eight farms had more than 30 acres of crops harvested per farm. When these farms are divided into 3 groups, as outlined in Table CLXVII, the average adjusted farm earnings increased in each group having a larger acreage of crops harvested.

There is a direct relation between the acreage of crops harvested and the average adjusted farm earnings. The earnings increased from $89 on farms having 10 or less acres of crops harvested to $604 on farms having



Source: Table CLXVII.

Figure 83. Relation of number of acres of crops harvested to average adjusted farm earnings, 151 Overton County farms, 1936



Source: Unpublished data from survey records.

Figure 84. Relation of number of productive animal units on the farm to average adjusted farm earnings, 151 Overton County farms, 1936

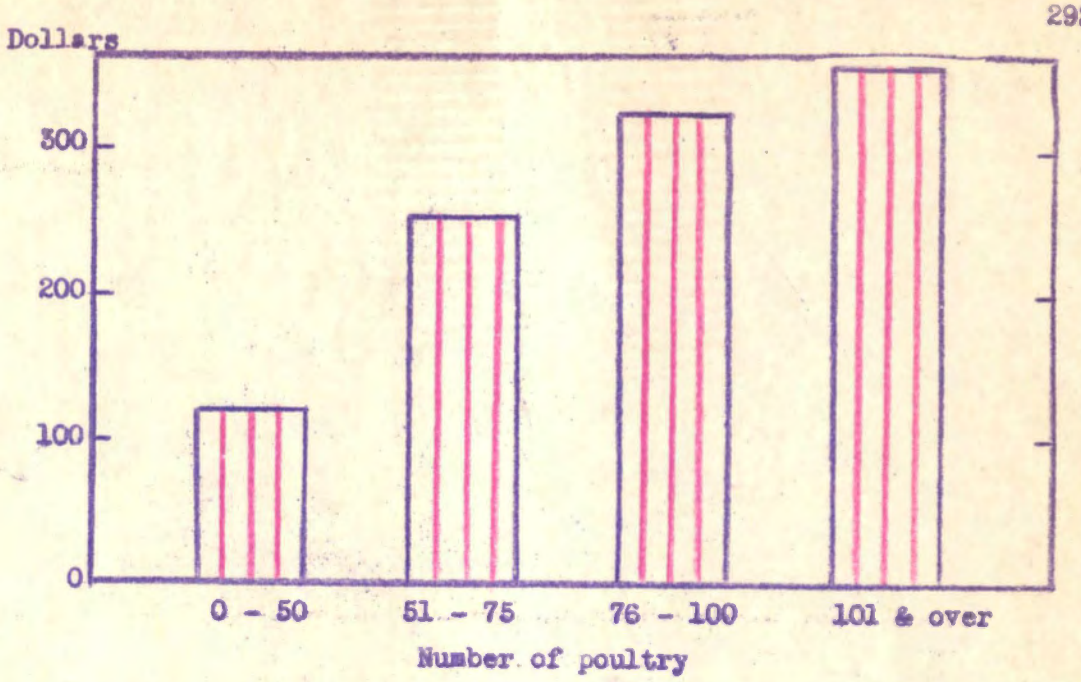
more than 50 acres (Table CLXVII, Figure 83).

Relation of Productive Livestock to Adjusted Farm Earnings. When the farms are grouped by the number of productive animal units per farm in the following classes: 0 to 2, 2.1 to 4, 4.1 to 6, and more than 6, there is a direct relation between the number of productive livestock and the average adjusted farm earnings. The average earnings increased from $79 to $394 per farm (Figure 84). The number of farms in each group was 27, 41, 28, and 35 respectively.

Relation of Size of Poultry Flock to Adjusted Farm Earnings. When the farms are grouped by the number of poultry in the farm flock in following classes: 0 to 50, 51 to 75, 76 to 100, and more than 100, there are 63, 30, 23, and 15 farms respectively in each group. There is a direct relation between the number of poultry in the farm flock and the average adjusted farm earnings. The average earnings increased from $127 to $368 (Figure 85).

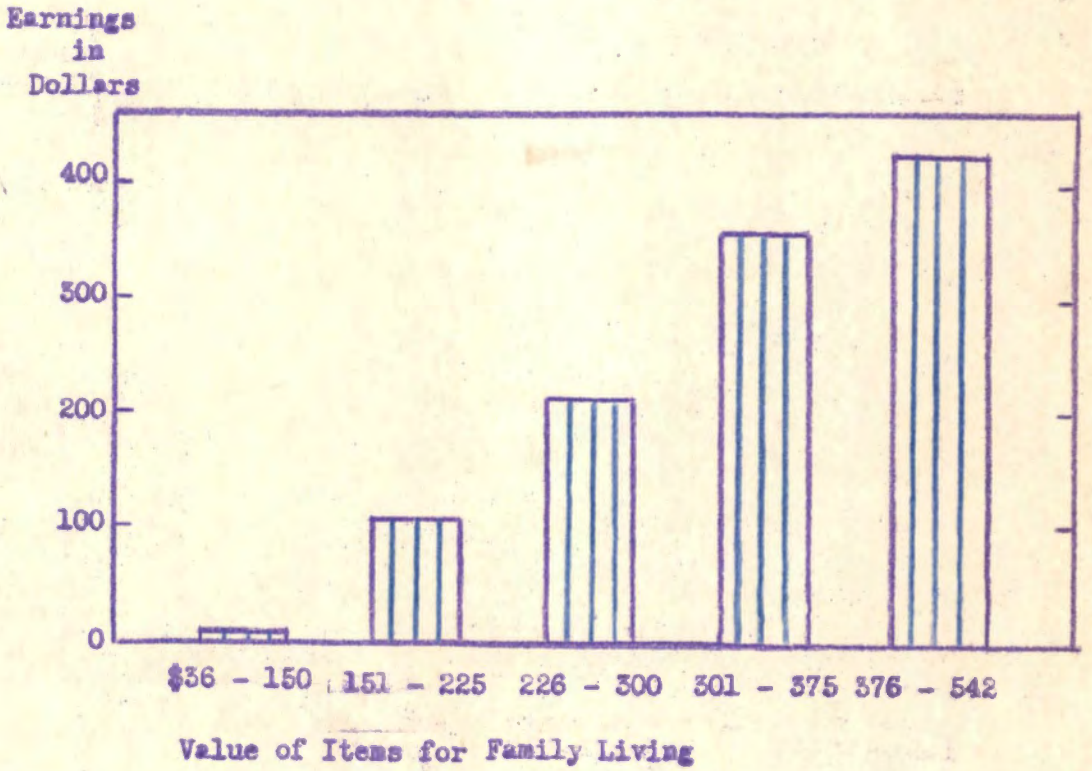
Relation of Value of Family Living Furnished by Farm to Adjusted Farm Earnings. When the farms are grouped by the value of items for family living furnished by the farm, there are 17, 30, 36, 27 and 21 farms respectively in the following groups: $36 to $150, $151 to $225, $226 to $300, $301 to $375, and $376 to $542. There is a direct relation between the value of the items furnished for family living and average adjusted farm earnings. The average earnings increased from $11 to $426 (Figure 86).

Relation of Farm Receipts per Man Work Unit to Adjusted Farm Earnings. When the farms are grouped on the basis of farm receipts per man work unit into the following classes: $0.00 to $0.50, $0.51 to $1.00, $1.01 to $1.50, $1.51 to $2.00, and $2.01 to $5.85, there are 27, 33, 30, 19, and 22 farms in the respective groups. There is a direct relation between the



Source: Unpublished data from survey records.

Figure 85. Relation of number of poultry on the farm to average adjusted farm earnings, 131 Overton County farms, 1936



Source: Unpublished data from survey records.

Figure 86. Relation of value of items for family living furnished by the farm to average adjusted farm earnings, 131 Overton County farms, 1936

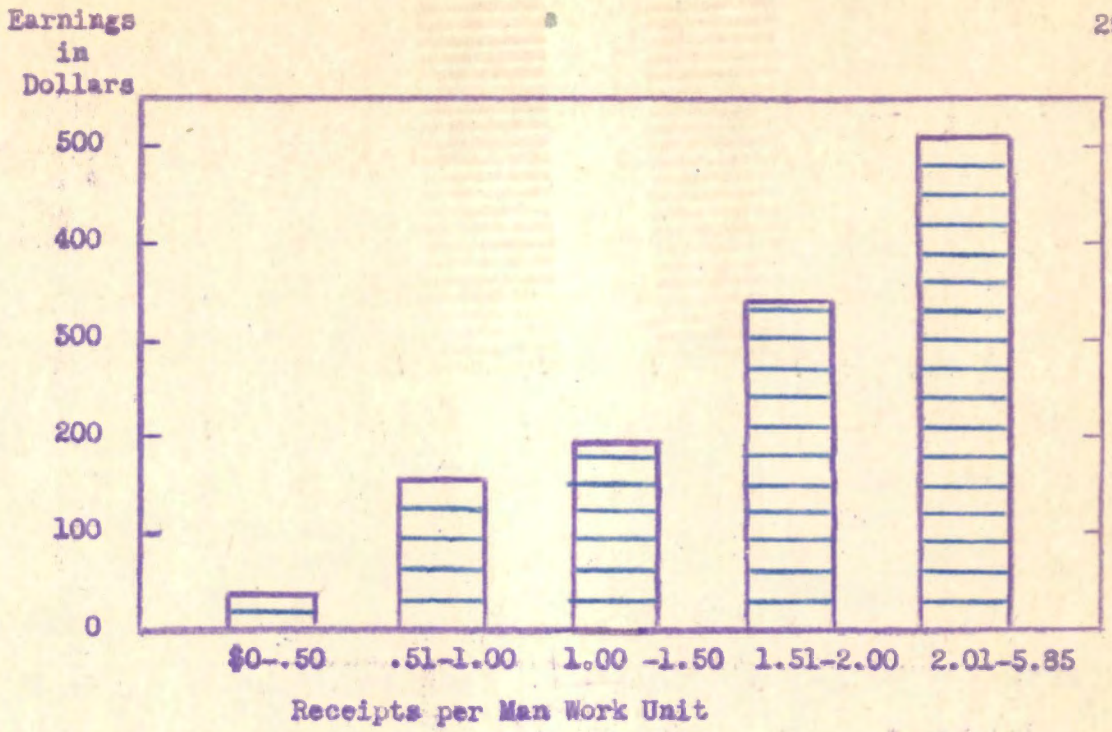
farm receipts per man work unit and the average adjusted farm earnings. The average earnings increased from $35 to $517 (Figure 87).

Relation of Farm Receipts per $1 Expense to Adjusted Farm Earnings. When the farms are grouped on the basis of farm receipts per $1 expense into the following classes: $0.00 to $0.30, $0.31 to $0.60, $0.61 to $0.90, $0.91 to $1.20, and $1.20 to $5.48, there are 28, 28, 25, 26, and 24 farms in the respective groups. There is a direct relation between the receipts per $1 expense and the average adjusted farm earnings. The average earnings increased from $12 to $566 (Figure 88).

Relation of Livestock Receipts per Productive Unit to Adjusted Farm Earnings. When farms are grouped by livestock receipts per productive unit into the following classes: $0 to $10, $11 to $20, $21 to $30, and $31 to $113, there are 35, 30, 27, and 39 farms in the respective groups. There is a direct relation between the livestock receipts per productive unit and the average adjusted farm earnings. The average earnings increased from $86 to $359 (Figure 89).

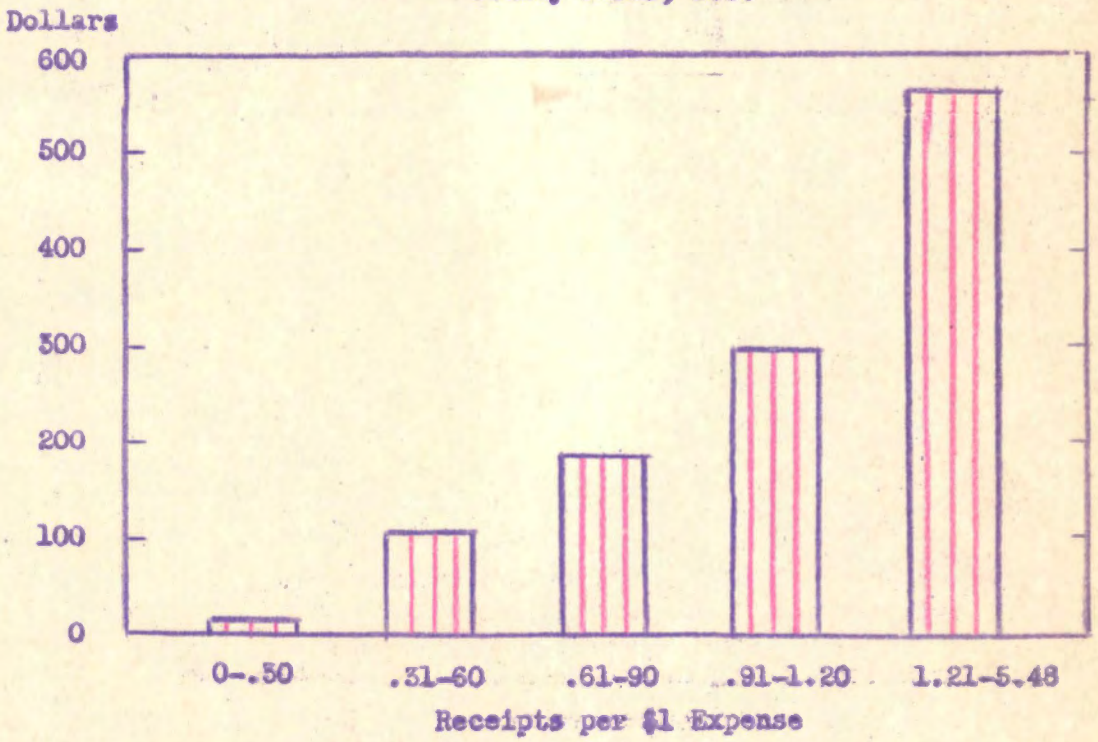
Relation of Crop Index to Adjusted Farm Earnings. When the farms are grouped on the basis of crop index into the following classes: 2 to 25, 26 to 50, 51 to 75, and 76 to 117, there are 26, 53, 37, and 15 farms in the respective groups. There is a direct relation between the crop index and the average adjusted farm earnings. The average earnings increased from $74 to $548 (Figure 90).

Relation of Productivity Balance to Adjusted Farm Earnings. When the farms are grouped on the basis of their productivity balance into the following classes: -8.71 to -4.51, -4.50 to -3.01, -3.00 to -1.51, and -1.50



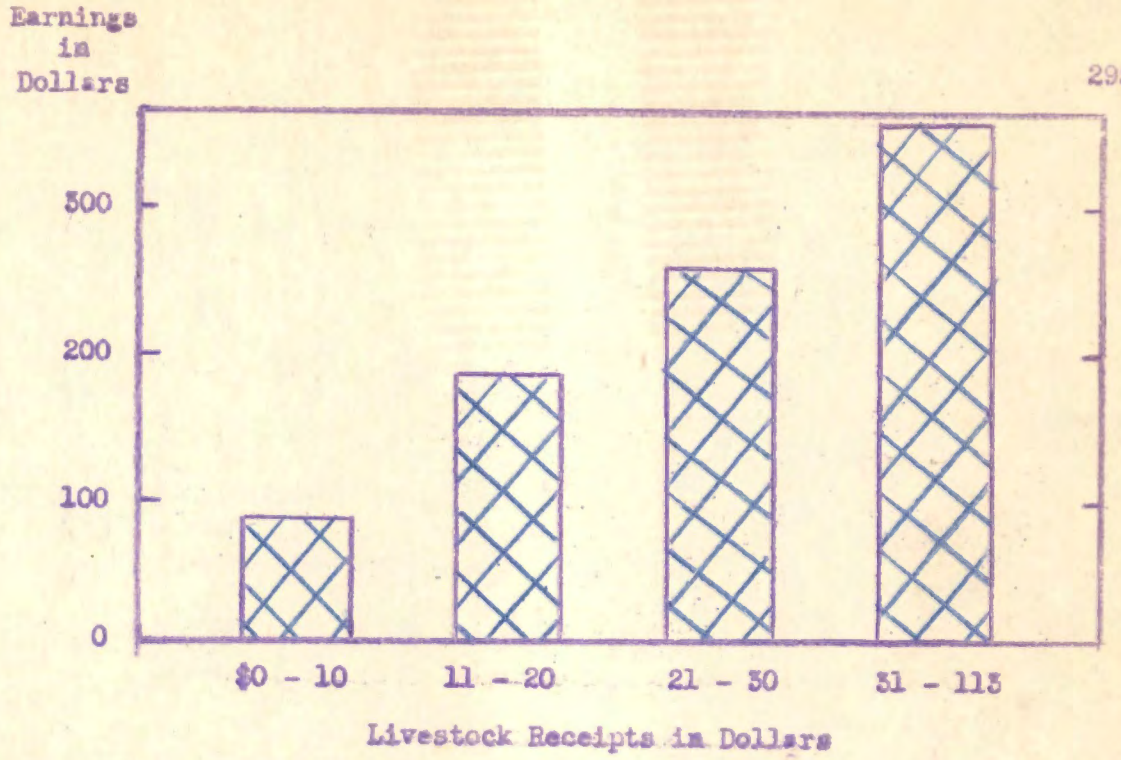
Source: Unpublished data from survey records

Figure 87. Relation of gross farm receipts per man work unit to average adjusted farm earnings, 151 Overton County farms, 1936



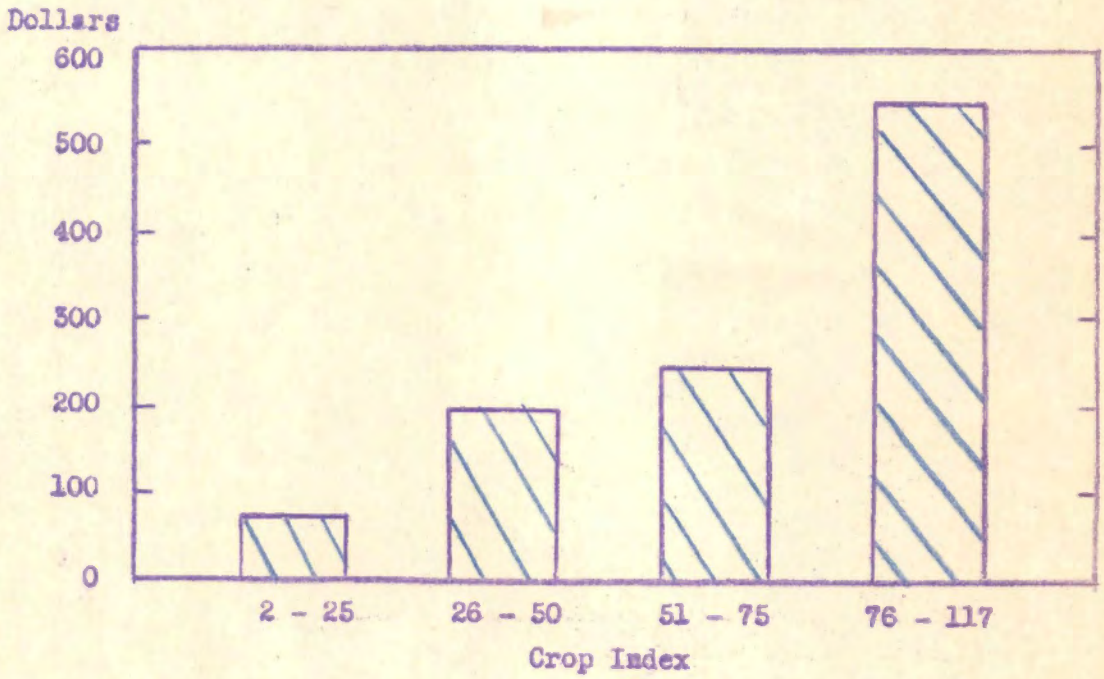
Source: Unpublished data from survey records

Figure 88. Relation of gross farm receipts per $1 expense to average adjusted farm earnings, 151 Overton County farms, 1936



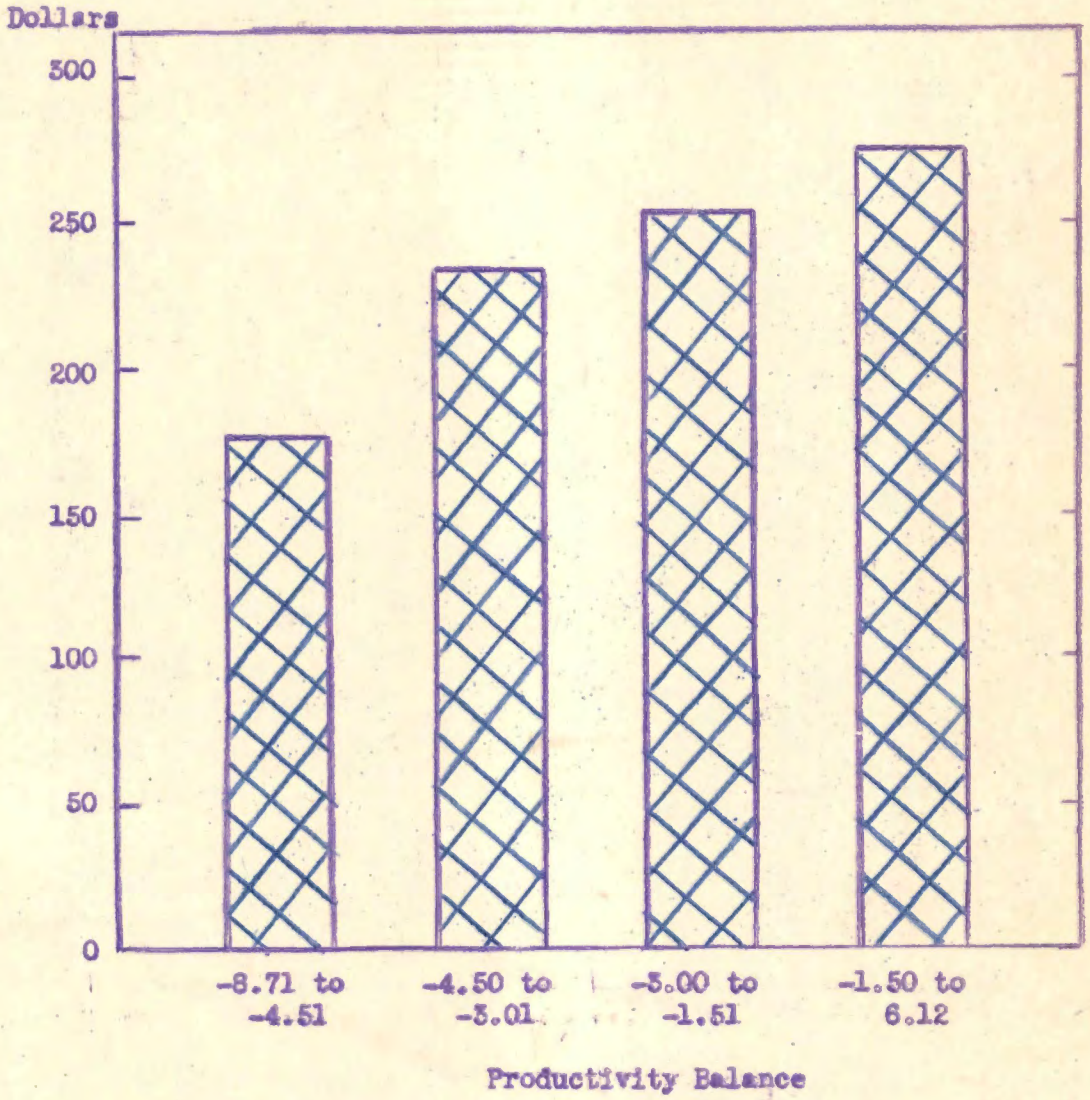
Source: Unpublished data from survey records.

Figure 89. Relation of livestock receipts per productive unit to average adjusted farm earnings, 131 Overton County farms, 1936



Source: Unpublished data from survey records.

Figure 90. Relation of the crop index to average adjusted farm earnings, 131 Overton County farms, 1936



Source: Unpublished data from survey records.

Figure 91. Relation of the productivity balance on the farm to average adjusted farm earnings, 151 Overton County farms, 1936

to 6.12, there are 35, 35, 36, and 25 farms in the respective groups. There is a direct relation between the efficiency of the farm as measured by the productivity balance and the adjusted farm earnings. The average earnings increased from $162 to $271 (Figure 91).

Relation of Tenure of Operator to Adjusted Farm Earnings. There were 81 farms on Decatur loam and Clarksville silt loam soils combined. These farms had an average of $273 adjusted farm earnings. Eleven tenant farms included in the 81 farms had an average of $269 adjusted farm earnings. Hence there was only $4 or practically no difference in 1936 between the average earnings on all farms and the average on 11 tenant farms located on Decatur loam and Clarksville silt loam soils.

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CHAPTER VI

A FARM PROGRAM FOR OVERTON COUNTY

Basis for Recommendations

Recommendations for an agricultural program should be made in the light of several outstanding weaknesses found in the farm business in Overton County. These weaknesses are not found on all farms, but on a large majority of those studied. The volume of business was too small, as measured by either the number of acres of improved land, acres in crops, productive livestock units, man work units, or gross receipts per farm. They did not have a balanced crop rotation, most of their crop land being in corn, especially the small farms, tenant farms, and farms on the poorer soil types and land classes. The farms were organized in such manner that soil productivity is being rapidly depleted. They had decidedly too low a crop index, rate of capital turnover, and receipts per $1 expense.

These conditions make the farm business of such nature that it is not founded on a substantial and permanently progressive agricultural basis. These weaknesses prevent the farms from being efficiently operated, and from making adequate financial returns. Hence recommendations must provide for correcting these deficiencies.

The soils in the area tend to be acid. In general they are lacking in nitrogen, phosphorus and organic matter.(1) Hence any satisfactory

(1) Conference with H. P. Ogden, associate agronomist, Tennessee Agricultural Experiment Station.

agricultural program must provide for the judicious use of lime, phosphates, legumes, and manure.(2)

Since the study is made in a self-sufficing type of farming area, three main economic objectives of farming are: supplying items for direct use by the family; production of feed for livestock; and providing cash for other necessary items.

Meeting Main Economic Objections

Self-Sufficing Agricultural Program. Farms are too small for extensive livestock farming. Receipts are definitely limited, and expenses should therefore be kept at a minimum. As much as possible of food and other articles used by the family should be produced on the farm. This factor is of fundamental importance, and should be given primary consideration in the farm program.

The first item that should be considered in planning the program is a good, adapted, diversified garden furnishing one or more fresh vegetables throughout the year. Successive plantings of vegetables should be made so that a wide variety of fresh vegetables will be available throughout the summer and a few during the winter. In addition to this, both Irish and sweet potatoes, beans, peas and cabbage may be stored. Other vegetables which may not be had fresh from the garden should be canned in sufficient quantities to supply the family throughout the winter. With proper care and attention the garden will supply sufficient vegetables the whole year.

The next item that should be provided is one or more dairy cows to

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(2) Conference with O. W. Dynes, Professor of Agronomy, University of Tennessee.

furnish milk, cream, butter, and possibly a veal calf for use by the family. A small poultry flock should be kept to supply eggs and chickens for home consumption. If additional corn is available, after feeding the family fresh corn for summer use and canning, feeding the necessary dairy cows and chickens for home use, and feeding workstock, it should be used for growing a few hogs for home use.

If a suitable site is available on the farm, the operator should have an orchard to supply a variety, and a sufficient amount of tree and small fruits for home use. Trees and vines should be well cared for, pruned and sprayed. A small sprayer is satisfactory for a few trees, but several farmers may cooperatively own a larger sprayer that will do better work.

Production of Feed for Livestock. Each operator should produce all the feed possible that is necessary for feeding his livestock. This is especially true since they are located in a self-sufficing area that is usually deficient in the production of feed. Only highly concentrated feeds that cannot be produced on the farm, and are necessary for balancing rations, should be bought. This factor is imperative for an economically sound farm program in the area.

Providing Cash for Other Necessities. After the operator has provided for all the items possible for direct use by the family, and produced sufficient feed for his livestock, the next most important objective is providing cash for other necessities. As previously mentioned, no commonly accepted cash crop has been adopted in the area. The operator should not make a common practice of selling grains and hay off the farm because the practice is a heavy drain on soil fertility.

On some farms having suitable patches,[3] especially on the Highland Rim, tobacco may fit well into the program as a cash crop. On other fields adapted to Irish potatoes, which are most likely to occur on the Cumberland Plateau, the operator may use them as a cash crop. It has been suggested[4] that the area is adapted to the production of dewberries and strawberries, with particular reference to the Youngberry. A cold packing plant could be established in the area to provide a market for the berries, thus providing a cash crop and placing the area on the "ground floor" of the cold pack industry. However, under present facilities and conditions livestock should provide the major portion of the income to the farm. Occasional timber sales on many farms may be used to support the farm income. Sources other than the farm should be used to supplement the farm income whenever feasible.

Correcting Some Major Weaknesses

Lime. Most of the soils are acid in reaction. Many of the farms have surface limestone available on the farm. Hence one of the first items that should be considered in improving the farm business is the application of ground limestone to neutralize or sweeten the soil. Custom crushers are available in the county and may be hired at a very reasonable rate. Due to financing, the whole farm probably could not be limed the first year, but a portion could be given an application and each year or every few years thereafter an additional field limed until the crop and pasture land were covered.

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(3) A brief description of burley tobacco culture is given in Tennessee Agricultural Extension Service Publication 161.

(4) Suggested by N. D. Peacock, Head, Department of Horticulture, University of Tennessee.

Phosphates. The soils are deficient in phosphates. Grain and hay crops which are most prevalent in the county draw heavily on phosphates. Hence to get the best returns, and probably to obtain any substantial results, a treatment of not less than 200 pounds of 16% acid phosphate, or its equivalent per acre for most crops, must be applied in addition to the limestone. Should some truck crop or tobacco be grown, a much heavier application of fertilizer will probably be needed. If finances prevent the application of phosphates to all improved land the first year, they should be applied where needed most and where they will make the greatest returns. If truck crops or tobacco are grown they should receive the fertilizer first. If biennial or perennial legumes are sown they should have an application of phosphate. If neither of the above are grown, grain crops should receive next consideration for the fertilizer. Additional applications of fertilizer should be made to all crops as long as increased returns more than offset the cost of fertilization.

Legumes. The only legumes grown extensively in the county at present are lespedeza, cowpeas and soybeans, all of which are acid-tolerant summer annuals. These crops are soil depleting when the hay is removed and the manure from it not returned to the soil. Hence, for the soil to be improved from the growth of legumes, the above crops should be fed on the farm and the manure carefully conserved. Other soil building legumes, such as crimson clover, red clover, sweet clover, alfalfa or hairy vetch should be grown. In general the soils are too acid and poor for successful produc-

tion of the latter legumes with the exception of crimson clover and hairy vetch. But for a sound successful agricultural program the soils should be improved by the former procedure and by the judicious use of lime and phosphates, to the point where they will produce the better legumes. Again the whole farm often cannot be so built up in one year, but one step may be made or a small portion of the land improved each year.

Manure. Care and use of manure are fundamental in an economically sound agricultural program in the area. It is one of the most important factors in improving the soil. All manure that can be saved from the livestock should be carefully conserved, protected and properly used. At present little care is taken of the manure. It is allowed to lie out, weather, leach and wash away. Thus for the lack of a little work on the part of the operator, the soil is being deprived of considerable fertility. The manure should be applied first to thin and galded spots, to make each field of uniform fertility. Then manure may be distributed evenly over the poorer fields.

Cropping Systems. The farms in the county are in great need of adopting definite crop rotation systems. The census report shows that 62% of all crop land in 1934 was in corn. With this situation it would be impossible for a very large percentage of the farms to have even a two year rotation, which is much too short for the land in the area. The Land Use Planning Section of the Resettlement Administration recommends that the best class of farm land in the county have a three to four year rotation. The rest of the farm land should have a rotation of from five to eight years.(5)

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(5) Conference with John E. Mason, State Land Planning Specialist.

Soil building legumes should be adopted, as outlined above, and used in the cropping system. It would be well to have an occasional crop of crimson clover for a green manure crop. However in general it is a better practice to feed the crops to livestock, carefully conserve the manure and return it to the field, since this procedure returns nearly as much fertility as plowing under the entire crop.

A variety of crops should be grown, to provide for a rotation, for more complete utilization of the elements in the soil, to insure against the complete failure of a single crop, provide a balanced ration for livestock, and distribute labor over a longer season. Winter cover crops should be used, and all crop land except bottoms subject to overflow kept in some crop as near all the time as possible. Legumes and especially crimson clover(6) should be used for a winter cover whenever a crop may be obtained. If small grains are used, and the grain yields are not sufficient

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(6) It appears that moisture is the chief limiting element in obtaining a stand of crimson clover. Should the operator fail to get a crop of hay following small grains, this will furnish an opportunity to clean fallow the field and sow crimson clover following the first good season after July 20. According to J. L. Vandiver of the Agricultural Experiment Station at Greeneville, this is the most certain way of getting a stand of crimson clover. Frequently satisfactory results are obtained by sowing crimson clover in corn at the last cultivation, provided a real good season occurs at that time. If crimson clover is not sown before the latter part of August, rye should be sown with it. However it is frequently sown too late for the best results.

to warrant the machinery and threshing expense in saving for grain, they may be either pastured or cut for hay or both.

Row crops should not be planted on any piece of land, especially upland, more often than is necessary. This rule does not apply to creek or river bottom land that overflows and receives a deposite of soil each year. Such fields are the exception rather than the rule in this area. Unlike uplands they do not need to follow a definite soil improving rotation, and do not need fertilizers as do uplands because of the annual soil deposits. On such land winter cover crops are not advisable if they are usually ruined by winter floods.

Farmers on the steeper uplands that are more subject to erosion should make a special attempt to keep as much as possible of their land in sod crops. Row crops should be planted on the contour of the slope. If the soils are very steep and susceptible to erosion they should be terraced or a system of strip-cropping followed, or perhaps both in extreme cases.

Crop Yields. Present yields of practically every crop in the county are considerably below the state average. This condition is a serious handicap to the agriculture of the county. However yields may be greatly increased by following a system of fertilization and soil management outlined above. Increased yields will soon pay the cost of improving the soil, and will make possible further improvements. Yields may also be increased by getting better seed and higher yielding varieties.

Pasture. Pastures in the county are sadly neglected. Most of them are heavily infested with weeds that should be cleaned out. They should

be limed and given a heavy application of acid phosphate, and possibly some nitrates, if a stand of legumes is not obtained in the pasture mixture. In such an improvement program a reseeding[7] of the present pastures would also likely bring about beneficiel results.

Livestock Program. The natural characteristics, and the location of the county with respect to markets, are such that the area is better suited to a livestock than to a cash crop system of farming. However most of the farms are too small to support a large number of livestock. This is shown by the fact that in 1935 there was an average of only 30 acres of improved land per farm. Thirty per cent of the farms included in the survey sample had 33 acres or less of improved land, which is too small a farm to support any considerable number of productive livestock with the possible exception of poultry. Seventy-two per cent of the farms had not more than 66 acres of improved land, and are probably all too small for any extensive livestock enterprise other than poultry. However they might profitable support a few beef cattle, sheep, or dairy cows. Farm operators having more than 66 acres of improved land should seriously consider marketing the major portion, if not all, of their surplus feed crops through livestock.

The livestock program on every farm should first provide for one or two reasonably good milk cows, enough poultry and hogs to supply the home needs, and sufficient workstock for efficient operation of the farm.

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(7) Recommended pasture mixtures may be obtained from Tennessee Agricultural Experiment Station Circular No. 11.

Poultry are probably better adapted to farms in the county for commercial production than any other class of livestock. The size of the flock should be increased on practically all farms, as nearly every farm could support at least 100 poultry.

Operators of farms with available pasture and any surplus legume hay and feed concentrates should probably give consideration to marketing this surplus through a few dairy cows. This is especially true if the farm is located so the cream can be conveniently delivered to Livingston, or to a highway where it will be picked up by a cream truck. Cooperative arrangements might be made by neighbors for delivering cream to concentration points. Dairy cattle are a rather intensive enterprise, and provide for the utilization of considerable surplus farm labor. Probably the only source for disposal of any large quantity of dairy products at the present time is through the sale of cream. If the operator has as many as five cows he should have a cream separator. The skim milk may well be fed to chickens and pigs.

A small beef cow herd may be profitably maintained on larger farms with insufficient satisfactory labor for a dairy herd. A beef cow herd will also fit into the program of a farm having such surplus roughage as straw, corn stover, rough hay and pasture. Calves may be dropped in the spring, do not necessarily have to be kept through the winter, but may be kept through one or even two winters if sufficient feed is available. Hence they provide a very flexible phase to the farm program, the number of calves kept and the length of time they are kept, varying each year according to the amount of feed and pasture available.

Sheep might profitably be kept for the production of spring lambs and wool, on farms under fence and having surplus winter and summer pasture with a small amount of grain for feed. A few sheep may be kept on a farm too small to support an economically efficient beef or dairy herd. They may also be used in larger units on larger farms, and may be fitted into a balanced program with other classes of livestock. A small number of sheep will not make large returns, but under proper management will increase the net returns that would otherwise be obtained on many of the farms. If many sheep are kept, a systematic dog control program would likely be wise.

Commercial production of hogs in the area is practically eliminated from an economically wise standpoint, because it is usually deficit corn producing area, and has an unfavorable corn-hog ratio. However they are suited to farms having creek bottom land, or woodlands fenced for mast.

The number and nature of the workstock kept should best meet the needs of the particular farm. But if a brood mare or two may be substituted for the same number of mules or horses, and do the farm work about as well, additional income may be made by raising a colt from each mare each year.

In general the inclusion of productive livestock in the farm program provides for a better distribution, and hence a more complete and efficient use, of farm labor. They provide for the sale of feed and labor in a concentrated form. They make possible the retention on the farm of most of the plant food nutrients in the feed, and hence help conserve the soil fertility.

Since the farms are located in what is usually a deficit feed producing area, it is not a wise common practice to keep more livestock than the farm can supply with feed. The particular classes of livestock kept on a given farm will depend on the nature of the feed available on the farm. Frequently a combination of two or more livestock enterprises can utilize the resources of the farm more completely and efficiently than a single enterprise.

Livestock Efficiency. As previously outlined the efficiency of livestock is very low at the present time. Probably the most important factor in increasing the efficiency of productive livestock is feeding enough and a balanced ration. Housing and care is probably the next most important item, especially with poultry. One of the most important factors in increasing the efficiency of productive livestock is improving the quality of the stock.

Poultry flocks may be improved by the purchase of chicks from accredited hatcheries; dairy cows by selecting calves from higher producing cows and using a well bred and preferably a proven sire. The bull may be obtained and kept as a cooperative community project, or he may be owned by an individual and his services hired. Similar arrangements may be made for higher quality jacks and stallions, and for pure bred beef bulls, rams and boars.

Efficiency in the use of workstock may be increased by keeping only good stock, adjusting the number of workstock to the number actually needed to efficiently operate the farm, and by diversification of the farm business so as to lengthen the season of horse labor and increase the number of days work done by each.

Reduce Expenses. Three of the main expenses that may be reduced by better organization and operation of the farm are for feed, seed and labor. As previously recommended the farmers should produce nearly all their feed, and should practically eliminate feed costs. The major seed costs are for hay and small grains, for which seed should be saved on the farm in most instances. Labor costs should be reduced to a minimum by the operator and his family doing as near all the work as possible, and by adjustments in the organization of the farm business so as to better distribute the labor over a longer period, and avoid labor peaks when work must be hired. Some other expenses that are fixed may be important on individual farms, and should be reduced whenever possible and practical.

Other Recommendations Provided for Through Above Practices. If the recommendations as outlined above are actually put into practice, they should attain their individual aims, and those of several other recommendations as well. Total and net farm receipts should be increased. Expenses will be adjusted, shifting from unnecessary and non-productive items to effective items that will increase returns. It will adjust the productivity balance of the farms, and should change it in most cases from a negative to a positive balance, thus putting the agricultural program on a more permanently sound basis. The volume of business on individual farms will be increased. General farming efficiency will be increased, by better use of land, labor and capital.

Programs for Farms of Different Size

Small Farms. Farms of this group have 33 or less acres improved land. Regardless of soil type or land class, they are probably too small to solely

and adequately support an average size family. These farms should be combined, or the operator should rent or purchase considerable additional land, or should have a reliable source, other than the farm, for a considerable portion of his income. By increasing the size of the farm, more efficient use of labor and equipment would be secured. The combination of these small farms would necessitate moving by many of the families, probably out of the area as is recommended by the Land Use Planning Section of the Resettlement Administration.

Medium Size Farms. These farms, as used in this study, have from 34 to 66 acres of improved land. All of the farms in the lower part of this range of acreage, and farms on the poorer soil types and land classes in the entire range, should have additional land, or the operator should have a reliable source of income, other than the farm, to supplement his farm receipts. However farms on the better soil types and land classes in the upper part of this range of acreage, should support an average family if properly handled.

Medium Large Farms. As used in this study these farms have from 67 to 99 acres of improved land. Farms in this size range, with the exception of some of those on poorer soil types and land classes, with acreage in the lower part of the range, are large enough to adequately support an average size family, if properly handled. They are large enough to permit fairly efficient use of labor and machinery. They are also large enough to support considerable livestock, which should provide a large part of the farm income unless the particular farm is well adapted to the production of some cash crop.

Large Farms. As herein used these farms have 100 or more acres of improved land. Only 12 farms in the survey had this acreage. They can support a rather large number of livestock. A better and longer crop rotation is practical, and at the same time permits supplying enough of each type of feed for the livestock.

As this size group has no upper limit in acreage, some operators with large acreage may have more land than they can efficiently operate. In such cases it may be possible that greater returns could be obtained by leasing, or even selling, part of the land to operators on small adjoining farms, thereby increasing the efficiency of both farms.

CHAPTER VII

SUMMARY

Overton County is located in the northeastern part of Middle Tennessee, partly on the Highland Rim and partly on the Cumberland Plateau. The county is one hundred miles from the nearest large city. No railroad passes through the county except on the Plateau area. Industries are limited. The population relies principally on agriculture for a livelihood. The climate is mild, and there is sufficient annual rainfall for the growth of the usual crops. No cash crops or extensive livestock systems have been adopted, a general or self-sufficing type of farming being prevalent.

In the agricultural development of the county since 1850 several significant trends have occurred. The improved farm land area increased rapidly before 1900, but has not changed much since that time. The number of farms has increased greatly, while both the improved area and the total acreage per farm have decreased radically.

The total number of animal units in the county has varied considerably, the peak year occurring in 1890 when 20,581 animal units were reported by the census. The number of milk cows has increased very definitely. Sheep have almost disappeared. Hogs have decreased in numbers. Workstock increased until 1924, but during the next 10-year period dropped about one third. Poultry has increased.

Since 1880 the average number of animal units per farm has decreased from 10.7 to 4.7 in 1935. On a per farm basis the number of each class of livestock, with the exception of poultry, has experienced a sharp decline.

The total number of acres in crops in Overton County increased about 17% from 1889 to 1934. Hay acreage had a steady and rapid increase. Corn acreage also increased, but small grain acreage declined severely. Total number of acres in crops per farm declined from 26 in 1879 to 18 in 1934, hay being the only crop having a substantial increase.

Summarizing the organization of 131 Overton County farms, on the basis of averages, the average farm contained 95 acres with 55 acres of improved land and 37 acres in crops. It had a total investment less than $2,800 and working capital of less than $900. The farm had 7 animal units, and a total of 8.5 months labor. The operator supplied more than one-half of all the farm labor, and worked off the farm about one-half as much as he worked on the farm.

Farms with more cleared acreage and those on the better soil types and better land classes were larger in practically every measure of size tabulated in the organizational study. They had considerably more livestock, and a much larger proportion of their crop acreage was in hay and small grains. Tenant farms on Decatur loam and Clarksville silt loam soils were somewhat smaller than the average of all farms on these soil types. They also had fewer livestock, but a much larger proportion of their crop acreage in corn.

Most farms in the county are very low in efficiency. Larger farms and those on the better soil types and better land classes in general were more

efficient, but were not as consistently above other farms, when measured by efficiency factors, as when organizational factors were studied. Likewise tenant farms were more efficient in 2 of 6 measures than the average of all farms on Decatur loam and Clarksville silt loam soils. These variations, which may be discrepancies, are possibly due to abnormal conditions resulting from the drought.

When farm earnings are used, after being adjusted to account for the effects of the cropping system and the growth of timber on the value of the farm, many factors had somewhat the same relation to the adjusted farm earnings in 1936 that they would probably have in a normal year to labor income or labor earnings.

Some of the main weaknesses in the present farm program are: the size of the farm business is too small; the soil which is lacking in several essential elements is low in productivity; the operators do not practice a sound crop rotation and the soil fertility is being rapidly depleted; crop yields are too low; the efficiency of livestock is too low; the farm land is not being efficiently utilized; and the farm in general is being poorly managed.

APPENDIX



APPENDIX A

Adjustments Applied to Farm Earnings

To get a true picture of the net results of the farm business, the annual increment in the value of the farm woodland, and the results of the soil productivity balance should be considered.

Soil Productivity Balance

The soil productivity balance is a percentage expression of the net annual effect upon the productive capacity of the soil, brought about by natural conditions and characteristics, and by the present farm program in use on the farm. The productivity balance is determined by the nature of the crops and cropping system employed, by the application of essential elements in the form of lime, fertilizer or manure, and by the effect of erosion on the particular farm.

The general outline that is used for determining the soil productivity balance of farms in this study was obtained from Ohio Agricultural Extension Service Bulletin 175.

Soil Productivity Indexes of Crops. In determining the soil productivity balance, the effect of various crops on the productivity of the soil is one of the most important items for consideration. To determine the net effect of all crops, each crop was assigned a soil productivity index.

The productivity index assigned each crop is a percentage expression of probable net effect of the given crop on the productivity of the soil during the particular year. Crops may be assigned either a positive, a negative, or a neutral index. If the productivity of the soil is probably increased due to the growth of the crop, the crop is given a positive index. If the crop has a depleting effect on soil fertility, it is assigned a negative index. Soil productivity indexes assigned crops for calculation of the productivity balance on farms in this study are presented in Table I.

TABLE I. SOIL PRODUCTIVITY INDEXES FOR INDIVIDUAL CROPS AS USED IN CALCULATING THE PRODUCTIVITY BALANCE FOR 131 OVERTON COUNTY FARMS (a)

Crop	Soil Productivity Index (Per Cent)
Corn and all other row crops (b)	- 2.0
Small grains, cowpeas, soybeans, and millet	- 1.0
Lespedeza, timothy and red top	- 0.5
Rye (turned under)	0.5
Lespedeza, cowpeas, or soybeans (turned under)	2.0
Crimson clover (turned under)	3.0
Red clover	2.0
Alfalfa (first year)	3.0
Alfalfa (later year)	0.5

Source: Ohio Agricultural Extension Service Bulletin 175, and estimates by the writer.

(a) Figures given in this table are not authoritative for Tennessee conditions. Some of the indexes are the same as used in Ohio Agricultural Extension Bulletin 175. Others were estimated by the writer. No official indexes are available for Tennessee conditions. The above indexes are merely suggestive, used in the absence of scientific data, to point out the need for accurate information to get a more accurate measure of the results of each year's farm business.

(b) Indexes presented in Table I are for the percentage annual change in the productivity of the soil when land is devoted to the respective crops in a system of rotation. Many of the farms in the survey had practically nothing but corn, hence had no rotation. In such instances corn was assigned an index of - 3.0, because land is depleted more rapidly under continuous corn than when a rotation system is followed.

Soil Productivity Indexes for the Application of Essential Elements. In general the application of humus and basic elements in the form of manures, commercial fertilizers and lime increase the productive capacity of the soil, and hence should be assigned a positive productivity index in determining proportionate contribution to the productivity balance. The productivity indexes used in this study for application of these elements are presented in Table II.

TABLE II. SOIL PRODUCTIVITY INDEXES[a] USED IN THIS STUDY FOR THE APPLICATION OF MANURES, FERTILIZERS AND LIME

Annual Treatment per Rotated Acre[b]	Soil Productivity Index (Per Cent)
For each 100 pounds of commercial fertilizers	0.2
For each ton of manure	0.5
For each ton of limestone	3.0

(a) These are not official figures for Tennessee conditions. They are merely suggestive estimates of the writer for use in the 1936 Overton County farm management study.
(b) To simplify calculations the same indexes are used on farms having no definite rotations.

The soil productivity indexes presented in Table II for the application of manure and fertilizers are considerably higher than those used in the Ohio Bulletin. This is partially due to the fact that a review of Tennessee experiments, with the application of manures and fertilizers, indicates that the application of these elements has a much greater percentage effect on the productivity of the soil under local conditions than is represented for Ohio. Another reason for using larger indexes is the probability that

the net productivity of the soil, on farms in Overton County, is less than for the soil used in establishing the Ohio data. That is, the application of a ton of manure or fertilizer in Overton County would have a greater percentage effect on the total productivity.

No information was taken in the schedule relative to application of manure. Credit for manure was based on the number of animal units on the farm. An allowance of four tons of manure was made for each animal unit in excess of four on the farm. No credit was given for the first 4 animal units.

Adjustments for Soil Erosion.[1] Soil erosion has a considerable effect on the soil productivity balance. Erosion effects are not assigned indexes on the same basis as crop productivity indexes, but are assigned modifying factors to be applied to the total negative effects of crops on productivity.

No accurate analysis of erosion was obtained in the survey records. The effect of erosion is obtained from weighting the structure, topography and crop cover on the soil. The natural susceptibility of the soil to erosion is estimated from the structure and topography. Silt loam soils are considered as being more susceptible than straight loam soils, and both are considered as being more susceptible to erosion than either the sandy or stony loam soils. Naturally the steeper the topography of soils with the same structure and other characteristics the more susceptible is the soil to erosion. Considering both structure and topography each farm

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(1) No estimate is made concerning the leaching of nutrients from the soil because of lack of definite applicable information.

was designated as having either none, slight, moderate, severe, or very severe susceptibility to erosion. A factor for each degree of susceptibility is presented in Table III.

TABLE III. DEGREES OF NATURAL SUSCEPTIBILITY TO EROSION, WITH A FACTOR FOR EACH

Degree of Susceptibility to Erosion	Factor (a)
Little or none	0.00
Slight	- 0.25
Moderate	- 0.50
Severe	- 1.00
Very severe	- 2.00

Source: Adapted from Ohio Agricultural Extension Bulletin 175, p. 15.

(a) This factor is used in calculating the soil productivity balance by multiplying it by the total negative effect of the cropping system on the productivity of the soil.

Calculation of the Productivity Balance. To illustrate the method of calculation of the productivity balance, an example is given in Table IV. The example farm has 20 acres in crops, with 8 in corn, 4 in small grains, 6 in lespedeza and 2 acres soybeans that were turned under for green manure. The farm had a slight degree of natural susceptibility to erosion. There were 6 animal units. Hence an allowance of 8 tons of manure was made (4 tons for each of the units in excess of 4). One ton of fertilizer and 2 tons of lime were applied to the crop land.

TABLE IV.- METHOD USED IN THIS STUDY FOR CALCULATING THE SOIL PRODUCTIVITY BALANCE ON A GIVEN FARM

Type of Crop	Per Cent of Rotated Area	Productivity Index	Productivity Value	
			Positive	Negative
Corn	40.0	- 2.0		- 0.80
Small grain	20.0	- 1.0		- 0.20
Lespedeza	30.0	- 0.5		- 0.15
Soybeans (turned under)	10.0	2.0	0.20	
Total	100.0		0.20	- 1.15
Balance due to crop factor (0.20 - 1.15)				- 0.95
Reduction in balance for erosion (0.25 x -1.15)(a)				- 0.29
Gain in balance for manure (0.4 x 0.5)(b)			0.20	
Gain in balance for fertilizer (1.0 x 0.2)(c)			0.20	
Gain in balance for lime (0.1 x 3.0)(d)			0.30	
Total			0.70	- 1.24
Soil Productivity Balance				- 0.54

(a) Assumes slight erosion susceptibility.
(b) Eight tons of manure on 20 acres is 0.4 of a ton per acre.
(c) One ton of fertilizer on 20 acres is 100 pounds per acre.
(d) Two tons of lime on 20 acres is 0.1 of a ton per acre.

Use of Productivity Badance in Adjusting the Farm Earnings. In order for the productivity balance to be of use in determining the net results of the year's farm business, it must be converted into a definite money value. Productivity balance is a percentage expression of the net change in the productivity of the soil during the year. By assuming that the value of the soil is due solely to its agricultural productive capacity, a definite money value of the change in productivity may be obtained by multiplying the productivity balance by the value of the crop land. The value of the productivity change thus obtained is then either added to or sub-

tracted from the farm earnings to get adjustments for the productivity balance.

Determination of the Value of Crop Land and Woodland

Since the separate values of crop land and woodland were not obtained in the schedule, these values had to be estimated from the total value of all land. The total land value was obtained in the schedule for each farm. To distribute this to land in various uses, each acre of land in woodland and in non-tillable pasture was assigned a weight of "one", each acre of tillable permanent pasture a weight of "two", and each acre of rotation pasture and crop land a weight of "five".

The total number of acres on the farm in each major land use was then multiplied by its respective weight. The products were added to obtain the total number of weighted units on the farm. The total value of all land was then divided by the sum of the weighted units to obtain the "unit" value, which is the value of one acre of woodland on the particular farm. To get the total value of woodland on the farm, the "unit" value is multiplied by the number of acres in woods. Since crop acreage was given a weight of five, the total value of crop land is the product of the "unit" value multiplied by five, multiplied by the total number of crop acres on the farm.

Annual Increment in the Value of Farm Woodland

No published authoritative information is available, relative to Overton County conditions, for calculating the annual increment in the value

of the farm woodland. The calculations in this study are based on estimates by G. B. Shivery, Forestry Specialist, Tennessee Agricultural Extension Service, and upon census data.

In a recent conference with Mr. Shivery, he estimated that on the average, farm woodlands would have an annual increment of about 200 board feet per acre in the area in which Overton County is located. He also estimated that at present prices this timber would have an average value of about $8 per 1000 board feet on the stump. At this rate, should all the timber growth be sound salable timber, the average value of the annual woodland increment would be $1.60 per acre.

The 1930 census reports that $69,982 worth of forest products were sold from farm woodland in Overton County during 1929. At that time the county contained 89,605 acres in farm woodland. This made an average of $0.78 sale of forest products per acre in woodland. These sales were in addition to an average of $1.07 worth of forest products per acre consumed on the farm during the year.

The 1935 census reported the sale of $9,955 worth of forest products from farm woodlands during 1934. For the same year 90,590 acres were reported in farm woodland. This made the total average sale of only $0.11 worth of forest products per acre in woodland. However both census years probably represent abnormal years for economic conditions.

For use in this study in calculating the annual increment in the value of farm woodland, it is estimated that on the average each acre of farm woodland included in the survey had during 1936 an annual increase of $0.75 in value.

There is considerable variation in the value and growth of timber on different farms. Hence it would not be accurate to use the average increase for each individual farm.

The woodland on all farms included in the survey was calculated, as outlined in the preceding section, to have an average total value of $4.53. Since on the average woodland increased $0.75 in value per acre, and the total value is $4.53, the average woodland had an increase of one-sixth of its total value during 1936.(2)

To get the amount of increase in value of the woodland on a particular farm, for use in adjusting the farm earnings, the total value of woodland on the farm was calculated, and the increase during 1936 was considered as being one-sixth of the total value. This value was then added to the farm earnings to get an adjustment for the annual increment in the value of the farm woodland.

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(2) It is understood by the writer that probably no farm woodland in the county would actually increase one-sixth, which is 17% of its total value in any one normal year. This high percentage annual increase was merely used in calculation to account for the $0.75 per acre which several authorities believe a reasonable annual increase. Another reason that might justify the high percentage increase is that the value of $4.53 per acre for woodland was estimated by the writer and may be too low. In this situation the same actual increase in value might be a much smaller proportionate increase that would seem more reasonable.

BIBLIOGRAPHY

Allred, C. E., and Atkins, S. W., An Economic Analysis of Farming in Overton County, Tennessee, Tennessee Agricultural Experiment Station, Knoxville, Tennessee, Agricultural Economics Survey No. 1, December 1927.

Allred, C. E., Atkins, S. W., and Outen, D. L., Inventory of Climatic and Mineral Resources of Tennessee, Tennessee Agricultural Experiment Station, Knoxville, Tennessee, typewritten, August 1932.

Allred, C. E., Collins, W. Eugene, and Matthews, M. Taylor, Rural Relief in Overton County, Tennessee, Tennessee Agricultural Experiment Station and Federal Works Progress Administration, Knoxville, Tennessee, Monograph No. 4, January 1936.

Allred, C. E., and Esry, Dalson H., Soil Conservation Practices in Actual Use by Farmers, Eastern Highland Rim, 1932-1936, Tennessee Agricultural Experiment Station, Knoxville, Tennessee, Monograph No. 28, February 20, 1937.

Collins, W. Eugene, and Matthews, M. Taylor, Local Rehabilitation Proposals for a Tennessee Rural County, Tennessee Agricultural Experiment Station, Federal Works Progress Administration, and Tennessee Welfare Commission, Knoxville, Tennessee, Monograph No. 6, March 1,1936.

U. S. Department of Agriculture, Bureau of Soils, Soil Survey of Overton County, Tennessee, Washington, D. C., 1909.

U. S. Bureau of the Census, Census of Agriculture.