# CHARACTERISTICS OF FARMS AND FARMING IN THE SERVICE AREAS OF FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS OF VOCATIONAL AGRICULTURE

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Bachelor of Science

Oklahoma Agricultural and Mechanical College

Stillwater, Oklahoma

1955

Submitted to the faculty of the Graduate School of
the Oklahoma Agricultural and Mechanical College
in partial fulfillment of the requirements
for the degree of
MASTER OF SCIENCE
May, 1956

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# PREFACE

Being a prospective teacher of vocational agriculture, I have often wondered how much effect the farms and farming in a community have upon the success of a vocational agriculture department. Many reports have been based upon opinion type surveys of the farming in various communities in the state. However, none of the reports with which I am familiar have made an attempt to apply statistical analysis to the data. In this report an attempt has been made to measure by statistical methods twelve factors which are believed to affect the farming in a community and consequently the success of a vocational agriculture department.

Indebtedness is acknowledged to Don M. Orr, associate professor and acting head of the Department of Agricultural Education, my major advisor, and Roy W. Dugger, assistant professor of Agricultural Education, for their guidance and assistance in making this study.

Appreciation is also extended Robert R. Price, assistant professor of Agricultural Education, and Dr. M. R. Chauncey, professor of Education, for their assistance in the application and interpretation of the data presented in this report.

Acknowledgement would be incomplete without mention of the assistance and encouragement given by my wife, Christine, and my brother, George.

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# CHAPTER I

## INTRODUCTION

In 1955, Earl Knebel made a study of 100 departments of vocational agriculture in Oklahoma. Fifty of these departments had been rated as above-average and fifty were rated below-average by the five district supervisors of vocational agriculture in Oklahoma. Knebel selected 80 factors which he felt could have a bearing on the rating of a vocational agriculture department. Of the 80 factors studied by Knebel, 53 showed a significant or highly significant difference in favor of the above-average departments. Knebel's study was concerned with the characteristics of the departments of vocational agriculture, the activities of the vocational agriculture students, the activities of the vocational agriculture teachers, and the characteristics of the schools in which the 100 departments of vocational agriculture were located. No attempt was made by Knebel to study the farms or farming in the service areas of the 100 departments of vocational agriculture.

After studying Knebel's report and noting that the above-average departments showed certain characteristics by which they could be identified, the writer decided to study the same 100 departments to determine if the farms and farming

in a community would show characteristics which were peculiar to the above-average departments. Knebel stated in the summary of his thesis:

> . . . a strong supervised farm training program appears to be of utmost importance in the development of an effective program of vocational education in agriculture. A strong supervised farm training program should include production projects, improvement projects, and supplementary farm jobs.
>
> Factors regarding the amount invested in production projects were revealed to be valid criteria when identifying dissimilarities between above-average departments and below-average departments. The amount invested per department and the labor income per department from the total supervised farming program manifested significant differences. The amount invested in specific enterprises and the labor income per department from these enterprises also revealed significant differences between the two groups of departments.[1]

Fred Raunikar, Jr. made a study of the characteristics of schools and communities maintaining departments of vocational agriculture in Oklahoma. He received 152 replies from the 339 departments of vocational agriculture in Oklahoma at that time. Raunikar found:

> . . . that in 97.3 per cent of the /152/ communities some of the school patrons work on the farm or ranch for a major part of their income. . . . Nearly 58 per cent of the /152/ replies indicated that work on farms and ranches were major sources of income to the school patrons.[2]

Robert Dotson in a study of factors contributing to the establishment of rural boys in farming in two type-of-farming

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[1]Earl H. Knebel, "An Analysis of Factors Contributing to Effective Programs of Vocational Agriculture" (unpub. Ph. D. dissertation, Oklahoma A. & M. College, 1955), p. 164.

[2]Fred Raunikar, Jr., "A Study of the Characteristics of Schools and Communities Maintaining Departments of Vocational Agriculture in Oklahoma" (unpub. Master's thesis, Oklahoma A. & M. College, 1954), p. 41.

areas in Oklahoma stated:

> . . . comparison of acres of land on farms reported in the study reveals:
>
> a. The average farm in the cash grain area was considerably larger than the average in the general area.
>
> b. Size of farms reported ranged from seventy-five to 1,280 acres.
>
> c. Farms in both areas were considerably above the average sizes for their counties.
>
> d. Cropland in the cash grain area accounted for two-thirds of the total area, as contrasted with only 41 per cent cropland in the general area.[3]

The above quoted references indicate that there is a variation in the occupations of parents of students of vocational agriculture, and that the farms may vary considerably in different areas of Oklahoma.

Statement of the problem. The problem selected for this study was, "Do the farms and farming in the service areas of fifty above-average departments and fifty below-average departments differ to the extent that statistically the differences would indicate characteristics peculiar to one group of the departments?"

Purpose of the study. The purpose was to compare factors related to the farms and farming in the service areas of the fifty above-average departments with the same factors in fifty below-average departments, and to compare the ten above-average departments with the ten below-average departments in each of the five supervisory districts to determine

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[3]Robert Scott Dotson, "Factors Contributing to the Establishment of Rural Boys in Farming in Two Type-of-Farming Areas in Oklahoma" (unpub. Master's thesis, Oklahoma A. & M. College, 1954) p. 140.

if any characteristics were peculiar to either group of departments.

Hypotheses to be tested. Differences in data concerning the following factors characterizing the two groups of departments of vocational agriculture were no greater than differences which would be expected to arise as a result of chance variation in random sampling:

1. Characteristics of farms in the service areas of the 100 departments of vocational agriculture studied.

2. Characteristics of the animal enterprises on the farms in the service areas of the 100 departments of vocational agriculture studied.

3. Characteristics of the plant enterprises on the farms in the service areas of the 100 departments of vocational agriculture studied.

Procedure. The writer effected the following steps in the development of the study, collating and analyzing the data and writing the thesis:

1. Available literature concerning the evaluation of farms and farming was reviewed.

2. Approval was received to use the same 100 departments studied by Knobel.

3. Factors which were believed to have an influence on the farms and farming in a community were selected.

4. Townships in the school districts of the departments of vocational agriculture studied were taken from reports on file in the Agricultural Education office.

5. Data were gathered from the United States Census of Agriculture: 1945, Oklahoma Counties and Minor Civil Divisions which pertained to the farms and farming in the townships served by the fifty above-average departments and the fifty below-average departments.

6. Data were classified and analyzed.

7. The investigator tested the null hypothesis using the data concerning each of the selected factors to identify significant differences between the above-average group of departments and the below-average group.[4]

Definitions.

The "above-average" group was assumed to be the 50 departments of vocational agriculture so designated by the five district supervisors of vocational agriculture in Oklahoma. Each supervisor was requested to identify ten "above-average" departments from his supervisory district. These "above-average" departments were rated in the upper one-third classification of departments of vocational agriculture during the three-year period of 1949-1950, 1950-1951, and 1951-1952.

The "below-average" group was assumed to be the 50 departments of vocational agriculture so designated by the district supervisors. Each supervisor identified ten "below-average" departments from his supervisory district. These

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[4]Henry E. Garrett, Statistics in Psychology and Education (New York, 1953), p. 213. "Experimenters have found the null hypothesis a useful tool in testing the reliability of differences. In its simplest form, this hypothesis asserts that there is no true difference between two population means, and that the difference found between sample means is, therefore, accidental and unimportant. The null hypothesis is akin to the legal principle that a man is innocent until he is proved guilty. It constitutes a challenge; and the function of an experiment is to give the facts a chance to refute (or fail to refute) this challenge . . . . If our null hypothesis is untenable it must be rejected and in discarding (refuting) the null hypothesis, what we are saying is that differences . . . cannot be fully explained as temporary or occasional."

"below-average" departments were rated in the lower one-third classification during the same three-year period.[5]

The 1945 township census data were used because 1950 census data were not available. Some changes occurred between 1945 and 1950; however, it was shown by checking data for selected factors which were available in the files of the Department of Agricultural Education that the changes were relatively small. Another factor supporting the use of 1945 data was the belief that time is required to establish an above-average department. Knebel reported:

> The above-average groups showed an almost identical average of 20.02 years of continuous operation; however, the below-average group averaged 12.42 years of continuous operation.[6]

"School" was used to denote the service area of a vocational agriculture department.

"Significant factors" were the factors considered in this study which refuted the null hypothesis. Those factors which manifested t-tests exceeding 2.09 revealed "significant differences" between the above-average group of departments and the below-average group. Those factors that manifested a t-test exceeding 2.86 revealed "highly significant differences" between the two groups. (With 19 degrees of freedom, critical ratios of 2.09 and 2.86 revealed significant and highly significant t-tests at the five per cent level of confidence

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[5]Knebel, p. 10.

[6]Ibid, p. 166.

and at the one per cent level respectively.)[7] With 49 degrees of freedom a t-test of 2.01 and 2.68 would have revealed significant and highly significant differences respectively between the two groups of departments.

"Non-significant factors" were those factors which sustained the null hypothesis and; therefore, did not show significant differences between the two groups of departments.

"Average number per farm" was used to designate the average number of items per farm for those farms reporting the items.

Basic assumptions. This report was based on three assumptions accepted by the investigator. They were:

1. The five district supervisors of vocational agriculture in Oklahoma were considered authorities in identifying the 50 above-average departments and the 50 below-average departments.

2. The significant factors, those that refuted the null hypothesis, were accepted as valid criteria in identifying characteristics which could have a bearing upon the rating of a department of vocational agriculture.

3. It was assumed that the 1945 census contained valid data concerning the factors upon which this study was based.

Organization of the report. This report is composed of three chapters. Chapter I presents a statement of the problem, the purpose of the study, lists the hypotheses to be tested,

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[7]Garrett, pp. 225 and 427.

gives the definitions, procedures followed, and the basic assumptions accepted. Chapter II presents the tables and interpretations. The first twelve tables compare the 50 above-average departments with the 50 below-average departments. These 100 departments were located in 56 of the state's 77 counties with a wide-spread dispersion throughout the entire state. The remaining 60 tables compare the twelve factors selected as a basis for this study on a supervisory district basis. Chapter III presents a summary of the findings, the conclusions drawn, and recommendations made by the investigator.

## CHAPTER II

## PRESENTATION AND INTERPRETATION OF DATA

The writer used the same 100 departments of vocational agriculture studied by Knebel. However, Knebel studied the characteristics of the departments, the activities of the students and teachers of vocational agriculture, and the characteristics of the schools maintaining these 100 departments of vocational agriculture, while the writer studied the farms and farming of the service areas of the departments of vocational agriculture.

Twelve factors were selected which were believed to affect the support the farmers in a community would be able to give the students and teachers of vocational agriculture.

Data were gathered from the United States Census of Agriculture: 1945, Oklahoma Counties and Minor Civil Divisions, compiled and analyzed. The tables and interpretations are presented in this section. The first 12 tables are concerned with a comparison of the fifty above-average departments and the fifty below-average departments on a state-wide basis. The remaining 60 tables are concerned with a comparison of ten above-average departments and ten below-average departments in each of the five supervisory districts.

Number of farms per school district. The number of farms

in the service area of a department of vocational agriculture was considered to have an influence on whether a department was rated above-average or below-average. An analysis of the data on this factor failed to reveal any significant difference between the two groups of departments. The mean for the above-average departments was 447.94 farms per school district compared to 387.06 for the below-average departments. The above-average departments showed a higher standard deviation score which tends to indicate a larger distribution within this group of the number of farms per school district.

Sixteen per cent of the above-average departments were located in areas where the number of farms per district was less than 240.1 farms in contrast to 28 per cent of the below-average departments being located in areas where the number of farms was less than 240.1 farms per school district.

Table I indicates a wide variation exists in the number of farms per school district for the 100 schools included in this study.

Average acres of land per farm. The size of farms in the service area of a department of vocational agriculture was considered a factor that might influence the success of a department. Data concerning this factor was collected and tested by the null hypothesis. Table II shows no significant difference between the two groups of departments concerning the average acres of land per farm.

The average size of farm for the above-average group of departments was 213.14 acres compared to 197.50 acres per

TABLE I

DISTRIBUTION OF THE NUMBER OF FARMS IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Number of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 1600.1 to 1680 | 0 | 1 |
| 1520.1 to 1600 | 1 | 0 |
| 1440.1 to 1520 | 0 | 0 |
| 1360.1 to 1440 | 0 | 0 |
| 1280.1 to 1360 | 0 | 0 |
| 1200.1 to 1280 | 0 | 0 |
| 1120.1 to 1200 | 2 | 0 |
| 1040.1 to 1120 | 0 | 0 |
| 960.1 to 1040 | 1 | 0 |
| 880.1 to 960 | 1 | 1 |
| 800.1 to 880 | 1 | 0 |
| 720.1 to 800 | 1 | 1 |
| 640.1 to 720 | 2 | 2 |
| 560.1 to 640 | 4 | 2 |
| 480.1 to 560 | 5 | 3 |
| 400.1 to 480 | 7 | 8 |
| 320.1 to 400 | 7 | 7 |
| 240.1 to 320 | 10 | 11 |
| 160.1 to 240 | 2 | 10 |
| 80.1 to 160 | 6 | 4 |
| Number of Schools | 50 | 50 |
| Mean | 447.94 | 387.06 |
| Standard Deviation | 299.47 | 259.43 |
| t-test | 1.09 (not significant) | |

farm for the below-average group of departments. A study of Table II reveals a wide variation in the average size of farm in the service area served by the 100 schools in this study. Twelve of the 100 schools were in areas where the average size of farm was less than 101 acres while two of these schools were in areas where the average acres of land per farm was more than 660 acres.

Average investment in land and buildings per farm. One of the factors assumed to have an effect upon the rating of a vocational agriculture department was the average investment in land and buildings per farm. After collating the data a difference of $1,113.36 was found between the means of the two groups of departments; however, this did not prove to be a significant difference when tested by the null hypothesis. The standard deviation scores for the two groups of departments showed a rather large difference.

Fourteen of the 100 schools were located in areas where the average investment in land and buildings per farm was less than $2,151. Seventy-two per cent of the above-average departments were in areas where the average investment in land and buildings was $9,500 or less; this compares with 78 per cent of the farms in the service areas of the below-average departments having an investment in land and buildings of $9,500 or less.

Four per cent of the above-average departments and two per cent of the below-average departments were in areas where the average investment in land and buildings exceeded $17,900.

TABLE II

AVERAGE ACRES OF LAND PER FARM IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 821 to 860 | 1 | 0 |
| 781 to 820 | 0 | 0 |
| 741 to 780 | 0 | 0 |
| 701 to 740 | 0 | 0 |
| 661 to 700 | 1 | 0 |
| 721 to 660 | 0 | 0 |
| 581 to 620 | 0 | 0 |
| 541 to 580 | 0 | 0 |
| 501 to 540 | 0 | 0 |
| 461 to 500 | 0 | 0 |
| 421 to 460 | 1 | 0 |
| 381 to 420 | 0 | 3 |
| 341 to 380 | 4 | 1 |
| 301 to 340 | 1 | 3 |
| 261 to 300 | 1 | 5 |
| 221 to 260 | 5 | 4 |
| 181 to 220 | 3 | 8 |
| 141 to 180 | 17 | 13 |
| 101 to 140 | 10 | 7 |
| 60 to 100 | 6 | 6 |
| Number of Schools | 50 | 50 |
| Mean | 213.14 | 197.50 |
| Standard Deviation | 124.22 | 86.86 |
| t-test | .77 (not significant) | |

TABLE III

AVERAGE INVESTMENT IN LAND AND BUILDINGS ON FARMS IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Dollars Invested | Above-average Group | Below-average Group |
|---|---|---|
| 21,051 to 22,100 | 1 | 0 |
| 20,001 to 21,050 | 0 | 0 |
| 18,951 to 20,000 | 0 | 0 |
| 17,901 to 18,950 | 1 | 1 |
| 16,851 to 17,900 | 1 | 0 |
| 15,801 to 16,850 | 1 | 2 |
| 14,751 to 15,800 | 2 | 1 |
| 13,701 to 14,750 | 1 | 0 |
| 12,651 to 13,700 | 1 | 1 |
| 11,601 to 12,650 | 1 | 0 |
| 10,551 to 11,600 | 3 | 1 |
| 9,501 to 10,550 | 2 | 5 |
| 8,451 to 9,500 | 2 | 5 |
| 7,401 to 8,450 | 2 | 2 |
| 6,351 to 7,400 | 5 | 4 |
| 5,301 to 6,350 | 10 | 3 |
| 4,251 to 5,300 | 5 | 3 |
| 3,201 to 4,250 | 2 | 6 |
| 2,151 to 3,200 | 4 | 8 |
| 1,100 to 2,150 | 6 | 8 |
| Number of Schools | 50 | 50 |
| Mean | $7,459.38 | $6,346.02 |
| Standard Deviation | $4,852.71 | $3,971.56 |
| t-test | 1.23 (not significant) | |

Average per cent of tenancy. It seemed reasonable to assume that the percentage of tenancy in the service area of a department of vocational agriculture would have a bearing on whether the department was considered above-average or below-average in accomplishment. Table IV shows the below-average departments were in areas showing a higher average percentage of tenancy. The mean per cent of tenancy for the below-average departments was 41.76 compared to 38.52 per cent for the above-average departments. When tested by the null hypothesis; however, no significant difference was found between the two groups of departments.

Twenty-two per cent of the above-average departments were in areas where the average per cent of tenancy was less than 28.1 per cent while only 12 per cent of the below-average departments were in areas of less than 28.1 per cent tenancy.

Sixty-two per cent of the above-average departments were in areas where the average per cent of tenancy was less than 44.1 per cent; this compares with 58 per cent of the below-average departments being in areas of less than 44.1 per cent tenancy.

Four per cent of the above-average departments were in areas where the per cent of tenancy was less than 16.1 per cent; whereas, none of the below-average departments were in areas having an average of less than 16.1 per cent tenancy.

One of the fifty departments rated below-average was located in an area where the percentage of tenancy was more than 72 per cent. None of the departments rated above-average

TABLE IV

AVERAGE PER CENT OF TENANCY IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Per Cent of Tenancy | Above-average Group | Below-average Group |
|---|---|---|
| 72.1 to 76 | 0 | 1 |
| 68.1 to 72 | 0 | 0 |
| 64.1 to 68 | 0 | 0 |
| 60.1 to 64 | 1 | 0 |
| 56.1 to 60 | 3 | 4 |
| 52.1 to 56 | 3 | 2 |
| 48.1 to 52 | 5 | 7 |
| 44.1 to 48 | 7 | 7 |
| 40.1 to 44 | 4 | 5 |
| 36.1 to 40 | 6 | 11 |
| 32.1 to 36 | 5 | 2 |
| 28.1 to 32 | 5 | 5 |
| 24.1 to 28 | 3 | 4 |
| 20.1 to 24 | 2 | 1 |
| 16.1 to 20 | 4 | 1 |
| 12.1 to 16 | 1 | 0 |
| 8.1 to 12 | 0 | 0 |
| 4.1 to 8 | 0 | 0 |
| 0 to 4 | 1 | 0 |
| Number of Schools | 50 | 50 |
| Mean | 38.52 | 41.76 |
| Standard Deviation | 12.99 | 10.83 |
| t-test | .57 (not significant) | |

were in areas having an average percentage of tenancy higher than 64 per cent.

Per cent of farms reporting cows and heifers milked and the average number of cows and heifers milked per farm reporting cows and heifers milked. The per cent of farms reporting cows and heifers milked and the average number of cows and heifers milked per farm reporting cows and heifers milked was believed to have an influence on the success of a vocational agriculture department. Table V shows the mean per cent of farms reporting cows and heifers milked to be 87.58 for the below-average departments compared to 86.60 for the above-average group. No significant difference was found between the two groups of departments.

Two of the above-average departments were in areas where the per cent of farms reporting cows and heifers milked was less than 66 per cent. None of the below-average departments were in areas having less than 68 per cent of the farms reporting cows and heifers milked.

Eight of the below-average departments and five of the above-average departments were in areas reporting more than 95 per cent of the farms milking cows and heifers.

Table VI shows the mean of the two groups to be practically identical concerning the average number of cows and heifers milked for those farms reporting cows and heifers milked. No significant difference is shown between the two groups in the average number of cows and heifers milked.

Six per cent of the above-average departments were in

TABLE V

PER CENT OF FARMS REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 99 to 100 | 1 | 1 |
| 97 to 98 | 1 | 3 |
| 95 to 96 | 3 | 4 |
| 93 to 94 | 4 | 5 |
| 91 to 92 | 6 | 8 |
| 89 to 90 | 5 | 4 |
| 87 to 88 | 7 | 2 |
| 85 to 86 | 4 | 5 |
| 83 to 84 | 9 | 10 |
| 81 to 82 | 3 | 1 |
| 79 to 80 | 3 | 2 |
| 77 to 78 | 1 | 1 |
| 75 to 76 | 1 | 2 |
| 73 to 74 | 0 | 0 |
| 71 to 72 | 0 | 1 |
| 69 to 70 | 0 | 1 |
| 67 to 68 | 0 | 0 |
| 65 to 66 | 2 | 0 |
| Number of Schools | 50 | 50 |
| Mean | 86.60 | 87.58 |
| Standard Deviation | 6.81 | 6.77 |
| t-test | .53 (not significant) | |

TABLE VI

AVERAGE NUMBER OF COWS AND HEIFERS MILKED PER FARM REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Number of Cows | Above-average Group | Below-average Group |
|---|---|---|
| 8.1 to 8.5 | 0 | 1 |
| 7.5 to 8.0 | 2 | 0 |
| 7.1 to 7.5 | 1 | 1 |
| 6.6 to 7.0 | 4 | 6 |
| 6.1 to 6.5 | 4 | 3 |
| 5.6 to 6.0 | 7 | 0 |
| 5.1 to 5.5 | 2 | 7 |
| 4.6 to 5.0 | 7 | 8 |
| 4.1 to 4.5 | 5 | 8 |
| 3.6 to 4.0 | 5 | 2 |
| 3.1 to 3.5 | 4 | 7 |
| 2.6 to 3.0 | 4 | 2 |
| 2.1 to 2.5 | 2 | 5 |
| 1.5 to 2.0 | 3 | 0 |
| Number of Schools | 50 | 50 |
| Mean | 4.68 | 4.67 |
| Standard Deviation | 1.57 | 1.48 |
| t-test | .03 (not significant) | |

areas where the average number of cows and heifers milked was less than two per farm. All of the below-average departments were in areas with an average of more than two cows and heifers milked per farm. In one of the service areas of a department rated below-average, an average of more than eight cows and heifers were milked per farm.

Per cent of farms reporting cattle. It was considered advisable to determine if there was any difference in the per cent of farms reporting cattle, and also the average number of cattle per farm in the communities served by departments of vocational agriculture rated above-average and those rated below-average.

Table VII shows the departments rated below-average reported an average of 91.12 per cent of the farms having cattle compared to 91.04 per cent of the farms in the service areas of the departments rated above-average. No significant difference was found between the two groups for the per cent of farms reporting cattle.

Fifteen of the 100 departments were located in areas where more than 96 per cent of the farms reported cattle.

Table VII also shows that more than 72 per cent of all farms in the service areas of the departments involved in this study reported cattle.

Average number of cattle per farm reporting cattle. Table VIII shows the above-average departments to have a higher mean for the average number of cattle per farm. The mean for the above-average departments was 21.08 cattle per

TABLE VII

PER CENT OF FARMS REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 98.1 to 100 | 3 | 3 |
| 96.1 to 98 | 1 | 8 |
| 94.1 to 96 | 5 | 6 |
| 92.1 to 94 | 11 | 2 |
| 90.1 to 92 | 15 | 11 |
| 88.1 to 90 | 6 | 5 |
| 86.1 to 88 | 2 | 3 |
| 84.1 to 86 | 1 | 7 |
| 92.1 to 84 | 3 | 1 |
| 80.1 to 82 | 1 | 2 |
| 78.1 to 80 | 0 | 1 |
| 76.1 to 78 | 1 | 1 |
| 74.1 to 76 | 0 | 0 |
| 72.1 to 74 | 1 | 0 |
| Number of Schools | 50 | 50 |
| Mean | 91.04 | 91.12 |
| Standard Deviation | 5.67 | 5.82 |
| t-test | .07 (not significant) | |

farm compared to 18.94 for the below-average departments. However, no significant difference was found to exist between the two groups concerning the average number of cattle per farm.

A wide variation is noted in the average number of cattle per farm for the departments involved in this study. One of the below-average departments was in an area having an average of less than eight cattle per farm. All of the farms reporting cattle which were located in the service areas of the above-average departments reported an average of more than eight per farm.

None of the departments rated below-average were in areas having an average of more than 40 cattle per farm. Four of the above-average departments were in areas with an average of more than 44 cattle per farm and one of the above-average departments was in an area reporting an average of more than 68 cattle per farm.

Per cent of farms reporting cotton and the average acres of cotton per farm reporting cotton. These factors were thought to have an influence upon the rating of a department of vocational agriculture. The below-average department show a higher average per cent of the farms reporting cotton. The mean for the below-average departments was 36.82 per cent compared to 33.56 per cent for the above-average departments. Twenty-four of the 100 departments were located in areas having less than 5.1 per cent of the farms reporting cotton. This would tend to indicate that cotton is not a major crop

TABLE VIII

AVERAGE NUMBER OF CATTLE PER FARM REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Number of Cattle | Above-average Group | Below-average Group |
|---|---|---|
| 68.1 to 72 | 1 | 0 |
| 64.1 to 68 | 0 | 0 |
| 60.1 to 64 | 0 | 0 |
| 56.1 to 60 | 1 | 0 |
| 52.1 to 56 | 0 | 0 |
| 48.1 to 52 | 1 | 0 |
| 44.1 to 48 | 1 | 0 |
| 40.1 to 44 | 0 | 0 |
| 36.1 to 40 | 0 | 2 |
| 32.1 to 36 | 1 | 2 |
| 28.1 to 32 | 4 | 1 |
| 24.1 to 28 | 3 | 4 |
| 20.1 to 24 | 6 | 9 |
| 16.1 to 20 | 9 | 9 |
| 12.1 to 16 | 12 | 15 |
| 8.1 to 12 | 11 | 7 |
| 4.1 to 8 | 0 | 1 |
| Number of Schools | 50 | 50 |
| Mean | 21.08 | 18.94 |
| Standard Deviation | 12.51 | 7.51 |
| t-test | 1.04 (not significant) | |

in the area served by these 24 departments. However, 11 of the 100 departments were in areas where more than 75 per cent of the farms reported cotton.

Table X shows the below-average departments to have an average of 19.16 acres of cotton per farm compared to 15.68 acres for the above-average departments. No significant difference was found to exist between the two groups of departments when tested by the null hypothesis.

Nine of the above-average departments were in areas where the average acres of cotton per farm was less than 4.1 acres per farm while only two of the below-average departments were in areas reporting less than 4.1 acres of cotton per farm.

Five of the 100 departments were in areas where an average of more than 52 acres of cotton per farm was grown.

Per cent of farms reporting wheat and the average acres of wheat per farm reporting wheat. Wheat is one of the major cash crops in Oklahoma and the possibility of some relation between the amount of wheat grown in the service area of a department of vocational agriculture and the rating of that department was considered. After analyzing the data collected, no significant difference was found between the above-average and the below-average departments in the per cent of farms reporting wheat even though the above-average departments show a higher per cent of farms reporting wheat. The mean per cent of farms reporting wheat for the above-average departments was 32.96 in contrast to 29.24 per cent for the below-average departments.

TABLE IX

PER CENT OF FARMS REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 90.1 to 95 | 0 | 1 |
| 85.1 to 90 | 0 | 1 |
| 80.1 to 85 | 3 | 2 |
| 75.1 to 80 | 2 | 2 |
| 70.1 to 75 | 3 | 3 |
| 65.1 to 70 | 2 | 2 |
| 60.1 to 65 | 2 | 2 |
| 55.1 to 60 | 1 | 1 |
| 50.1 to 55 | 2 | 5 |
| 45.1 to 50 | 1 | 1 |
| 40.1 to 45 | 3 | 3 |
| 35.1 to 40 | 4 | 3 |
| 30.1 to 35 | 4 | 1 |
| 25.1 to 30 | 1 | 1 |
| 20.1 to 25 | 2 | 3 |
| 15.1 to 20 | 3 | 2 |
| 10.1 to 15 | 3 | 2 |
| 5.1 to 10 | 2 | 3 |
| 0 to 5 | 12 | 12 |
| Number of Schools | 50 | 50 |
| Mean | 33.56 | 36.82 |
| Standard Deviation | 27.68 | 26.93 |
| t-test | .57 (not significant) | |

TABLE X

AVERAGE ACRES OF COTTON PER FARM REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 60.1 to 64 | 1 | 0 |
| 56.1 to 60 | 0 | 3 |
| 52.1 to 56 | 0 | 1 |
| 48.1 to 52 | 0 | 0 |
| 44.1 to 48 | 0 | 2 |
| 40.1 to 44 | 1 | 0 |
| 36.1 to 40 | 0 | 1 |
| 32.1 to 36 | 3 | 1 |
| 28.1 to 32 | 1 | 2 |
| 24.1 to 28 | 3 | 1 |
| 20.1 to 24 | 3 | 4 |
| 16.1 to 20 | 10 | 3 |
| 12.1 to 16 | 7 | 5 |
| 8.1 to 12 | 8 | 20 |
| 4.1 to 8 | 4 | 5 |
| 0 to 4 | 9 | 2 |
| Number of Schools | 50 | 50 |
| Mean | 15.68 | 19.16 |
| Standard Deviation | 12.78 | 15.15 |
| t-test | 1.24 (not significant) | |

Table XI shows that 27 of the 100 departments were located in areas where the per cent of farms reporting wheat was less than 5.1 per cent of the total farms.

Table XII reveals a wide range in the average acres of wheat per farm reporting wheat. Twenty-one of the 100 schools were in areas where the average acres of wheat per farm was 15 acres or less while two of the schools were in areas where the average acres of wheat per farm was more than 225 acres per farm.

The mean for the average acres of wheat per farm was 55.32 acres per farm for the departments rated above-average compared to 49.14 acres for those departments rated below-average. However, this was not a significant difference when tested by the null hypothesis.

Twenty-four per cent of the above-average departments were in areas where the average acres of wheat was less than 15 acres per farm. While 18 per cent of the below-average departments were in areas with an average of less than 15 acres of wheat per farm.

Six per cent of the above-average group of departments were in areas with an average of more than 195 acres of wheat per farm. None of the below-average departments were in areas having an average of more than 195 acres of wheat per farm.

TABLE XI

PER CENT OF FARMS REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 90.1 to 95 | 2 | 0 |
| 85.1 to 90 | 0 | 2 |
| 80.1 to 85 | 3 | 1 |
| 75.1 to 80 | 2 | 2 |
| 70.1 to 75 | 3 | 4 |
| 65.1 to 70 | 1 | 1 |
| 60.1 to 65 | 0 | 1 |
| 55.1 to 60 | 2 | 0 |
| 50.1 to 55 | 2 | 1 |
| 45.1 to 50 | 0 | 2 |
| 40.1 to 45 | 4 | 0 |
| 35.1 to 40 | 0 | 1 |
| 30.1 to 35 | 4 | 3 |
| 25.1 to 30 | 2 | 4 |
| 20.1 to 25 | 1 | 3 |
| 15.1 to 20 | 3 | 0 |
| 10.1 to 15 | 3 | 3 |
| 5.1 to 10 | 8 | 5 |
| 0 to 5 | 10 | 17 |
| Number of Schools | 50 | 50 |
| Mean | 32.96 | 29.24 |
| Standard Deviation | 30.07 | 31.24 |
| t-test | .61 (not significant) | |

TABLE XII

AVERAGE ACRES OF WHEAT PER FARM REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY FIFTY ABOVE-AVERAGE AND FIFTY BELOW-AVERAGE DEPARTMENTS

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 225.1 to 240 | 2 | 0 |
| 210.1 to 225 | 0 | 0 |
| 195.1 to 210 | 1 | 0 |
| 180.1 to 195 | 0 | 1 |
| 165.1 to 180 | 0 | 1 |
| 150.1 to 165 | 1 | 1 |
| 135.1 to 150 | 0 | 1 |
| 120.1 to 135 | 4 | 1 |
| 105.1 to 120 | 2 | 2 |
| 90.1 to 105 | 4 | 3 |
| 75.1 to 90 | 0 | 1 |
| 60.1 to 75 | 0 | 2 |
| 45.1 to 60 | 1 | 4 |
| 30.1 to 45 | 9 | 8 |
| 15.1 to 30 | 14 | 16 |
| 0 to 15 | 12 | 9 |
| Number of Schools | 50 | 50 |
| Mean | 55.32 | 49.14 |
| Standard Deviation | 59.51 | 47.90 |
| t-test | .49 (not significant) | |

## Comparisons Within the Five Supervisory Districts

Number of farms per school district. Because of the wide variation noted in the number of farms per school district for the 100 schools in this study, it seemed desirable to compare the schools within each supervisory district to determine if there was a significant difference between the departments rated above-average and those rated below-average.

In the central supervisory district the departments rated above-average were in school districts with the highest number of farms. In the northeast supervisory district, however, the below-average departments were in school districts with the largest number of farms.

In the southeast supervisory district the above-average departments show an average of 704.70 farms per school district compared to 305.40 farms per school district for the below-average departments. This reveals a highly significant difference when tested by the null hypothesis.

In the northwest supervisory district the average number of farms per school district was 252.70 for the above-average departments compared to 246.20 for the below-average departments. There was not a significant difference between the two groups.

In the southwest supervisory district the above-average departments were found to be in school districts with a higher average number of farms. The mean for the above-average departments was 455.60 farms compared to 364.80 for the

below-average departments. No significant difference was found between the two groups of departments when tested by the null hypothesis.

In four of the five supervisory districts the departments rated above-average were found to have a higher average number of farms per school district. Only in the southeast supervisory district, however, was any significant difference found to exist between the two groups of departments.

TABLE XIII

NUMBER OF FARMS IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Number of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 670.1 to 700 | 1 | 0 |
| 640.1 to 670 | 0 | 0 |
| 610.1 to 640 | 0 | 0 |
| 580.1 to 610 | 1 | 0 |
| 550.1 to 580 | 0 | 1 |
| 520.1 to 550 | 1 | 0 |
| 490.1 to 520 | 1 | 1 |
| 460.1 to 490 | 1 | 0 |
| 430.1 to 460 | 0 | 1 |
| 400.1 to 430 | 0 | 0 |
| 370.1 to 400 | 1 | 2 |
| 340.1 to 370 | 1 | 0 |
| 310.1 to 340 | 0 | 1 |
| 280.1 to 310 | 1 | 0 |
| 250.1 to 280 | 0 | 0 |
| 220.1 to 250 | 0 | 2 |
| 190.1 to 220 | 0 | 1 |
| 160.1 to 190 | 0 | 0 |
| 130.1 to 160 | 0 | 1 |
| 100.1 to 130 | 2 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 393.50 | 340.50 |
| Standard Deviation | 210.30 | 132.11 |
| t-test | .69 (not significant) | |

TABLE XIV

NUMBER OF FARMS IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Number of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 1670.1 to 1750 | 0 | 1 |
| 1590.1 to 1670 | 0 | 0 |
| 1510.1 to 1590 | 0 | 0 |
| 1430.1 to 1510 | 0 | 0 |
| 1350.1 to 1430 | 0 | 0 |
| 1270.1 to 1350 | 0 | 0 |
| 1190.1 to 1270 | 0 | 0 |
| 1110.1 to 1190 | 0 | 0 |
| 1030.1 to 1110 | 0 | 0 |
| 950.1 to 1030 | 0 | 0 |
| 870.1 to 950 | 1 | 1 |
| 790.1 to 870 | 1 | 1 |
| 710.1 to 790 | 1 | 0 |
| 630.1 to 710 | 0 | 1 |
| 550.1 to 630 | 1 | 1 |
| 470.1 to 550 | 0 | 1 |
| 390.1 to 470 | 2 | 3 |
| 310.1 to 390 | 1 | 1 |
| 230.1 to 310 | 2 | 0 |
| 150.1 to 230 | 1 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 492.30 | 678.40 |
| Standard Deviation | 264.24 | 402.36 |
| t-test | 1.22 (not significant) | |

TABLE XV

NUMBER OF FARMS IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Number of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 1500.1 to 1570 | 1 | 0 |
| 1430.1 to 1500 | 0 | 0 |
| 1360.1 to 1430 | 0 | 0 |
| 1290.1 to 1360 | 0 | 0 |
| 1220.1 to 1290 | 0 | 0 |
| 1150.1 to 1220 | 2 | 0 |
| 1080.1 to 1150 | 0 | 0 |
| 1010.1 to 1080 | 0 | 0 |
| 940.1 to 1010 | 0 | 0 |
| 870.1 to 940 | 0 | 0 |
| 800.1 to 870 | 0 | 0 |
| 730.1 to 800 | 1 | 0 |
| 660.1 to 730 | 0 | 0 |
| 590.1 to 660 | 0 | 0 |
| 520.1 to 590 | 0 | 0 |
| 450.1 to 520 | 2 | 1 |
| 380.1 to 450 | 1 | 2 |
| 310.1 to 380 | 3 | 1 |
| 240.1 to 310 | 0 | 4 |
| 170.1 to 240 | 0 | 2 |
| Number of Schools | 10 | 10 |
| Mean | 704.70 | 305.40 |
| Standard Deviation | 338.42 | 89.24 |
| t-test | 3.87** | |

NOTE: A single asterisk (*) denotes significance at the five per cent level; a double asterisk (**) denotes significance at the one per cent level.

TABLE XVI

NUMBER OF FARMS IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Number of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 500.1 to 525 | 0 | 1 |
| 475.1 to 500 | 1 | 0 |
| 450.1 to 475 | 0 | 0 |
| 425.1 to 450 | 0 | 1 |
| 400.1 to 425 | 1 | 0 |
| 375.1 to 400 | 0 | 0 |
| 350.1 to 375 | 0 | 0 |
| 325.1 to 350 | 0 | 0 |
| 300.1 to 325 | 1 | 0 |
| 275.1 to 300 | 1 | 0 |
| 250.1 to 275 | 1 | 1 |
| 225.1 to 250 | 1 | 3 |
| 200.1 to 225 | 0 | 1 |
| 175.1 to 200 | 1 | 0 |
| 150.1 to 175 | 0 | 0 |
| 125.1 to 150 | 1 | 2 |
| 100.1 to 125 | 2 | 0 |
| 75.1 to 100 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 252.70 | 246.20 |
| Standard Deviation | 117.41 | 122.32 |
| t-test | .12 (not significant) | |

TABLE XVII

NUMBER OF FARMS IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Number of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 940.1 to 980 | 1 | 0 |
| 900.1 to 940 | 0 | 0 |
| 860.1 to 900 | 0 | 0 |
| 820.1 to 860 | 0 | 0 |
| 780.1 to 820 | 0 | 0 |
| 740.1 to 780 | 0 | 0 |
| 700.1 to 740 | 0 | 0 |
| 660.1 to 700 | 0 | 1 |
| 620.1 to 660 | 1 | 0 |
| 580.1 to 620 | 0 | 0 |
| 540.1 to 580 | 1 | 1 |
| 500.1 to 540 | 1 | 0 |
| 460.1 to 500 | 0 | 0 |
| 420.1 to 460 | 1 | 1 |
| 380.1 to 420 | 0 | 1 |
| 340.1 to 380 | 0 | 0 |
| 300.1 to 340 | 3 | 1 |
| 260.1 to 300 | 1 | 2 |
| 220.1 to 260 | 0 | 2 |
| 180.1 to 220 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 455.60 | 364.80 |
| Standard Deviation | 230.21 | 200.50 |
| t-test | .97 (not significant) | |

Average acres per farm. After noting the wide variation in the average acres per farm for the 100 school districts, this question arose, "Is there a significant difference in the average acres per farm between the above-average departments and the below-average departments of vocational agriculture in a supervisory district?"

Table XVIII shows the departments rated below-average in the central supervisory district to have an average of 150.80 acres of land per farm compared to 138.70 acres for the departments rated above-average.

Table XVIII also shows a wide range in the average acres of land per farm especially in the areas served by the below-average departments. Three of the below-average departments were in areas where the average acres of land per farm was less than 72 acres, while one of the departments in this group was in an area with an average of more than 288 acres of land per farm.

In the northeast supervisory district the below-average departments had a mean of 146.80 acres of land per farm compared to 137.00 acres for the above-average departments.

A study of Table XX reveals that in the southeast supervisory district the below-average departments had a higher average acres of land per farm. The mean for the below-average departments was 165.80 acres per farm compared to 121.00 acres for those departments rated above-average. Because of the wide distribution as indicated by the difference in the standard deviation scores, no significant difference was found

between the two groups.

In the northwest supervisory district the above-average departments had an average of 399.10 acres of land per farm compared to 293.50 acres for the below-average departments. However, when tested by the null hypothesis, no significant difference was found between the two groups of departments.

One of the above-average departments in the northwest supervisory district was in an area having an average of less than 175.1 acres of land per farm; whereas, three of the departments in this group were in areas having an average of more than 420 acres of land per farm, with one department reporting an average of more than 805 acres of land per farm. None of the below-average departments in the northwest supervisory district were in areas having an average of more than 420 acres of land per farm.

Table XXII shows that the below-average departments in the southwest supervisory district to have an average of 230.60 acres of land per farm compared to 219.90 acres for the above-average departments. In this supervisory district the two of the 20 departments were in areas with an average of less than 155 acres of land per farm while one of the departments was in an area where the average acres of land per farm was more than 380 acres.

In none of the five supervisory districts was a significant difference found between the two groups of departments concerning the average acres of land per farm in the service area of the department.

TABLE XVIII

AVERAGE ACRES OF LAND PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 288.1 to 300 | 0 | 1 |
| 276.1 to 288 | 0 | 0 |
| 264.1 to 276 | 0 | 0 |
| 252.1 to 264 | 0 | 0 |
| 240.1 to 252 | 0 | 0 |
| 228.1 to 240 | 0 | 0 |
| 216.1 to 228 | 0 | 0 |
| 204.1 to 216 | 0 | 0 |
| 192.1 to 204 | 0 | 1 |
| 180.1 to 192 | 0 | 1 |
| 168.1 to 180 | 1 | 0 |
| 156.1 to 168 | 3 | 2 |
| 144.1 to 156 | 2 | 1 |
| 132.1 to 144 | 1 | 1 |
| 120.1 to 132 | 0 | 0 |
| 108.1 to 120 | 1 | 0 |
| 96.1 to 108 | 0 | 0 |
| 84.1 to 96 | 1 | 0 |
| 72.1 to 84 | 1 | 0 |
| 60.1 to 72 | 0 | 3 |
| Number of Schools | 10 | 10 |
| Mean | 138.70 | 150.80 |
| Standard Deviation | 30.88 | 69.68 |
| t-test | .50 (not significant) | |

TABLE XIX

AVERAGE ACRES OF LAND PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 220.1 to 230 | 0 | 1 |
| 210.1 to 220 | 1 | 0 |
| 200.1 to 210 | 0 | 0 |
| 190.1 to 200 | 0 | 0 |
| 180.1 to 190 | 0 | 0 |
| 170.1 to 180 | 0 | 2 |
| 160.1 to 170 | 2 | 2 |
| 150.1 to 160 | 1 | 0 |
| 140.1 to 150 | 0 | 0 |
| 130.1 to 140 | 0 | 1 |
| 120.1 to 130 | 2 | 1 |
| 110.1 to 120 | 2 | 1 |
| 100.1 to 110 | 1 | 0 |
| 90.1 to 100 | 0 | 2 |
| 80.1 to 90 | 1 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 137.00 | 146.80 |
| Standard Deviation | 35.54 | 38.69 |
| t-test | .59 (not significant) | |

TABLE XX

AVERAGE ACRES OF LAND PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 320.1 to 335 | 0 | 1 |
| 305.1 to 320 | 0 | 0 |
| 290.1 to 305 | 0 | 0 |
| 275.1 to 290 | 0 | 0 |
| 260.1 to 275 | 0 | 0 |
| 245.1 to 260 | 0 | 1 |
| 230.1 to 245 | 0 | 0 |
| 215.1 to 230 | 0 | 0 |
| 200.1 to 215 | 0 | 0 |
| 185.1 to 200 | 0 | 1 |
| 170.1 to 185 | 0 | 1 |
| 155.1 to 170 | 1 | 0 |
| 140.1 to 155 | 3 | 2 |
| 125.1 to 140 | 1 | 0 |
| 110.1 to 125 | 1 | 1 |
| 95.1 to 110 | 1 | 2 |
| 80.1 to 95 | 3 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 121.00 | 165.80 |
| Standard Deviation | 27.90 | 71.74 |
| t-test | 1.84 (not significant) | |

TABLE XXI

AVERAGE ACRES OF LAND PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 805.1 to 840 | 1 | 0 |
| 770.1 to 805 | 0 | 0 |
| 735.1 to 770 | 0 | 0 |
| 700.1 to 735 | 0 | 0 |
| 665.1 to 700 | 1 | 0 |
| 630.1 to 665 | 0 | 0 |
| 595.1 to 630 | 0 | 0 |
| 560.1 to 595 | 0 | 0 |
| 525.1 to 560 | 0 | 0 |
| 490.1 to 525 | 0 | 0 |
| 455.1 to 490 | 0 | 0 |
| 420.1 to 455 | 1 | 0 |
| 385.1 to 420 | 0 | 2 |
| 350.1 to 385 | 1 | 1 |
| 315.1 to 350 | 2 | 1 |
| 280.1 to 315 | 2 | 1 |
| 245.1 to 280 | 0 | 2 |
| 210.1 to 245 | 1 | 1 |
| 175.1 to 210 | 0 | 1 |
| 140.1 to 175 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 399.10 | 293.50 |
| Standard Deviation | 195.09 | 79.06 |
| t-test | 1.60 (not significant) | |

TABLE XXII

AVERAGE ACRES OF LAND PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 380.1 to 395 | 0 | 1 |
| 365.1 to 380 | 0 | 0 |
| 350.1 to 365 | 1 | 0 |
| 335.1 to 350 | 0 | 1 |
| 320.1 to 335 | 0 | 0 |
| 305.1 to 320 | 0 | 0 |
| 290.1 to 305 | 0 | 0 |
| 275.1 to 290 | 0 | 1 |
| 260.1 to 275 | 0 | 0 |
| 245.1 to 260 | 1 | 0 |
| 230.1 to 245 | 2 | 0 |
| 215.1 to 230 | 1 | 1 |
| 200.1 to 215 | 0 | 1 |
| 185.1 to 200 | 2 | 2 |
| 170.1 to 185 | 1 | 1 |
| 155.1 to 170 | 1 | 1 |
| 140.1 to 155 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 219.90 | 230.60 |
| Standard Deviation | 53.70 | 73.59 |
| t-test | .37 (not significant) | |

Average investment in land and buildings per farm. No significant difference was found between the two groups of departments in the average investment in land and buildings per farm when they were compared on a state-wide basis. However, it seemed reasonable to assume that because of the wide variation evidenced on the state basis that there could be a significant difference between the two groups of departments concerning average investment in land and buildings per farm when they were compared on a supervisory district basis.

In the central supervisory district, the above-average departments were in areas having an average investment in land and buildings per farm of $6,304.60 compared to an investment of $5,142.90 for the below-average departments.

None of the above-average departments in the central supervisory district were in areas having less than $3,800 invested in land and buildings per farm but three of the ten below-average departments were in areas having less than $3,401 per farm invested in land and buildings.

One of the above-average departments was in an area having an average of more than $8,600 invested in land and buildings per farm and one of the below-average departments was in an area where the average investment in land and buildings was more than $9,400.

In the northeast supervisory district, the average investment in land and buildings was $4,917.80 for the above-average departments compared to $3,868.20 per farm for the departments rated below-average.

In this supervisory district the below-average departments had a wider distribution of money invested in land and buildings per farm than the above-average departments as indicated by the standard deviation scores for the two groups.

Table XXV reveals that in the southeast supervisory district the average investment in land and buildings per farm was $2,513.70 for the departments rated below-average compared to $2,207.40 invested for those farms in the areas served by the above-average departments.

Seven of the 20 departments in the southeast supervisory district had an average investment in land and buildings of less than $1,601 per farm. Only one of the 20 departments was in an area with an average investment in land and buildings of more than $5,900 per farm.

In the northwest supervisory district, the average investment in land and buildings was $14,272.70 for those farms in the service areas of the above-average departments. This compares with $12,099.40 invested in land and buildings per farm in the service areas of the below-average departments.

Three of the ten below-average departments were in areas where the average investment in land and buildings per farm was less than $8,951 while one of the ten above-average departments was in an area where the average investment in land and buildings was less than $7,451 per farm. However, none of the below-average departments were in areas having an average investment in land and buildings per farm of more than $18,950, while in the service area of one of the above-average

departments the average investment in land and buildings exceeded $21,200 per farm.

Table XXVII reveals that in the southwest supervisory district the mean investment in land and buildings per farm for the above-average departments was $9,594.40 compared to an investment of $8,105.90 per farm for the areas served by the below-average departments.

Two of the below-average departments in this supervisory district were in areas where the average investment in land and buildings was less than $4,541 per farm.

None of the areas served by the below-average departments reported an average investment in land and buildings of more than $10,880 per farm in the southwest supervisory district while two of the above-average departments were in areas where the average investment in land and buildings was more than $11,520 per farm and one of the departments was in an area where the average investment in land and buildings exceeded $16,361 per farm.

In four of the five supervisory districts the above-average departments showed a higher average investment in land and buildings per farm. However, the difference in the mean of the two groups was not sufficient to manifest a significant difference between the two groups of departments concerning average investment in land and buildings per farm in any of the supervisory districts when tested by the null hypothesis.

TABLE XXIII

AVERAGE INVESTMENT IN LAND AND BUILDINGS PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Dollars Invested | Above-average Group | Below-average Group |
|---|---|---|
| 9401 to 9800 | 0 | 1 |
| 9001 to 9400 | 0 | 0 |
| 8601 to 9000 | 1 | 0 |
| 8201 to 8600 | 0 | 0 |
| 7801 to 8200 | 0 | 1 |
| 7401 to 7800 | 1 | 0 |
| 7001 to 7400 | 1 | 1 |
| 6601 to 7000 | 2 | 0 |
| 6201 to 6600 | 1 | 1 |
| 5801 to 6200 | 0 | 0 |
| 5401 to 5800 | 2 | 0 |
| 5001 to 5400 | 0 | 0 |
| 4601 to 5000 | 1 | 0 |
| 4201 to 4600 | 0 | 1 |
| 3801 to 4200 | 1 | 2 |
| 3401 to 3800 | 0 | 0 |
| 3001 to 3400 | 0 | 1 |
| 2601 to 3000 | 0 | 0 |
| 2201 to 2600 | 0 | 1 |
| 1800 to 2200 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | $6,304.60 | $5,142.90 |
| Standard Deviation | $1,654.12 | $1,223.83 |
| t-test | 1.79 (not significant) | |

TABLE XXIV

AVERAGE INVESTMENT IN LAND AND BUILDINGS PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Dollars Invested | Above-average Group | Below-average Group |
|---|---|---|
| 6,141 to 6,360 | 2 | 0 |
| 5,921 to 6,140 | 0 | 1 |
| 5,701 to 5,920 | 1 | 0 |
| 5,481 to 5,700 | 0 | 0 |
| 5,261 to 5,480 | 2 | 1 |
| 5,041 to 5,260 | 2 | 2 |
| 4,821 to 5,040 | 0 | 0 |
| 4,601 to 4,820 | 0 | 1 |
| 4,381 to 4,600 | 0 | 0 |
| 4,161 to 4,380 | 1 | 0 |
| 3,941 to 4,160 | 0 | 0 |
| 3,721 to 3,940 | 0 | 0 |
| 3,501 to 3,720 | 0 | 0 |
| 3,281 to 3,500 | 1 | 0 |
| 3,061 to 3,280 | 0 | 1 |
| 2,841 to 3,060 | 0 | 1 |
| 2,621 to 2,840 | 0 | 0 |
| 2,401 to 2,620 | 0 | 0 |
| 2,181 to 2,400 | 0 | 1 |
| 1,960 to 2,180 | 1 | 2 |
| Number of Schools | 10 | 10 |
| Mean | $4,917.80 | $3,868.20 |
| Standard Deviation | $1,231.86 | $1,503.33 |
| t-test | 1.78 (not significant) | |

TABLE XXV

AVERAGE INVESTMENT IN LAND AND BUILDINGS PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Dollars Invested | Above-average Group | Below-average Group |
|---|---|---|
| 5,901 to 6,150 | 0 | 1 |
| 5,651 to 5,900 | 0 | 0 |
| 5,401 to 5,650 | 1 | 0 |
| 5,151 to 5,400 | 0 | 0 |
| 4,901 to 5,150 | 0 | 0 |
| 4,651 to 4,900 | 0 | 0 |
| 4,401 to 4,650 | 0 | 0 |
| 4,151 to 4,400 | 0 | 0 |
| 3,901 to 4,150 | 0 | 0 |
| 3,651 to 3,900 | 0 | 0 |
| 3,401 to 3,650 | 0 | 0 |
| 3,151 to 3,400 | 0 | 1 |
| 2,901 to 3,150 | 0 | 1 |
| 2,651 to 2,900 | 1 | 0 |
| 2,401 to 2,650 | 1 | 0 |
| 2,151 to 2,400 | 1 | 2 |
| 1,851 to 2,150 | 1 | 2 |
| 1,601 to 1,850 | 1 | 0 |
| 1,351 to 1,600 | 3 | 2 |
| 1,100 to 1,350 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | $2,207.40 | $2,513.70 |
| Standard Deviation | $1,251.39 | $1,316.77 |
| t-test | .53 (not significant) | |

TABLE XXVI

AVERAGE INVESTMENT IN LAND AND BUILDINGS PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Dollars Invested | Above-average Group | Below-average Group |
|---|---|---|
| 21,201 to 21,950 | 1 | 0 |
| 20,451 to 21,200 | 0 | 0 |
| 19,701 to 20,450 | 0 | 0 |
| 18,951 to 19,700 | 0 | 0 |
| 17,201 to 18,950 | 2 | 1 |
| 16,451 to 17,200 | 0 | 1 |
| 15,701 to 16,450 | 0 | 1 |
| 14,951 to 15,700 | 1 | 0 |
| 14,201 to 14,950 | 2 | 0 |
| 13,451 to 14,200 | 0 | 1 |
| 12,701 to 13,450 | 1 | 1 |
| 11,951 to 12,700 | 0 | 0 |
| 11,201 to 11,950 | 1 | 0 |
| 10,451 to 11,200 | 0 | 1 |
| 9,701 to 10,450 | 0 | 0 |
| 8,951 to 9,700 | 1 | 1 |
| 8,201 to 8,950 | 0 | 1 |
| 7,451 to 8,200 | 0 | 1 |
| 6,700 to 7,450 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | $14,272.70 | $12,099.40 |
| Standard Deviation | $ 4,230.62 | $ 3,861.85 |
| t-test | 1.20 (not significant) | |

TABLE XXVII

AVERAGE INVESTMENT IN LAND AND BUILDINGS PER FARM IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Dollars Invested | Above-average Group | Below-average Group |
|---|---|---|
| 16,361 to 17,000 | 1 | 0 |
| 15,721 to 16,360 | 0 | 0 |
| 15,081 to 15,720 | 0 | 0 |
| 14,441 to 15,080 | 0 | 0 |
| 13,801 to 14,440 | 0 | 0 |
| 13,161 to 13,800 | 0 | 0 |
| 11,521 to 13,160 | 1 | 0 |
| 10,881 to 11,520 | 0 | 0 |
| 10,241 to 10,880 | 2 | 1 |
| 9,561 to 10,240 | 1 | 2 |
| 8,921 to 9,560 | 1 | 2 |
| 8,281 to 8,920 | 0 | 2 |
| 7,641 to 8,280 | 0 | 0 |
| 7,001 to 7,640 | 1 | 1 |
| 6,361 to 7,000 | 1 | 0 |
| 5,721 to 6,360 | 1 | 0 |
| 5,181 to 5,720 | 1 | 0 |
| 4,541 to 5,180 | 0 | 0 |
| 3,900 to 4,540 | 0 | 2 |
| Number of Schools | 10 | 10 |
| Mean | $9,594.40 | $8,105.90 |
| Standard Deviation | $3,176.00 | $2,412.46 |
| t-test | 1.18 (not significant) | |

Per cent of tenancy. The per cent of tenancy was considered to have an effect upon the type of farming in a community thereby effecting the stability of the farming practiced in a community. It was deemed advisable to compare the departments rated above-average with those rated below-average on a supervisory district basis to determine if there was a significant difference in the per cent of tenancy prevailing in the areas served by the two groups of departments.

In the central supervisory district the average per cent of tenancy in the areas served by the below-average departments was 39.20 per cent compared to 34.80 per cent for the areas served by the departments rated above-average. No significant difference was found between the two groups when tested by the null hypothesis. Although the below-average departments had the higher mean per cent of tenancy a wider distribution of tenancy was found in the areas served by the above-average departments as shown by the standard deviation scores for the two groups.

Three of the ten above-average departments were in areas where the per cent of tenancy was more than 45 per cent. Two of the below-average departments were in areas where the average per cent of tenancy was more than 45 per cent.

One of the above-average departments was in an area where the per cent of tenancy was less than 3.1 per cent. None of the below-average departments were in areas having less than 21 per cent tenancy.

In the northeast supervisory district the average per cent

of tenancy in the service areas of the below-average departments was 38.90 per cent compared to 37.40 per cent in the areas served by the above-average departments. None of the 20 departments in this supervisory district were in areas having less than 15 per cent tenancy nor more than 60 per cent tenancy.

Table XXX shows that in the southeast supervisory district the below-average departments had a mean per cent of tenancy of 46.20 compared to 41.30 per cent for the areas served by the above-average departments. No significant difference was found between the two groups in the southeast supervisory district.

The average per cent of tenancy in the northwest supervisory district was 35.70 in the service areas served by the below-average departments and 33.10 percent for the areas served by the above-average departments. No significant difference was found between the two groups.

Four of the above-average departments were in areas having less than 24.1 per cent tenancy while none of the below-average departments were in areas having less than 26 per cent tenancy. However, one of the above-average departments was in an area having more than 50 per cent tenancy while none of the below-average departments were in areas with more than 50 per cent tenancy.

In the southwest supervisory district the below-average departments had a mean per cent of tenancy of 48.80 per cent compared to 46.00 per cent for the above-average departments.

One of the ten below-average departments was in an area

having more than 72 per cent tenancy. None of the above-average departments were in areas having more than 60 per cent tenancy.

When the data were collected and analyzed on a supervisory district basis the above-average departments were found to have the lower percentage of tenancy in all of the supervisory districts. Not enough difference existed between the means of the two groups of departments to show a significant difference in any of the supervisory districts when the data were tested by the null hypothesis.

TABLE XXVIII

PER CENT OF TENANCY IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Per Cent of Tenancy | Above-average Group | Below-average Group |
|---|---|---|
| 54.1 to 57 | 1 | 0 |
| 51.1 to 54 | 0 | 0 |
| 48.1 to 51 | 1 | 0 |
| 45.1 to 48 | 1 | 2 |
| 42.1 to 45 | 0 | 1 |
| 39.1 to 42 | 0 | 3 |
| 36.1 to 39 | 1 | 2 |
| 33.1 to 36 | 2 | 0 |
| 30.1 to 33 | 2 | 1 |
| 27.1 to 30 | 0 | 0 |
| 24.1 to 27 | 0 | 0 |
| 21.1 to 24 | 1 | 1 |
| 18.1 to 21 | 0 | 0 |
| 15.1 to 18 | 0 | 0 |
| 12.1 to 15 | 0 | 0 |
| 9.1 to 12 | 0 | 0 |
| 6.1 to 9 | 0 | 0 |
| 3.1 to 6 | 0 | 0 |
| 0 to 3 | 1 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 34.80 | 39.20 |
| Standard Deviation | 14.79 | 6.62 |
| t-test | .86 (not significant) | |

TABLE XXIX

PER CENT OF TENANCY IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Per Cent of Tenancy | Above-average Group | Below-average Group |
|---|---|---|
| 57.1 to 60 | 0 | 1 |
| 54.1 to 57 | 1 | 1 |
| 51.1 to 54 | 1 | 0 |
| 48.1 to 51 | 1 | 1 |
| 45.1 to 48 | 0 | 0 |
| 42.1 to 45 | 0 | 0 |
| 39.1 to 42 | 2 | 2 |
| 36.1 to 39 | 1 | 1 |
| 33.1 to 36 | 1 | 0 |
| 30.1 to 33 | 0 | 1 |
| 27.1 to 30 | 0 | 0 |
| 24.1 to 27 | 1 | 2 |
| 21.1 to 24 | 0 | 0 |
| 18.1 to 21 | 0 | 0 |
| 15.1 to 18 | 2 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 37.40 | 38.90 |
| Standard Deviation | 13.28 | 12.60 |
| t-test | .26 (not significant) | |

TABLE XXX

PER CENT OF TENANCY IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Per Cent of Tenancy | Above-average Group | Below-average Group |
|---|---|---|
| 62.1 to 64 | 1 | 0 |
| 60.1 to 62 | 0 | 0 |
| 58.1 to 60 | 0 | 0 |
| 56.1 to 58 | 0 | 1 |
| 54.1 to 56 | 0 | 0 |
| 52.1 to 54 | 1 | 0 |
| 50.1 to 52 | 0 | 1 |
| 48.1 to 50 | 0 | 4 |
| 46.1 to 48 | 0 | 2 |
| 44.1 to 46 | 1 | 0 |
| 42.1 to 44 | 1 | 0 |
| 40.1 to 42 | 1 | 0 |
| 38.1 to 40 | 1 | 0 |
| 36.1 to 38 | 1 | 1 |
| 34.1 to 36 | 0 | 0 |
| 32.1 to 34 | 1 | 0 |
| 30.1 to 32 | 0 | 0 |
| 28.1 to 30 | 1 | 0 |
| 26.1 to 28 | 0 | 0 |
| 24.1 to 26 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 41.30 | 46.20 |
| Standard Deviation | 10.70 | 8.48 |
| t-test | 1.13 (not significant) | |

TABLE XXXI

PER CENT OF TENANCY IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Per Cent of Tenancy | Above-average Group | Below-average Group |
|---|---|---|
| 50.1 to 52 | 1 | 0 |
| 48.1 to 50 | 0 | 1 |
| 46.1 to 48 | 1 | 0 |
| 44.1 to 46 | 2 | 0 |
| 42.1 to 44 | 0 | 1 |
| 40.1 to 42 | 0 | 0 |
| 38.1 to 40 | 0 | 0 |
| 36.1 to 38 | 0 | 3 |
| 34.1 to 36 | 0 | 0 |
| 32.1 to 34 | 0 | 1 |
| 30.1 to 32 | 1 | 1 |
| 28.1 to 30 | 0 | 2 |
| 26.1 to 28 | 1 | 1 |
| 24.1 to 26 | 0 | 0 |
| 22.1 to 24 | 1 | 0 |
| 20.1 to 22 | 0 | 0 |
| 18.1 to 20 | 3 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 33.10 | 35.70 |
| Standard Deviation | 12.04 | 6.20 |
| t-test | .61 (not significant) | |

TABLE XXXII

PER CENT OF TENANCY IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Per Cent of Tenancy | Above-average Group | Below-average Group |
|---|---|---|
| 72.1 to 75 | 0 | 1 |
| 69.1 to 72 | 0 | 0 |
| 66.1 to 69 | 0 | 0 |
| 63.1 to 66 | 0 | 0 |
| 60.1 to 63 | 0 | 0 |
| 57.1 to 60 | 1 | 1 |
| 54.1 to 57 | 1 | 1 |
| 51.1 to 54 | 2 | 1 |
| 48.1 to 51 | 0 | 0 |
| 45.1 to 48 | 2 | 2 |
| 42.1 to 45 | 0 | 0 |
| 39.1 to 42 | 0 | 2 |
| 36.1 to 39 | 2 | 1 |
| 33.1 to 36 | 1 | 0 |
| 30.1 to 33 | 1 | 0 |
| 27.1 to 30 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 46.00 | 48.80 |
| Standard Deviation | 9.04 | 12.38 |
| t-test | .58 (not significant) | |

Per cent of farms reporting cows and heifers milked. It was considered advisable to collate the data on a supervisory district basis to determine if there was any significant difference in the per cent of farms reporting cows and heifers milked for the above-average departments and the below-average departments. After collating the data, no significant difference was found for the per cent of farms reporting cows and heifers milked between the above-average departments and the below-average departments in any of the supervisory districts.

In the central supervisory district the mean for the farms in the service areas of the below-average departments was 83.90 compared to 82.10 for the above-average departments.

In the northeast supervisory district the average per cent of farms reporting cows and heifers milked was slightly in favor of the above-average departments 87.80 per cent compared to 86.10 per cent for the below-average departments.

The southeast supervisory district showed the highest average for the per cent of farms reporting cows and heifers milked. Table XXXV shows the average per cent of farms reporting cows and heifers milked to be 91.40 for the farms served by the above-average departments as compared to 90.60 per cent for the below-average departments.

Table XXXVI reveals that the northwest supervisory district has a wide variation in the per cent of farms reporting cows and heifers milked. The mean for the farms in the below-average group was 87.40 per cent in contrast to 84.90 per cent of the farms reporting cows and heifers milked in the

above-average group.

In the southwest supervisory district the average per cent of farms reporting cows and heifers milked was 89.90 for the below-average departments compared to 86.80 per cent for the above-average departments.

TABLE XXXIII

PER CENT OF FARMS REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 94.1 to 96 | 0 | 1 |
| 92.1 to 94 | 0 | 1 |
| 90.1 to 92 | 1 | 1 |
| 88.1 to 90 | 0 | 1 |
| 86.1 to 88 | 1 | 0 |
| 84.1 to 86 | 1 | 0 |
| 92.1 to 84 | 4 | 2 |
| 80.1 to 82 | 1 | 0 |
| 78.1 to 80 | 0 | 1 |
| 76.1 to 78 | 0 | 1 |
| 74.1 to 76 | 1 | 1 |
| 72.1 to 74 | 0 | 0 |
| 70.1 to 72 | 0 | 0 |
| 68.1 to 70 | 0 | 1 |
| 66.1 to 68 | 0 | 0 |
| 64.1 to 66 | 1 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 82.10 | 83.90 |
| Standard Deviation | 6.96 | 8.61 |
| t-test | .51 (not significant) | |

TABLE XXXIV

PER CENT OF FARMS REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 92.1 to 94 | 2 | 1 |
| 90.1 to 92 | 1 | 2 |
| 88.1 to 90 | 1 | 1 |
| 86.1 to 88 | 2 | 0 |
| 84.1 to 86 | 1 | 2 |
| 82.1 to 84 | 2 | 2 |
| 80.1 to 82 | 0 | 0 |
| 78.1 to 80 | 1 | 1 |
| 76.1 to 78 | 0 | 0 |
| 74.1 to 76 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 87.80 | 86.10 |
| Standard Deviation | 4.17 | 5.54 |
| t-test | .78 (not significant) | |

TABLE XXXV

PER CENT OF FARMS REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 97.1 to 98 | 1 | 0 |
| 96.1 to 97 | 0 | 2 |
| 95.1 to 96 | 0 | 0 |
| 94.1 to 95 | 3 | 2 |
| 93.1 to 94 | 0 | 0 |
| 92.1 to 93 | 1 | 0 |
| 91.1 to 92 | 1 | 0 |
| 90.1 to 91 | 0 | 2 |
| 89.1 to 90 | 0 | 0 |
| 88.1 to 89 | 1 | 0 |
| 87.1 to 88 | 1 | 1 |
| 86.1 to 87 | 1 | 0 |
| 85.1 to 86 | 0 | 1 |
| 84.1 to 85 | 0 | 0 |
| 83.1 to 84 | 0 | 1 |
| 82.1 to 83 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 91.40 | 90.60 |
| Standard Deviation | 4.59 | 4.96 |
| t-test | .37 (not significant) | |

TABLE XXXVI

PER CENT OF FARMS REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 98.1 to 100 | 1 | 0 |
| 96.1 to 98 | 0 | 0 |
| 94.1 to 96 | 0 | 1 |
| 92.1 to 94 | 0 | 1 |
| 90.1 to 92 | 2 | 2 |
| 88.1 to 90 | 1 | 2 |
| 86.1 to 88 | 0 | 0 |
| 84.1 to 86 | 2 | 1 |
| 82.1 to 84 | 1 | 2 |
| 80.1 to 82 | 0 | 0 |
| 78.1 to 80 | 1 | 0 |
| 76.1 to 78 | 1 | 0 |
| 74.1 to 76 | 0 | 0 |
| 72.1 to 74 | 0 | 0 |
| 70.1 to 72 | 0 | 1 |
| 68.1 to 70 | 0 | 0 |
| 66.1 to 68 | 0 | 0 |
| 64.1 to 66 | 1 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 84.90 | 87.40 |
| Standard Deviation | 8.77 | 5.36 |
| t-test | .77 (not significant) | |

TABLE XXXVII

PER CENT OF FARMS REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 98.1 to 100 | 0 | 1 |
| 96.1 to 98 | 0 | 1 |
| 94.1 to 96 | 0 | 0 |
| 92.1 to 94 | 1 | 2 |
| 90.1 to 92 | 1 | 1 |
| 88.1 to 90 | 2 | 0 |
| 86.1 to 88 | 2 | 1 |
| 84.1 to 86 | 0 | 1 |
| 82.1 to 84 | 2 | 3 |
| 80.1 to 82 | 2 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 86.80 | 89.90 |
| Standard Deviation | 4.31 | 5.59 |
| t-test | 1.39 (not significant) | |

Average number of cows and heifers milked per farm reporting cows and heifers milked. The average number of cows and heifers milked per farm was assumed to indicate which areas were predominately dairying regions. It was also assumed that there would be a significant difference in the two groups of departments when they were compared on a supervisory district basis.

When the data were tested by the null hypothesis concerning the average number of cows and heifers milked per farm in the central supervisory district no significant difference was found between the two groups.

The above-average departments had a mean of 4.87 cows and heifers milked per farm compared to 4.52 per farm for the below-average departments. In this supervisory district one of the below-average departments was in an area having an average of less than 2.51 cows and heifers milked per farm while none of the above-average departments were in areas with less than 3.01 cows and heifers milked per farm. One of the departments in each group was in an area where the average number of cows and heifers milked per farm was more than 6.75 per farm.

In the northeast supervisory district the areas served by the above-average departments reported an average of 4.48 cows and heifers milked per farm compared to 4.40 per farm for the below-average departments. No significant difference was found between the two groups. None of the 20 departments in the northeast supervisory district were in areas where the

average number of cows and heifers milked per farm was less than 2.75 or more than 7.00 per farm.

In the southeast supervisory district the below-average departments had an average of 3.34 cows and heifers milked per farm compared to 2.55 cows and heifers milked per farm for the farms in the service areas of the above-average departments. When tested by the null hypothesis this revealed a significant difference in favor of the below-average departments concerning the average number of cows and heifers milked per farm.

In the northwest supervisory district the average number of cows and heifers milked per farm was practically the same in the areas served by the above-average and the below-average departments. Also the standard deviation scores for the two groups was practically identical. No significant difference was found between the two groups in this supervisory district concerning the average number of cows and heifers milked per farm.

In the southwest supervisory district the mean average number of cows and heifers milked per farm was 5.51 for the above-average departments compared to 5.13 per farm for the below-average departments. When tested by the null hypothesis no significant difference was found between the two groups in the southwest supervisory district.

TABLE XXXVIII

AVERAGE NUMBER OF COWS AND HEIFERS MILKED PER FARM REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Number of Cows | Above-average Group | Below-average Group |
|---|---|---|
| 6.76 to 7.00 | 1 | 1 |
| 6.51 to 6.75 | 0 | 0 |
| 6.26 to 6.50 | 0 | 0 |
| 6.01 to 6.25 | 0 | 0 |
| 5.76 to 6.00 | 0 | 0 |
| 5.51 to 5.75 | 1 | 0 |
| 5.26 to 5.50 | 1 | 1 |
| 5.01 to 5.25 | 0 | 0 |
| 4.76 to 5.00 | 1 | 1 |
| 4.51 to 4.75 | 4 | 1 |
| 4.26 to 4.50 | 0 | 3 |
| 4.01 to 4.25 | 0 | 1 |
| 3.76 to 4.00 | 1 | 0 |
| 3.51 to 3.75 | 0 | 0 |
| 3.26 to 3.50 | 0 | 1 |
| 3.01 to 3.25 | 1 | 0 |
| 2.76 to 3.00 | 0 | 0 |
| 2.51 to 2.75 | 0 | 0 |
| 2.25 to 2.50 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 4.37 | 4.52 |
| Standard Deviation | .97 | 1.16 |
| t-test | .73 (not significant) | |

TABLE XXXIX

AVERAGE NUMBER OF COWS AND HEIFERS MILKED PER FARM REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Number of Cows | Above-average Group | Below-average Group |
|---|---|---|
| 6.76 to 7.00 | 0 | 1 |
| 6.51 to 6.75 | 0 | 0 |
| 6.26 to 6.50 | 1 | 1 |
| 6.01 to 6.25 | 1 | 0 |
| 5.76 to 6.00 | 0 | 0 |
| 5.51 to 5.75 | 0 | 0 |
| 5.26 to 5.50 | 0 | 0 |
| 5.01 to 5.25 | 1 | 1 |
| 4.76 to 5.00 | 1 | 0 |
| 4.51 to 4.75 | 0 | 1 |
| 4.26 to 4.50 | 1 | 0 |
| 4.01 to 4.25 | 1 | 1 |
| 3.76 to 4.00 | 1 | 0 |
| 3.51 to 3.75 | 0 | 1 |
| 3.26 to 3.50 | 1 | 3 |
| 3.01 to 3.25 | 1 | 0 |
| 2.75 to 3.00 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 4.48 | 4.40 |
| Standard Deviation | 1.15 | 1.29 |
| t-test | .27 (not significant) | |

TABLE XL

AVERAGE NUMBER OF COWS AND HEIFERS MILKED PER FARM REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Number of Cows | Above-average Group | Below-average Group |
|---|---|---|
| 5.26 to 5.50 | 0 | 1 |
| 5.01 to 5.25 | 0 | 0 |
| 4.76 to 5.00 | 0 | 0 |
| 4.51 to 4.75 | 0 | 1 |
| 4.26 to 4.50 | 0 | 0 |
| 4.01 to 4.25 | 0 | 0 |
| 3.76 to 4.00 | 0 | 1 |
| 3.51 to 3.75 | 1 | 0 |
| 3.26 to 3.50 | 0 | 1 |
| 3.01 to 3.25 | 1 | 2 |
| 2.76 to 3.00 | 1 | 0 |
| 2.51 to 2.75 | 2 | 1 |
| 2.26 to 2.50 | 2 | 3 |
| 2.01 to 2.25 | 0 | 0 |
| 1.75 to 2.00 | 3 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 2.55 | 3.34 |
| Standard Deviation | .56 | .90 |
| t-test | 2.39* | |

TABLE XLI

AVERAGE NUMBER OF COWS AND HEIFERS MILKED PER FARM REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Number of Cows | Above-average Group | Below-average Group |
|---|---|---|
| 8.26 to 8.50 | 0 | 1 |
| 8.01 to 8.25 | 0 | 0 |
| 7.76 to 8.00 | 0 | 0 |
| 7.51 to 7.75 | 1 | 0 |
| 7.26 to 7.50 | 0 | 0 |
| 7.01 to 7.25 | 1 | 1 |
| 6.76 to 7.00 | 2 | 1 |
| 6.51 to 6.75 | 1 | 0 |
| 6.26 to 6.50 | 1 | 2 |
| 6.01 to 6.25 | 0 | 0 |
| 5.76 to 6.00 | 0 | 0 |
| 5.51 to 5.75 | 2 | 0 |
| 5.26 to 5.50 | 0 | 0 |
| 5.01 to 5.25 | 0 | 2 |
| 4.76 to 5.00 | 0 | 1 |
| 4.51 to 4.75 | 0 | 2 |
| 4.26 to 4.50 | 0 | 0 |
| 4.01 to 4.25 | 1 | 0 |
| 3.75 to 4.00 | 1 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 6.00 | 5.97 |
| Standard Deviation | 1.17 | 1.18 |
| t-test | .06 (not significant) | |

TABLE XLII

AVERAGE NUMBER OF COWS AND HEIFERS MILKED PER FARM REPORTING COWS AND HEIFERS MILKED IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Number of Cows | Above-average Group | Below-average Group |
|---|---|---|
| 7.44 to 7.70 | 1 | 0 |
| 7.17 to 7.43 | 0 | 0 |
| 6.90 to 7.16 | 0 | 1 |
| 6.63 to 6.89 | 0 | 1 |
| 6.36 to 6.62 | 2 | 1 |
| 6.09 to 6.35 | 0 | 0 |
| 5.82 to 6.08 | 0 | 0 |
| 5.55 to 5.81 | 3 | 0 |
| 5.28 to 5.54 | 0 | 1 |
| 5.01 to 5.27 | 0 | 1 |
| 4.74 to 5.00 | 0 | 1 |
| 4.47 to 4.73 | 1 | 2 |
| 4.20 to 4.46 | 1 | 0 |
| 3.93 to 4.19 | 1 | 1 |
| 3.66 to 3.92 | 1 | 0 |
| 3.39 to 3.65 | 0 | 0 |
| 3.12 to 3.38 | 0 | 0 |
| 2.85 to 3.11 | 0 | 0 |
| 2.58 to 2.84 | 0 | 0 |
| 2.30 to 2.57 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 5.51 | 5.13 |
| Standard Deviation | 1.14 | 1.30 |
| t-test | 1.27 (not significant) | |

Per cent of farms reporting cattle. Cattle raising is an important farming enterprise in Oklahoma. It seemed advisable to ascertain if there was any significant difference in the per cent of farms reporting cattle in the service areas of the departments of vocational agriculture rated above-average and those departments rated below-average on a supervisory district basis.

In the central supervisory district the mean per cent of farms reporting cattle was 88.80 for the departments rated above-average as compared to 87.00 per cent for those farms served by the below-average departments. When tested by the null hypothesis no significant difference was found between the two groups of departments.

More than 76 per cent of the farms in the service areas of the 20 departments in this supervisory district reported cattle with one department in an area where the per cent of farms reporting cattle was more than 96 per cent.

In the northeast supervisory district the mean per cent of farms reporting cattle was practically identical for the two groups of departments. The below-average departments had an average per cent of farms reporting cattle of 89.90 compared to 89.80 per cent for the above-average departments. No significant difference was found between the two groups in this supervisory district concerning the per cent of farms reporting cattle. More than 84 per cent of all the farms served by the 20 departments of vocational agriculture in the northeast supervisory district raised cattle.

Table XLV shows that in the southeast supervisory district the above-average departments were in areas having an average of 93.90 per cent of the farms reporting cattle. The average per cent of farms reporting cattle in the areas served by the below-average departments was 93.00 per cent. No significant difference was noted between the two groups when the data were tested by the null hypothesis. More than 84 per cent of the farms located in the service areas of the 20 departments in this supervisory district reported cattle.

In the northwest supervisory district the average per cent of farms reporting cattle was 92.80 per cent for the departments rated below-average compared to 90.30 per cent for the farms in the service areas of the above-average departments. However, this did not prove to be a significant difference. A rather wide range in the per cent of farms reporting cattle is revealed by a study of Table XLVI. However, the standard deviation scores for the two groups of departments are practically the same.

The below-average departments in the southwest supervisory district had a mean of 92.90 per cent of the farms reporting cattle compared to 92.40 for the farms served by the above-average departments. A larger standard deviation was found for the above-average group but no significant difference was found to exist between the two groups when the data were tested by the null hypothesis.

More than 84 per cent of the farms in the service areas of the 20 departments reported cattle.

TABLE XLIII

PER CENT OF FARMS REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 96.1 to 98 | 0 | 1 |
| 94.1 to 96 | 1 | 1 |
| 92.1 to 94 | 1 | 0 |
| 90.1 to 92 | 2 | 1 |
| 88.1 to 90 | 3 | 2 |
| 86.1 to 88 | 1 | 0 |
| 84.1 to 86 | 0 | 1 |
| 82.1 to 84 | 1 | 1 |
| 80.1 to 82 | 0 | 1 |
| 78.1 to 80 | 0 | 1 |
| 76.1 to 78 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 88.80 | 87.00 |
| Standard Deviation | 5.46 | 6.54 |
| t-test | .67 (not significant) | |

TABLE XLIV

PER CENT OF FARMS REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 96.1 to 98 | 0 | 1 |
| 94.1 to 96 | 0 | 1 |
| 92.1 to 94 | 3 | 0 |
| 90.1 to 92 | 3 | 3 |
| 88.1 to 90 | 0 | 1 |
| 86.1 to 88 | 1 | 1 |
| 84.1 to 86 | 3 | 3 |
| Number of Schools | 10 | 10 |
| Mean | 89.80 | 89.90 |
| Standard Deviation | 3.80 | 3.99 |
| t-test | .06 (not significant) | |

TABLE XLV

PER CENT OF FARMS REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 98.1 to 100 | 1 | 0 |
| 96.1 to 98 | 0 | 3 |
| 94.1 to 96 | 3 | 1 |
| 92.1 to 94 | 4 | 1 |
| 90.1 to 92 | 1 | 3 |
| 88.1 to 90 | 1 | 0 |
| 86.1 to 88 | 0 | 1 |
| 84.1 to 86 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 93.90 | 93.00 |
| Standard Deviation | 2.26 | 3.87 |
| t-test | .63 (not significant) | |

TABLE XLVI

PER CENT OF FARMS REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 98.1 to 100 | 1 | 2 |
| 96.1 to 98 | 1 | 1 |
| 94.1 to 96 | 0 | 3 |
| 92.1 to 94 | 2 | 0 |
| 90.1 to 92 | 3 | 1 |
| 88.1 to 90 | 1 | 0 |
| 86.1 to 88 | 0 | 1 |
| 84.1 to 86 | 0 | 1 |
| 82.1 to 84 | 0 | 0 |
| 80.1 to 82 | 1 | 1 |
| 78.1 to 80 | 0 | 0 |
| 76.1 to 78 | 0 | 0 |
| 74.1 to 76 | 0 | 0 |
| 72.1 to 74 | 1 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 90.30 | 92.80 |
| Standard Deviation | 7.21 | 7.26 |
| t-test | .76 (not significant) | |

TABLE XLVII

PER CENT OF FARMS REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 98.1 to 100 | 0 | 1 |
| 96.1 to 98 | 1 | 2 |
| 94.1 to 96 | 1 | 0 |
| 92.1 to 94 | 1 | 1 |
| 90.1 to 92 | 6 | 3 |
| 88.1 to 90 | 0 | 2 |
| 86.1 to 88 | 1 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 92.40 | 92.90 |
| Standard Deviation | 6.75 | 3.88 |
| t-test | .20 (not significant) | |

Average number of cattle per farm. Even though the per cent of farms reporting cattle is an important indication of the popularity of cattle raising, the average number of cattle per farm was considered to have more bearing upon the prosperity of the farmers and; therefore, upon the rating received by a department of vocational agriculture.

In the central supervisory district the above-average departments had an average number of cattle per farm of 14.80 compared to 13.70 per farm for the below-average departments. No significant difference was found between the two groups when the data were tested by the null hypothesis.

The average number of cattle per farm for the departments rated below-average in the northeast supervisory district was 16.20 compared to 15.30 per farm for the departments rated above-average. Four of the above-average departments in the northeast supervisory district were in areas having an average number of cattle per farm of less than 12.1 while only two of the below-average departments were in areas with an average of less than 12.1 cattle per farm. Two of the departments in each group were in areas having an average of more than 20 cattle per farm.

In the southeast supervisory district the average number of cattle per farm was 16.90 for the farms served by the below-average departments and 13.30 for the farms served by the departments rated above-average. However, no significant difference was found between the two groups of departments.

In the northwest supervisory district the above-average

group of departments showed an average of 39.90 cattle per farm compared to 26.70 for the below-average departments. This comparison revealed a significant difference in favor of the above-average departments when the data were tested by the null hypothesis. One of the above-average departments was in an area where the average number of cattle per farm was more than 69 per farm; however, the standard deviation score for the above-average departments was more than three times as high as for the below-average departments.

In the southwest supervisory district the average number of cattle per farm was 22.10 per farm for the above-average departments compared to 21.20 cattle per farm for the below-average departments. There was not a significant difference between the two groups in this supervisory district. All of the farms reporting cattle served by the 20 departments in the southwest district reported an average of more than 12 cattle per farm. One of the departments was in an area having an average of more than 36 cattle per farm.

TABLE XLVIII

AVERAGE NUMBER OF CATTLE PER FARM REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Number of Cattle | Above-average Group | Below-average Group |
|---|---|---|
| 26.1 to 28 | 0 | 1 |
| 24.1 to 26 | 0 | 0 |
| 22.1 to 24 | 0 | 0 |
| 20.1 to 22 | 0 | 0 |
| 18.1 to 20 | 0 | 0 |
| 16.1 to 18 | 3 | 0 |
| 14.1 to 16 | 3 | 3 |
| 12.1 to 14 | 1 | 1 |
| 10.1 to 12 | 2 | 3 |
| 8.1 to 10 | 1 | 1 |
| 6.1 to 8 | 0 | 0 |
| 4.1 to 6 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 14.80 | 13.70 |
| Standard Deviation | 2.60 | 5.66 |
| t-test | .28 (not significant) | |

TABLE XLIX

AVERAGE NUMBER OF CATTLE PER FARM REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Number of Cattle | Above-average Group | Below-average Group |
|---|---|---|
| 22.1 to 24 | 1 | 1 |
| 20.1 to 22 | 1 | 1 |
| 18.1 to 20 | 0 | 1 |
| 16.1 to 18 | 3 | 2 |
| 14.1 to 16 | 0 | 0 |
| 12.1 to 14 | 1 | 3 |
| 10.1 to 12 | 2 | 2 |
| 8.1 to 10 | 2 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 15.30 | 16.20 |
| Standard Deviation | 4.69 | 3.97 |
| t-test | .47 (not significant) | |

TABLE L

AVERAGE NUMBER OF CATTLE PER FARM REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Number of Cattle | Above-average Group | Below-average Group |
|---|---|---|
| 34.1 to 36 | 0 | 1 |
| 32.1 to 34 | 0 | 0 |
| 30.1 to 32 | 0 | 0 |
| 28.1 to 30 | 0 | 0 |
| 26.1 to 28 | 0 | 0 |
| 24.1 to 26 | 0 | 0 |
| 22.1 to 24 | 0 | 0 |
| 20.1 to 22 | 0 | 1 |
| 18.1 to 20 | 1 | 1 |
| 16.1 to 18 | 0 | 1 |
| 14.1 to 16 | 1 | 1 |
| 12.1 to 14 | 4 | 3 |
| 10.1 to 12 | 2 | 1 |
| 8.1 to 10 | 2 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 13.30 | 16.90 |
| Standard Deviation | 2.72 | 6.95 |
| t-test | 1.53 (not significant) | |

TABLE LI

AVERAGE NUMBER OF CATTLE PER FARM REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Number of Cattle | Above-average Group | Below-average Group |
|---|---|---|
| 69.1 to 72 | 1 | 0 |
| 66.1 to 69 | 0 | 0 |
| 63.1 to 66 | 0 | 0 |
| 60.1 to 63 | 0 | 0 |
| 57.1 to 60 | 1 | 0 |
| 54.1 to 57 | 0 | 0 |
| 51.1 to 54 | 0 | 0 |
| 48.1 to 51 | 1 | 0 |
| 45.1 to 48 | 1 | 0 |
| 42.1 to 45 | 0 | 0 |
| 39.1 to 42 | 0 | 0 |
| 36.1 to 39 | 0 | 1 |
| 33.1 to 36 | 0 | 1 |
| 30.1 to 33 | 3 | 0 |
| 27.1 to 30 | 2 | 2 |
| 24.1 to 27 | 0 | 2 |
| 21.1 to 24 | 0 | 2 |
| 18.1 to 21 | 0 | 2 |
| 15.1 to 18 | 1 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 39.90 | 26.70 |
| Standard Deviation | 15.57 | 5.16 |
| t-test | 2.54* | |

TABLE LII

AVERAGE NUMBER OF CATTLE PER FARM REPORTING CATTLE IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Number of Cattle | Above-average Group | Below-average Group |
|---|---|---|
| 36.1 to 38 | 0 | 1 |
| 34.1 to 36 | 0 | 0 |
| 32.1 to 34 | 0 | 0 |
| 30.1 to 32 | 0 | 0 |
| 28.1 to 30 | 0 | 0 |
| 26.1 to 28 | 2 | 0 |
| 24.1 to 26 | 1 | 0 |
| 22.1 to 24 | 2 | 4 |
| 20.1 to 22 | 2 | 0 |
| 18.1 to 20 | 1 | 1 |
| 16.1 to 18 | 0 | 1 |
| 14.1 to 16 | 2 | 1 |
| 12.1 to 14 | 0 | 2 |
| Number of Schools | 10 | 10 |
| Mean | 22.10 | 21.20 |
| Standard Deviation | 3.91 | 7.00 |
| t-test | .35 (not significant) | |

Per cent of farms reporting cotton. Cotton is one of the major crops grown in Oklahoma. Some sections of Oklahoma produce large amounts of cotton. It was decided to analyze the data on a supervisory district basis to determine if there were any significant differences in the per cent of farms reporting cotton between the departments of vocational agriculture rated above-average and those departments rated below-average.

In the central supervisory district the above-average departments had a mean per cent of farms reporting cotton of 32.70 compared to 28.60 per cent for the below-average departments. No significant difference was found between the two groups of departments when the data were tested by the null hypothesis.

In the northeast supervisory district the above-average departments had an average of 31.80 per cent of the farms reporting cotton compared to 28.30 per cent of the farms for the areas served by the below-average departments. No significant difference was found between the two groups of departments.

A wide variation in the per cent of farms reporting cotton in the northeast supervisory district is evident from a study of Table LIV. Seven of the twenty departments were located in areas where the per cent of farms reporting cotton was less than five per cent, while one of the departments was in an area having more than 90 per cent of the farms reporting cotton. When the data were tested by the null hypothesis no significant difference was found between the two groups of departments

in the northeast district concerning the per cent of farms reporting cotton.

Table LV shows the mean per cent of farms reporting cotton in the southeast supervisory district to be 42.50 for the departments rated below-average compared to 35.30 per cent for the above-average departments. There was not a significant difference between the two groups.

In the northwest supervisory district the average per cent of farms reporting cotton served by the below-average departments was 10.80 per cent compared to 1.80 per cent for the above-average departments. Because of the large difference found in the standard deviation scores, no significant difference was found between the two groups when tested by the null hypothesis. Fourteen of the 20 departments in the northwest supervisory district were in areas having less than 4.1 per cent of the farms reporting cotton and none of the departments were in areas where the per cent of farms reporting cotton was more than 44 per cent.

In the southwest supervisory district 73.90 per cent of the farms in the service areas of the below-average departments reported cotton while 66.20 per cent of the farms served by the above-average departments reported cotton. No significant difference was found between the two groups of departments. Two of the above-average departments were in areas where less than 44.1 per cent of the farms reported cotton; whereas, none of the below-average departments were in areas where less than 52 per cent of the farms reported cotton.

TABLE LIII

PER CENT OF FARMS REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 68.1 to 72 | 1 | 0 |
| 64.1 to 68 | 0 | 0 |
| 60.1 to 64 | 0 | 1 |
| 56.1 to 60 | 0 | 0 |
| 52.1 to 56 | 0 | 0 |
| 48.1 to 52 | 1 | 0 |
| 44.1 to 48 | 0 | 1 |
| 40.1 to 44 | 0 | 1 |
| 36.1 to 40 | 2 | 1 |
| 32.1 to 36 | 2 | 1 |
| 28.1 to 32 | 0 | 0 |
| 24.1 to 28 | 0 | 0 |
| 20.1 to 24 | 1 | 1 |
| 16.1 to 20 | 1 | 1 |
| 12.1 to 16 | 1 | 1 |
| 8.1 to 12 | 0 | 0 |
| 4.1 to 8 | 1 | 2 |
| Number of Schools | 10 | 10 |
| Mean | 32.70 | 28.60 |
| Standard Deviation | 18.05 | 18.22 |
| t-test | .51 (not significant) | |

TABLE LIV

PER CENT OF FARMS REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 90.1 to 95 | 0 | 1 |
| 85.1 to 90 | 0 | 0 |
| 80.1 to 85 | 1 | 0 |
| 75.1 to 80 | 0 | 0 |
| 70.1 to 75 | 0 | 0 |
| 65.1 to 70 | 1 | 0 |
| 60.1 to 65 | 0 | 1 |
| 55.1 to 60 | 1 | 1 |
| 50.1 to 55 | 0 | 0 |
| 45.1 to 50 | 0 | 0 |
| 40.1 to 45 | 1 | 0 |
| 35.1 to 40 | 0 | 1 |
| 30.1 to 35 | 1 | 0 |
| 25.1 to 30 | 0 | 0 |
| 20.1 to 25 | 1 | 0 |
| 15.1 to 20 | 0 | 1 |
| 10.1 to 15 | 0 | 0 |
| 5.1 to 10 | 1 | 1 |
| 0 to 5 | 3 | 4 |
| Number of Schools | 10 | 10 |
| Mean | 31.80 | 28.30 |
| Standard Deviation | 28.31 | 31.35 |
| t-test | .26 (not significant) | |

TABLE LV

PER CENT OF FARMS REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 72.1 to 76 | 1 | 1 |
| 68.1 to 72 | 0 | 0 |
| 64.1 to 68 | 0 | 0 |
| 60.1 to 64 | 0 | 0 |
| 56.1 to 60 | 0 | 0 |
| 52.1 to 56 | 0 | 3 |
| 48.1 to 52 | 2 | 1 |
| 44.1 to 48 | 0 | 1 |
| 42.1 to 44 | 0 | 0 |
| 40.1 to 42 | 0 | 0 |
| 36.1 to 40 | 2 | 1 |
| 32.1 to 36 | 0 | 0 |
| 28.1 to 32 | 1 | 0 |
| 24.1 to 28 | 1 | 0 |
| 20.1 to 24 | 0 | 2 |
| 16.1 to 20 | 0 | 0 |
| 12.1 to 16 | 1 | 0 |
| 8.1 to 12 | 2 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 35.30 | 42.50 |
| Standard Deviation | 19.65 | 18.90 |
| t-test | .84 (not significant) | |

TABLE LVI

PER CENT OF FARMS REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 40.1 to 44 | 0 | 1 |
| 36.1 to 40 | 0 | 0 |
| 32.1 to 36 | 0 | 0 |
| 28.1 to 32 | 0 | 1 |
| 24.1 to 28 | 0 | 0 |
| 20.1 to 24 | 0 | 0 |
| 16.1 to 20 | 1 | 0 |
| 12.1 to 16 | 0 | 1 |
| 8.1 to 12 | 0 | 1 |
| 4.1 to 8 | 0 | 1 |
| 0 to 4 | 9 | 5 |
| Number of Schools | 10 | 10 |
| Mean | 1.80 | 10.80 |
| Standard Deviation | 5.40 | 15.31 |
| t-test | 1.75 (not significant) | |

TABLE LVII

PER CENT OF FARMS REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 88.1 to 92 | 0 | 1 |
| 84.1 to 88 | 0 | 1 |
| 80.1 to 84 | 2 | 1 |
| 76.1 to 80 | 1 | 0 |
| 72.1 to 76 | 1 | 2 |
| 68.1 to 72 | 1 | 2 |
| 64.1 to 68 | 1 | 2 |
| 60.1 to 64 | 2 | 0 |
| 56.1 to 60 | 0 | 0 |
| 52.1 to 56 | 0 | 1 |
| 48.1 to 52 | 0 | 0 |
| 44.1 to 48 | 0 | 0 |
| 40.1 to 44 | 2 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 66.20 | 73.90 |
| Standard Deviation | 14.49 | 9.49 |
| t-test | 1.41 (not significant) | |

Average acres of cotton per farm reporting cotton. Tables LVIII through LXII are closely related to the five preceding tables. It is interesting to note that no significant difference was found in the per cent of farms reporting cotton when the departments were compared on a supervisory district basis. However, when the data were tested by the null hypothesis concerning the average acres of cotton per farm, a significant difference was found in favor of the above-average departments in the central supervisory district and a highly significant difference was found in favor of the below-average departments in the northwest supervisory district. No significant difference was found between the two groups of departments in the other three supervisory districts.

Table LVIII shows the mean acres of cotton per farm in the central supervisory district to be 15.30 for the above-average departments compared to 10.70 acres per farm for the below-average departments. This proved to be a significant difference in favor of the above-average departments.

In the northeast supervisory district the below-average departments had a mean acres of cotton per farm of 17.40 compared to 16.60 acres per farm for the above-average departments.

The southeast supervisory district had a rather small difference in acres of cotton per farm between the two groups of departments. The above-average departments had an average of 11.60 acres of cotton per farm compared to 11.50 acres for the below-average departments.

In the northwest supervisory district the average acres of cotton per farm was 18.10 acres for the below-average departments compared to 1.90 acres for the above-average departments. This proved to be a highly significant difference between the two groups when the data were tested by the null hypothesis.

In the southwest supervisory district the below-average departments had an average of 38.10 acres of cotton per farm compared to 33.00 acres for the above-average group of departments.

Table LXII shows cotton to be a major crop on farms in the southwest section of Oklahoma. None of the departments in the southwest supervisory district had an average of less than 18 acres of cotton per farm and one department was in an area where the average acres of cotton per farm was more than 63 acres.

TABLE LVIII

AVERAGE ACRES OF COTTON PER FARM REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 19.1 to 20 | 1 | 0 |
| 18.1 to 19 | 0 | 0 |
| 17.1 to 18 | 2 | 0 |
| 16.1 to 17 | 1 | 0 |
| 15.1 to 16 | 1 | 0 |
| 14.1 to 15 | 1 | 1 |
| 13.1 to 14 | 2 | 0 |
| 12.1 to 13 | 0 | 1 |
| 11.1 to 12 | 0 | 2 |
| 10.1 to 11 | 1 | 1 |
| 9.1 to 10 | 1 | 1 |
| 8.1 to 9 | 0 | 3 |
| 7.1 to 8 | 0 | 0 |
| 6.1 to 7 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 15.30 | 10.70 |
| Standard Deviation | 3.00 | 2.83 |
| t-test | 2.69* | |

TABLE LIX

AVERAGE ACRES OF COTTON PER FARM REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 54.1 to 57 | 0 | 1 |
| 51.1 to 54 | 0 | 0 |
| 48.1 to 51 | 0 | 0 |
| 45.1 to 48 | 0 | 0 |
| 42.1 to 45 | 0 | 0 |
| 39.1 to 42 | 0 | 0 |
| 36.1 to 39 | 0 | 0 |
| 33.1 to 36 | 1 | 0 |
| 30.1 to 33 | 0 | 0 |
| 27.1 to 30 | 0 | 1 |
| 24.1 to 27 | 0 | 0 |
| 21.1 to 24 | 0 | 0 |
| 18.1 to 21 | 2 | 0 |
| 15.1 to 18 | 2 | 1 |
| 12.1 to 15 | 1 | 0 |
| 9.1 to 12 | 4 | 7 |
| Number of Schools | 10 | 10 |
| Mean | 16.60 | 17.40 |
| Standard Deviation | 7.57 | 13.91 |
| t-test | .16 (not significant) | |

TABLE LX

AVERAGE ACRES OF COTTON PER FARM REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 18.1 to 19 | 1 | 0 |
| 17.1 to 18 | 1 | 1 |
| 16.1 to 17 | 0 | 0 |
| 15.1 to 16 | 2 | 1 |
| 14.1 to 15 | 0 | 0 |
| 13.1 to 14 | 0 | 0 |
| 12.1 to 13 | 0 | 0 |
| 11.1 to 12 | 0 | 3 |
| 10.1 to 11 | 1 | 2 |
| 9.1 to 10 | 0 | 0 |
| 8.1 to 9 | 1 | 0 |
| 7.1 to 8 | 1 | 2 |
| 6.1 to 7 | 1 | 1 |
| 5.1 to 6 | 2 | 0 |
| Number of Schools | 10 | 10 |
| Mean | 11.60 | 11.50 |
| Standard Deviation | 4.88 | 3.29 |
| t-test | .05 (not significant) | |

TABLE LXI

AVERAGE ACRES OF COTTON PER FARM REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 54.1 to 57 | 0 | 1 |
| 51.1 to 54 | 0 | 0 |
| 48.1 to 51 | 0 | 0 |
| 45.1 to 48 | 0 | 0 |
| 42.1 to 45 | 0 | 0 |
| 39.1 to 42 | 0 | 0 |
| 36.1 to 39 | 0 | 0 |
| 33.1 to 36 | 0 | 0 |
| 30.1 to 33 | 0 | 0 |
| 27.1 to 30 | 0 | 1 |
| 24.1 to 27 | 0 | 0 |
| 21.1 to 24 | 0 | 2 |
| 18.1 to 21 | 1 | 0 |
| 15.1 to 18 | 0 | 1 |
| 12.1 to 15 | 0 | 1 |
| 9.1 to 12 | 0 | 1 |
| 6.1 to 9 | 0 | 0 |
| 3.1 to 6 | 0 | 1 |
| 0 to 3 | 9 | 2 |
| Number of Schools | 10 | 10 |
| Mean | 1.90 | 18.10 |
| Standard Deviation | 5.70 | 15.93 |
| t-test | 3.03** | |

TABLE LXII

AVERAGE ACRES OF COTTON PER FARM REPORTING COTTON IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 63.1 to 66 | 1 | 0 |
| 60.1 to 63 | 0 | 0 |
| 57.1 to 60 | 0 | 1 |
| 54.1 to 57 | 0 | 1 |
| 51.1 to 54 | 0 | 0 |
| 48.1 to 51 | 0 | 0 |
| 45.1 to 48 | 0 | 2 |
| 42.1 to 45 | 0 | 0 |
| 39.1 to 42 | 1 | 1 |
| 36.1 to 39 | 0 | 0 |
| 33.1 to 36 | 2 | 1 |
| 30.1 to 33 | 1 | 1 |
| 27.1 to 30 | 2 | 0 |
| 24.1 to 27 | 1 | 0 |
| 21.1 to 24 | 1 | 1 |
| 18.1 to 21 | 1 | 2 |
| Number of Schools | 10 | 10 |
| Mean | 33.00 | 38.10 |
| Standard Deviation | 11.75 | 13.82 |
| t-test | .89 (not significant) | |

Per cent of farms reporting wheat. The per cent of farms reporting wheat showed a wide variation when the fifty above-average departments and the fifty below-average departments were compared on a state-wide basis. It was decided to collate the data on a supervisory district basis to determine if any significant difference could be found between the two groups concerning the per cent of farms reporting wheat. When the data were collected and analyzed, no significant difference was found between the two groups of departments in any of the five supervisory districts.

Table LXIII shows the average per cent of farms reporting wheat in the central supervisory district to be 26.40 per cent for the above-average departments and 21.10 per cent for the below-average departments. A wide variation was noted in the per cent of farms reporting wheat in this supervisory district. Of the 20 departments in this supervisory district, five were in areas where less than 10.1 per cent of the farms reported wheat while one department was in an area where the per cent of farms reporting wheat exceeded 80 per cent.

In the northeast supervisory district the above-average departments had an average of 17.80 per cent of the farms reporting wheat compared to 15.90 per cent for the below-average departments. Six of the departments in this supervisory district were in areas where the per cent of farms reporting wheat was less than 6.1 per cent and none of the departments were in areas where the per cent of farms reporting wheat was more than 42 per cent.

In the southeast supervisory district a very small per cent of the farms in the school districts of the 20 departments reported wheat. The average per cent of farms reporting wheat was 1.40 per cent for the below-average departments and 1.10 per cent for the above-average departments. None of the departments were in areas where more than eight per cent of the farms reported wheat and 14 of the departments were in areas where less than 1.1 per cent of the farms reported wheat.

In the northwest supervisory district the above-average departments had a mean of 77.80 per cent of the farms reporting wheat compared to 76.50 per cent for the below-average departments. More than 45 per cent of all farms served by the 20 departments in this supervisory district reported wheat.

In the southwest supervisory district the average per cent of farms reporting wheat was 41.70 for the above-average departments and 31.30 per cent for the below-average departments. A wide variation in the per cent of farms reporting wheat in this supervisory district was evident when a study of Table LXVII was made. Three of the below-average departments were in areas having less than 4.1 per cent of the farms reporting wheat while two of the above-average departments were in areas having more than 72 per cent of the farms reporting wheat.

TABLE LXIII

PER CENT OF FARMS REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 80.1 to 85 | 0 | 1 |
| 75.1 to 80 | 0 | 0 |
| 70.1 to 75 | 0 | 0 |
| 65.1 to 70 | 0 | 0 |
| 60.1 to 65 | 0 | 0 |
| 55.1 to 60 | 0 | 0 |
| 50.1 to 55 | 1 | 0 |
| 45.1 to 50 | 0 | 0 |
| 40.1 to 45 | 1 | 0 |
| 35.1 to 40 | 0 | 0 |
| 30.1 to 35 | 2 | 1 |
| 25.1 to 30 | 1 | 2 |
| 20.1 to 25 | 0 | 0 |
| 15.1 to 20 | 2 | 0 |
| 10.1 to 15 | 2 | 2 |
| 5.1 to 10 | 1 | 2 |
| 0 to 5 | 0 | 2 |
| Number of Schools | 10 | 10 |
| Mean | 26.40 | 21.10 |
| Standard Deviation | 13.63 | 25.05 |
| t-test | .63 (not significant) | |

TABLE LXIV

PER CENT OF FARMS REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 39.1 to 42 | 1 | 0 |
| 36.1 to 39 | 0 | 0 |
| 33.1 to 36 | 0 | 1 |
| 30.1 to 33 | 1 | 0 |
| 27.1 to 30 | 1 | 1 |
| 24.1 to 27 | 0 | 2 |
| 21.1 to 24 | 1 | 0 |
| 18.1 to 21 | 0 | 0 |
| 15.1 to 18 | 1 | 0 |
| 12.1 to 15 | 1 | 1 |
| 9.1 to 12 | 0 | 2 |
| 6.1 to 9 | 1 | 0 |
| 3.1 to 6 | 2 | 1 |
| 0 to 3 | 1 | 2 |
| Number of Schools | 10 | 10 |
| Mean | 17.80 | 15.90 |
| Standard Deviation | 12.59 | 11.42 |
| t-test | .35 (not significant) | |

TABLE LXV

PER CENT OF FARMS REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 7.1 to 8 | 1 | 0 |
| 6.1 to 7 | 0 | 0 |
| 5.1 to 6 | 0 | 0 |
| 4.1 to 5 | 0 | 1 |
| 3.1 to 4 | 0 | 0 |
| 2.1 to 3 | 0 | 1 |
| 1.1 to 2 | 1 | 2 |
| 0 to 1 | 8 | 6 |
| Number of Schools | 10 | 10 |
| Mean | 1.10 | 1.40 |
| Standard Deviation | 2.39 | 1.56 |
| t-test | .33 (not significant) | |

TABLE LXVI

PER CENT OF FARMS REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 96.1 to 99 | 0 | 1 |
| 93.1 to 96 | 1 | 0 |
| 90.1 to 93 | 1 | 0 |
| 87.1 to 90 | 0 | 2 |
| 84.1 to 87 | 0 | 0 |
| 81.1 to 84 | 2 | 0 |
| 78.1 to 81 | 2 | 2 |
| 75.1 to 78 | 0 | 0 |
| 72.1 to 75 | 2 | 1 |
| 69.1 to 72 | 0 | 2 |
| 66.1 to 69 | 0 | 1 |
| 63.1 to 66 | 0 | 0 |
| 60.1 to 63 | 0 | 0 |
| 57.1 to 60 | 1 | 0 |
| 54.1 to 57 | 1 | 0 |
| 51.1 to 54 | 0 | 0 |
| 48.1 to 51 | 0 | 0 |
| 45.1 to 48 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 77.80 | 76.50 |
| Standard Deviation | 12.26 | 13.51 |
| t-test | .23 (not significant) | |

TABLE LXVII

PER CENT OF FARMS REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Per Cent of Farms | Above-average Group | Below-average Group |
|---|---|---|
| 76.1 to 80 | 1 | 0 |
| 72.1 to 76 | 1 | 0 |
| 68.1 to 72 | 0 | 1 |
| 64.1 to 68 | 1 | 0 |
| 60.1 to 64 | 0 | 1 |
| 56.1 to 60 | 0 | 0 |
| 52.1 to 56 | 1 | 1 |
| 48.1 to 52 | 0 | 0 |
| 44.1 to 48 | 0 | 1 |
| 40.1 to 44 | 2 | 0 |
| 36.1 to 40 | 0 | 0 |
| 32.1 to 36 | 1 | 0 |
| 28.1 to 32 | 0 | 1 |
| 24.1 to 28 | 0 | 0 |
| 20.1 to 24 | 0 | 2 |
| 16.1 to 20 | 0 | 0 |
| 12.1 to 16 | 0 | 0 |
| 8.1 to 12 | 3 | 0 |
| 4.1 to 8 | 0 | 0 |
| 0 to 4 | 0 | 3 |
| Number of Schools | 10 | 10 |
| Mean | 41.70 | 31.30 |
| Standard Deviation | 25.38 | 25.11 |
| t-test | .92 (not significant) | |

Average acres of wheat per farm reporting wheat. It was considered advisable to compare the two groups of departments in each supervisory district concerning the average acres of wheat per farm since wheat is considered a major cash crop in Oklahoma and the acres grown per farm has an influence upon the income per farm from wheat.

When the data were tested by the null hypothesis for the two groups of departments on a supervisory district basis, no significant difference was found in any of the districts for average acres of wheat grown per farm.

Table LXVIII shows that the mean acres of wheat per farm in the central supervisory district was 26.60 acres for the below-average departments compared to 23.80 acres for the above-average departments.

In the northeast supervisory district the above-average departments had an average of 25.40 acres of wheat per farm compared to 23.60 acres for the below-average departments. One of the 20 departments in this supervisory district was in an area where the average acres of wheat per farm was less than 12.1 acres, and one of the departments was in an area having an average of more than 40 acres of wheat per farm.

A study of Table LXX reveals the below-average departments in the southeast supervisory district had an average of 12.80 acres of wheat per farm compared to 9.50 acres for the above-average departments. Five of the 20 departments in this supervisory district were in areas where the acres of wheat per farm averaged less than 2.1 acres per farm while one of

the departments was in an area having an average of more than 32 acres of wheat per farm.

In the northwest supervisory district the above-average departments were in areas where the mean acres of wheat per farm was 153.40 acres compared to 129.30 acres for the areas served by the below-average departments. All of the departments in the northwest supervisory district were in areas having an average of more than 40 acres of wheat per farm, and one of the departments was in an area having an average of more than 230 acres of wheat per farm.

Table LXIII shows that in the southwest supervisory district the above-average departments were in areas having a mean average acres of wheat per farm of 64.50 compared to 53.40 acres for the below-average departments. One of the ten below-average departments was in an area where the average acres of wheat per farm was less than 18.1 acres per farm, while one of the above-average departments was in an area where the average acres of wheat per farm exceeded 126 acres per farm.

TABLE LXVIII

AVERAGE ACRES OF WHEAT PER FARM REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Central Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 48.1 to 51 | 0 | 1 |
| 45.1 to 48 | 0 | 1 |
| 42.1 to 45 | 0 | 0 |
| 39.1 to 42 | 0 | 0 |
| 36.1 to 39 | 0 | 0 |
| 33.1 to 36 | 2 | 1 |
| 30.1 to 33 | 1 | 0 |
| 27.1 to 30 | 0 | 1 |
| 24.1 to 27 | 1 | 0 |
| 21.1 to 24 | 2 | 3 |
| 18.1 to 21 | 0 | 0 |
| 15.1 to 18 | 2 | 1 |
| 12.1 to 15 | 2 | 1 |
| 9.1 to 12 | 0 | 0 |
| 6.1 to 9 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 23.80 | 26.60 |
| Standard Deviation | 7.52 | 13.32 |
| t-test | .58 (not significant) | |

TABLE LXIX

AVERAGE ACRES OF WHEAT PER FARM REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northeast Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 40.1 to 42 | 1 | 0 |
| 38.1 to 40 | 1 | 0 |
| 36.1 to 38 | 0 | 1 |
| 34.1 to 36 | 0 | 0 |
| 32.1 to 34 | 1 | 1 |
| 30.1 to 32 | 0 | 0 |
| 28.1 to 30 | 0 | 1 |
| 26.1 to 28 | 1 | 1 |
| 24.1 to 26 | 1 | 0 |
| 22.1 to 24 | 0 | 1 |
| 20.1 to 22 | 2 | 1 |
| 18.1 to 20 | 0 | 0 |
| 16.1 to 18 | 1 | 2 |
| 14.1 to 16 | 1 | 1 |
| 12.1 to 14 | 1 | 0 |
| 10.1 to 12 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 25.40 | 23.60 |
| Standard Deviation | 9.10 | 8.22 |
| t-test | .46 (not significant) | |

TABLE LXX

AVERAGE ACRES OF WHEAT PER FARM REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southeast Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 32.1 to 34 | 0 | 1 |
| 30.1 to 32 | 0 | 0 |
| 28.1 to 30 | 0 | 0 |
| 26.1 to 28 | 1 | 0 |
| 24.1 to 26 | 0 | 1 |
| 22.1 to 24 | 1 | 0 |
| 20.1 to 22 | 0 | 1 |
| 18.1 to 20 | 0 | 0 |
| 16.1 to 18 | 0 | 1 |
| 14.1 to 16 | 0 | 0 |
| 12.1 to 14 | 1 | 0 |
| 10.1 to 12 | 1 | 0 |
| 8.1 to 10 | 0 | 2 |
| 6.1 to 8 | 2 | 1 |
| 4.1 to 6 | 0 | 0 |
| 2.1 to 4 | 1 | 1 |
| 0 to 2 | 3 | 2 |
| Number of Schools | 10 | 10 |
| Mean | 9.50 | 12.80 |
| Standard Deviation | 9.19 | 10.31 |
| t-test | .76 (not significant) | |

TABLE LXXI

AVERAGE ACRES OF WHEAT PER FARM REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Northwest Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 230.1 to 240 | 1 | 0 |
| 220.1 to 230 | 1 | 0 |
| 210.1 to 220 | 0 | 0 |
| 200.1 to 210 | 1 | 0 |
| 190.1 to 200 | 0 | 1 |
| 180.1 to 190 | 0 | 0 |
| 170.1 to 180 | 0 | 1 |
| 160.1 to 170 | 0 | 1 |
| 150.1 to 160 | 1 | 0 |
| 140.1 to 150 | 0 | 1 |
| 130.1 to 140 | 2 | 1 |
| 120.1 to 130 | 1 | 0 |
| 110.1 to 120 | 1 | 2 |
| 100.1 to 110 | 1 | 1 |
| 90.1 to 100 | 1 | 1 |
| 80.1 to 90 | 0 | 0 |
| 70.1 to 80 | 0 | 0 |
| 60.1 to 70 | 0 | 0 |
| 50.1 to 60 | 0 | 0 |
| 40.1 to 50 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 153.40 | 129.30 |
| Standard Deviation | 48.96 | 40.81 |
| t-test | 1.20 (not significant) | |

TABLE LXXII

AVERAGE ACRES OF WHEAT PER FARM REPORTING WHEAT IN THE SCHOOL DISTRICTS SERVED BY TEN ABOVE-AVERAGE AND TEN BELOW-AVERAGE DEPARTMENTS

Southwest Supervisory District

| Acres per Farm | Above-average Group | Below-average Group |
|---|---|---|
| 126.1 to 132 | 1 | 0 |
| 120.1 to 126 | 0 | 0 |
| 114.1 to 120 | 0 | 0 |
| 108.1 to 114 | 1 | 0 |
| 102.1 to 108 | 0 | 0 |
| 96.1 to 102 | 1 | 0 |
| 90.1 to 96 | 1 | 1 |
| 84.1 to 90 | 0 | 0 |
| 78.1 to 84 | 0 | 1 |
| 72.1 to 78 | 0 | 0 |
| 66.1 to 72 | 0 | 1 |
| 60.1 to 66 | 0 | 1 |
| 54.1 to 60 | 0 | 1 |
| 48.1 to 54 | 0 | 0 |
| 42.1 to 48 | 2 | 0 |
| 36.1 to 42 | 1 | 2 |
| 30.1 to 36 | 1 | 2 |
| 24.1 to 30 | 1 | 0 |
| 18.1 to 24 | 1 | 0 |
| 12.1 to 18 | 0 | 1 |
| Number of Schools | 10 | 10 |
| Mean | 64.50 | 53.40 |
| Standard Deviation | 36.98 | 23.02 |
| t-test | .81 (not significant) | |

# CHAPTER III

## SUMMARY AND CONCLUSIONS

This report is an extension of a study made by Earl Knebel in which Knebel studied the activities of the students and the teachers of vocational agriculture, and the characteristics of the schools and of the vocational agriculture departments for 100 departments of vocational agriculture. Fifty of these departments were rated above-average and fifty were rated below-average by the five district supervisors of vocational agriculture in Oklahoma.

The writer received permission to use the same 100 departments studied by Knebel. Twelve factors were selected which were believed to affect the prosperity of the farmers in the service area of a vocational agriculture department in Oklahoma. These factors were:

1. Number of farms in the service area of a department.
2. Average size of farms.
3. Average investment in land and buildings per farm.
4. Per cent of tenancy.
5. Per cent of farms reporting cows and heifers milked.
6. Average number of cows and heifers milked per farm reporting cows and heifers milked.
7. Per cent of farms reporting cattle.
8. Average number of cattle per farm for those farms reporting cattle.
9. Per cent of farms reporting cotton.
10. Average acres of cotton per farm for those farms reporting cotton.
11. Per cent of farms reporting wheat.
12. Average acres of wheat per farm for those farms reporting wheat.

Data for each factor were secured from the 1945 United States Census. The data were compiled, analyzed, and tested by the null hypothesis for fifty above-average and fifty below-average departments on a state-wide basis. Next the data were collated and analyzed on a supervisory district basis. It was assumed that the five district supervisors of vocational agriculture in Oklahoma could identify the above-average and the below-average departments in their respective districts. It was also assumed that those factors which revealed significant differences by refuting the null hypothesis were important guides for determining which factors contributed to farming success and, therefore, affected the rating a department of vocational agriculture might receive.

The purpose of this study was to determine if the type of farming, size of farm, money invested in land and buildings, per cent of tenancy, and number of farms in a community had any relation to the rating a department of vocational agriculture received from the state supervisors of vocational agriculture in Oklahoma.

Summary. A wide variation was noted in the range of numbers in the tables for each of the twelve factors when the 100 departments were studied. The above-average groups had a higher mean average for:

1. Number of farms per school district.
2. Average acres of land per farm.
3. Average investment in land and buildings per farm.
4. Average number of cows and heifers milked per farm reporting cows and heifers milked.
5. Average number of cattle per farm reporting cattle.

6. Per cent of farms reporting wheat.
7. Average acres of wheat per farm reporting wheat.

The difference in the means of the two groups was not sufficient to manifest a significant difference between the two groups when tested by the null hypothesis. The below-average departments had the higher mean average concerning:

1. Per cent of tenancy.
2. Per cent of farms reporting cows and heifers milked.
3. Per cent of farms reporting cattle.
4. Per cent of farms reporting cotton.
5. Average acres of cotton per farm for those farms reporting cotton.

When tested by the null hypothesis no significant difference was found for any of the twelve factors when the two groups of departments were compared on a state-wide basis.

When the two groups of departments were compared on a supervisory district basis the null hypothesis revealed no significant difference between the two groups of departments concerning:

1. Average acres of land per farm.
2. Average investment in land and buildings per farm.
3. Per cent of tenancy.
4. Per cent of farms reporting cows and heifers milked.
5. Per cent of farms reporting cattle.
6. Per cent of farms reporting cotton.
7. Per cent of farms reporting wheat.
8. Average acres of wheat per farm reporting wheat.

Either a significant or highly significant difference was found between the two groups of departments in one or more of the supervisory districts for:

1. Number of farms per school district.
2. Average number of cows and heifers milked per farm.
3. Average number of cattle per farm.
4. Average acres of cotton per farm.

In the southeast supervisory district the above-average group of departments showed a highly significant difference in the number of farms per school district over the below-average departments. This would tend to indicate that the number of farms in the service area of a vocational agriculture department might have some influence on the success of a department in the southeast supervisory district. However, no significant difference was found in any of the other four supervisory districts for the number of farms in the school districts served by the above-average and below-average departments.

The average number of cows and heifers milked per farm reporting cows and heifers milked showed a significant difference in the southeast supervisory district between the two groups of departments. This difference might be explained on the basis that cows milked per farm in this supervisory district was more of a subsistence enterprise than a major farm enterprise. The two groups of departments did not show any significant difference in the average number of cows and heifers milked per farm in any of the other supervisory districts.

In the northwest supervisory district the above-average departments had an average of 39.90 cattle per farm for those farms reporting cattle compared to 26.70 cattle per farm for the below-average departments. This difference proved to be significant when tested by the null hypothesis in favor of the above-average departments in this supervisory district.

However, no significant difference was found between the two groups of departments concerning the average number of cattle per farm in any of the other supervisory districts.

When the average acres of cotton per farm for those farms reporting cotton was collated for the two groups of departments on a supervisory district basis, the above-average departments in the central supervisory district showed a significant difference over the below-average departments. However, in the northwest supervisory district the below-average departments showed a highly significant difference over the above-average departments when tested by the null hypothesis. These results would tend to indicate that in the central supervisory district more of the above-average departments were located in areas more adapted to cotton growing than the below-average departments. While in the northwest supervisory district the below-average departments were located in areas more adapted to cotton growing than the above-average departments.

Conclusions. The results of this study tend to support the belief of the investigator that because of the wide variation in type of soil, rainfall, topography, and length of growing season, large areas in Oklahoma can not be compared successfully.

The findings of this study seem to indicate to the investigator that the wide variation within a school district allows most vocational agriculture departments the potential of being rated above-average. The writer feels that the greatest single factor contributing to the success of a

vocational agriculture department is the initiative of the individual instructor. The results of this study seem to indicate that for the factors studied enough variation is present in each of the service areas of the fifty below-average departments to improve them enough to warrant an above-average rating if the support of the community is gained.

Recommendations: Other studies regarding the education and training of the teachers, the teacher-administrator relationship, and the support given the teacher by people in the community might prove helpful in supporting or disproving the findings of this study.

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# VITA

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