DEVELOPING A LONG-TIME PROGRAM IN VOCATIONAL AGRICULTURE FOR THE STILLWATER HIGH SCHOOL

By

CLARENCE OLEN LABOR

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Thesis Adviser

Faculty Representative

Dean of the Graduate School

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CHAPTER I

INTRODUCTION

Purpose of the Study

The purpose of this study is: (1) To identify the factors which should guide and implement a four-year course in vocational agriculture in the Stillwater High School and (2) To organize a four-year course of study in Vocational Agriculture to better meet the needs of students enrolled in the Stillwater High School.

In justifying the existence of a Vocational Agriculture department in a high school in Oklahoma, it first must be determined that the local school district is basically an agriculture area; and, second, there is a large enough population engaged in this vocation to be served.

A. A comparison of the annual farm income of the farmers was made with that of other industries in the area. The information secured is given in the following table.

TABLE 1

FARMERS' INCOME COMPARED WITH OTHER INDUSTRIES

	Number Persons Employed	Annual Payroll
Farmers	750	$1,597,675.18
Manufacturers and Wholesalers . . .	654	1,320,471.67

This information was obtained from the following sources:

1. For the agricultural income the information was furnished by processing plants of agricultural products in Stillwater, Stillwater Cotton and Grain Company and Looper's Auction.

2. Manufacturers' and wholesalers' data were obtained from the Industrial Division of the Stillwater Chamber of Commerce.

The writer would liked to have compared the annual income of farmers to that of Oklahoma A. & M. College, but this information could not be obtained. The college does provide a large pay roll for the city of Stillwater and has quite an influence on the economic activities.

It is easy to realize that the information received was incomplete as to income derived from agriculture in the community. The writer believes this to be a rather conservative figure, and that if a thorough survey by farm was made, the figure would be considerably higher.

According to a report compiled by the veterans vocational agriculture classes in Stillwater, the following information was obtained for the year 1950.

TABLE 2

AVERAGE FARM INCOME PER FARM IN THE AREA

Number Surveyed	Lowest Income Reported Per Farm	Highest Income Reported Per Farm	Average Income Per Farm	Total Income for townships surveyed
50	$1,122.67	$12,112.14	$3,963.76	$2,065,118.96

Summary: This table shows clearly that the agricultural industry is a major source of income for the Stillwater community. It is the writer's opinion since agriculture contributes more to the economic activities of the

community than manufacturing and wholesalers, this industry must be developed to the fullest extent and great emphasis should be given it in the high school curriculum.

B. The need for training in agriculture in the high school program:

1. Number of persons

According to the 1945 agricultural census, there were 521 farmers in the four townships surveyed (Stillwater, Cherokee, Henry, and Eden). The writer considers these four townships to be the service area of Stillwater High School. This represents a large number of families dependent on agriculture entirely for their food, clothing, other necessities, and the education of their children.

The average enrollment in vocational agriculture has been approximately thirty-five (35)--with approximately 22 of these being farm boys--since the department was established in 1941. This is considered an average teaching load so far as the number of students is concerned. Table 3 shows the number of boys enrolled in vocational agriculture by years since 1941-1942.

The information provided in Table 3 was taken from enrollment and preliminary reports by years as submitted to the State Department of Vocational Agriculture.

The writer has come to this conclusion concerning this table: Enrollment does not show a regular increase or decrease for a particular period; instead, it fluctuates by years.

2. Wealth and size of business

The farm income survey shows that the average income per farmer is $3,963.76, with a gross income to farm families being $2,065,118.96. The farm surveys show an average investment for successful farmers of $31,829.00

TABLE 3

ENROLLMENT BY YEARS IN VOCATIONAL AGRICULTURE, STILLWATER HIGH SCHOOL

Year	Number Enrolled	Number Farm Boys	Number Non-farm Boys
1941-42	44	25	19
1942-43	34	20	8
1943-44	33	15	18
1944-45	40	20	20
1945-46	27	22	5
1946-47	35	20	15
1947-48	30	22	8
1948-49	30	25	5
1949-50	37	26	11

for beef cattle farmers and $21,811.00 for dairy farmers in the community. These figures indicate that farming is an important business and that it requires a considerable amount of capital invested. Boys in high school planning a career in farming should and must be provided guidance and instruction in various phases of farming to better prepare them for their future. Guidance and instruction are not the final answer to their preparation; they must also learn how to do the various farm skills needed in crops, livestock, soil conservation, farm shop, and organize and manage the farm business. These things are necessary for success in the vocation of farming.

The writer has come to the conclusion that farming is a big business in the Stillwater community. A big responsibility of the vocational agriculture department is to teach boys how to produce crops and livestock

efficiently, how to do farm shop skills, how to produce vegetables and fruits for home use and how to manage the farm business wisely.

CHAPTER II

FACTORS THAT SHOULD BE CONSIDERED IN PLANNING A LONG-TIME PROGRAM IN VOCATIONAL AGRICULTURE

I. The city of Stillwater and the demand for agricultural products

A. It is the belief of the writer that in order for a community to be prosperous in any area, the population of the community must be stable. For each unit of production by the rural population, there must be consuming units also. Agriculture prospers as the urban buying power increases and rural population tends to be more stabilized. The table below describes the trend in population of the city of Stillwater since 1920.

TABLE 4

TRENDS IN URBAN POPULATION OF STILLWATER

Year	Population
1920	4,200
1930	7,016
1940	10,097
1950*	20,159

*The 1950 census includes students enrolled at Oklahoma A. & M. College.

From this table it can be easily recognized that there has been a constant increase between 1920 and 1940; a rapid increase from 1940 to 1950, as a matter of fact, it amounts to a 100 per cent increase from 1940 to 1950.

In summarizing the population increase of the city of Stillwater, it can be said that this should provide a good outlet for farm products such as dairy and poultry products and other perishable products.

Another observation that can be made in connection with the increase in population is the opportunity for employment, or some other institution which draws numbers of people to any city. Where employment is good, the demand for food products is also good and people are willing to buy more high priced foods. All these things tend to make the rural population more prosperous and stable.

The purpose of this is not only to show there is sufficient consumers in the city, but one of the main things, as the writer sees it, is the possibilities that cities of this size offer for the marketing of different products. This is important from the standpoint of students of vocational agriculture and farmers selecting enterprises which will be profitable and give them a quick return on their investment. In other words, the farmer will have an opportunity to market products which will be a quick turnover which will not be available in small towns.

B. Products used in Stillwater which are produced in the area

There are only a few products being produced in the area that are marketed in the form that consumers can use immediately. The products are:

1. Dairy products
2. Beef
3. Pork
4. Poultry products
5. A very small amount of fresh vegetables
6. Wheat for flour

Dairy products and wheat for flour are the only products produced in the area in sufficient amounts to meet the demands of the consumers. The area is adapted to broiler and egg production, but these are not being produced in sufficient quantities to meet the demands of the population.

II. Market Outlet for Farm Products in the Stillwater Community

A. Processing Plants

1. Stillwater Cotton & Grain Co., 512 E. 12th
2. Mid-West Creamery Co., 123 W. 9th
3. Payne County Creamery, 810 Husband
4. Beatrice Food, West Sixth Street
5. Stillwater Rendering Co., 6th & Perkins Road
6. Goodholm Flour & Feed Co., 119 W. 9th
7. Stillwater Hatchery, East Sixth Street
8. Humphrey Bros., East of City
9. Simank's Locker & Ice Co., 824 W. 6th
10. McConkey Hatchery, 123 E. 9th
11. Bigler Hatchery, West Sixth Street

B. Market Outlet

1. Arkansas Fryer House, 220 Lincoln
2. Farmers Cooperative Inc., 201 W. 9th
3. Stillwater Produce, 116 W. 9th
4. Gem Produce Co., 916 Lewis
5. Stillwater Produce, 116 W. 9th
6. Douglas Food Mart, 824 Main
7. Shannon Feed & Seed Co., 923 Main
8. Oklahoma A. & M. College
9. Grocery Stores

10. Loopers Auction

11. Auction, 9 miles south

III. Farmers in the area

The purpose of this phase of the study is to determine whether the men engaged in farming are of older age which would indicate a slowness on their part in accepting new ideas and information or whether they are at the age where they would have the desire to advance in their business and make the most of their opportunities. A survey was conducted to determine the approximate age of farmers in the area. The ages of the thirty farmers surveyed were approximated, and in addition to these, thirty-seven veterans on the farm training program were averaged.

Sixty-seven farmers averaged 38.22 years of age. A summary by age groups is presented in Table 5.

TABLE 5

AGE GROUPS OF FARMERS SURVEYED

Age Groups	Number Farmers in Age Groups
Under 25	1
25-30	13
30-35	25
35-40	5
40-45	9
45-50	1
50-55	6
Over 55	7

The 1945 census on agriculture showed a total of 521 farmers in the four townships surveyed. A count by townships shows:

TABLE 6

NUMBER OF FARMERS BY TOWNSHIPS

Township	Number of Farmers
Cherokee	43
Eden	103
Henry	124
Stillwater	251

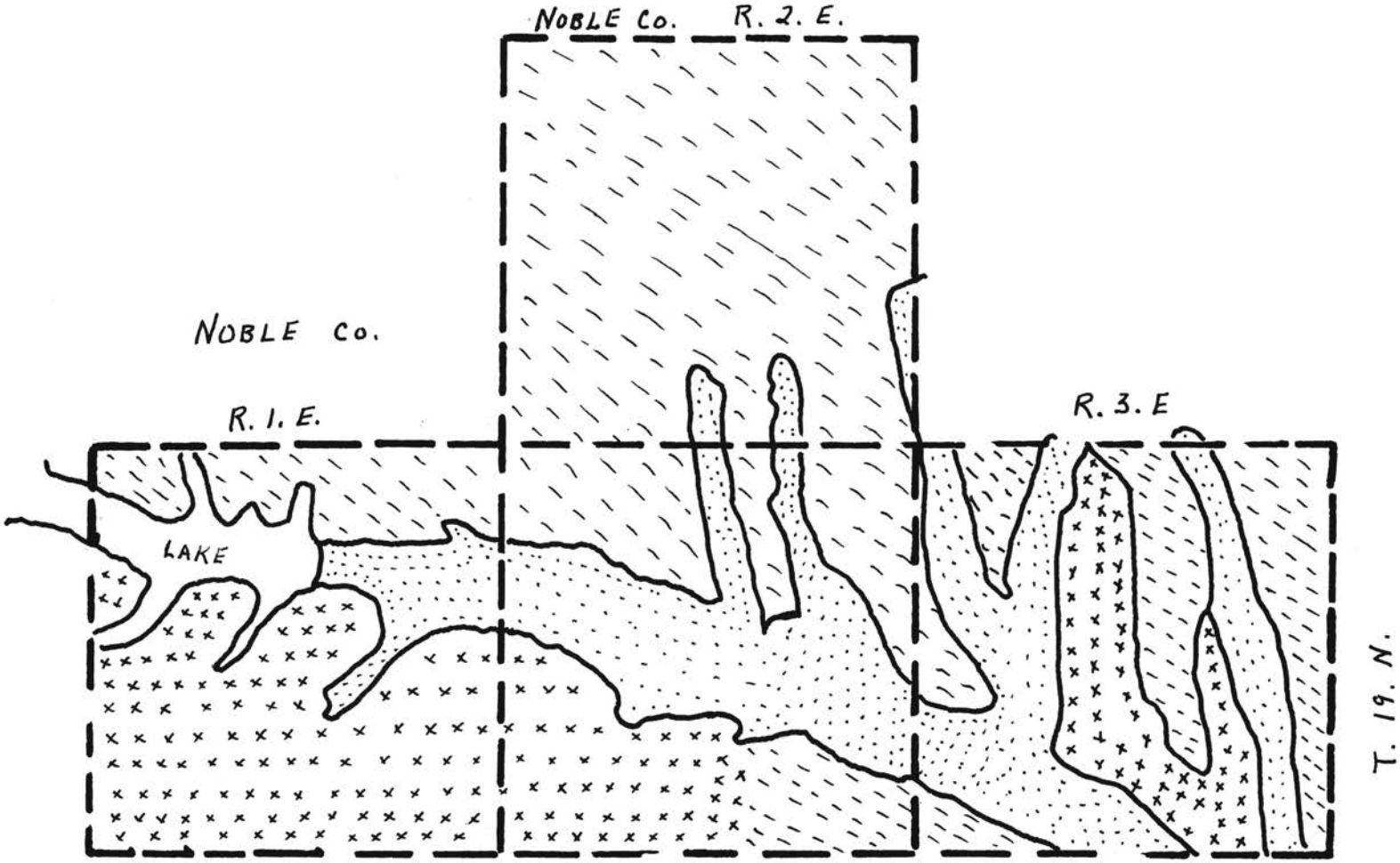
In summarizing, the evidence available indicates that there are enough farms in the area to draw boys for vocational agriculture and they are at the age where they will accept and put into practice new and improved practices in their farming operations. They feel there is some scientific information that is valuable for them to know in improving their farming methods. The farmers in the Stillwater area are seeking this information and the vocational agriculture department is an agency to provide it.

IV. Soil Conditions and Practices in the Area

A. Soil types: From the Payne County Soil Conservation service may, the Stillwater service area shows three different soil types:

1. First and second bottom land
2. Prairie soils developed from Permian red bed sandstone and shale
3. Timbered soils developed from red bed sandstone

Map 1. Major Soil Types in the Stillwater Area



1st and 2nd Bottom Land

Prairie Soils Developed from Permian Red Bed Sandstone and Shale

Timbered Soils Developed from Red Bed Sandstone

Taken from Payne County Soil Conservation Map

It is important to know the soil types in the community. Bottom land is highly productive soil and farmers are more prosperous in this area than they are on the prairie and cross timbered soils. Boys enrolled in vocational agriculture will have a better supervised practice program in the bottom land area than boys on the prairie and cross timbered soil. By knowing the soil types in the community, the instructor of vocational agriculture will have a better understanding of the problems in teaching soils and soil management.

B. Soil erosion problem: Before we can determine accurately the soil erosion problems of these different soil types, we must first determine the uses of the land. The following chart is used to show that breakdown.

TABLE 7

LAND USES BY DIFFERENT SOIL TYPES

Soil type	Per Cent Cultivated	Per Cent Pasture & Meadow	Miscellaneous
Bottom	65	29	6%
Prairie	52	42	6%
Cross-timber	30	64	6%

Woodland is included in with the pasture and meadow land. Miscellaneous land includes the amount of land out for roads, fences, farmsteads and creeks, etc. From the above chart it is easily recognized that the bottom land has the highest percentage of cultivated land. It is on this type of soil that crops such as alfalfa, corn, and wheat are being produced. A small amount of cotton is being produced in certain sections of the area, but usually cotton is giving away to wheat as a cash crop due to labor conditions, machinery, insects, and crop rotation practices.

The writer has observed that wooded areas, especially along creek banks, are gradually being cleared out and farmers are moving the wheat field or corn field closer to the creek. According to the Soil Conservation Service, none of the first and second bottom land should be retired from cultivation.

On the 52 per cent cultivated land found in the prairie soil area, we find crops such as oats, grain sorghums, cotton, and summer legumes. According to the Soil Conservation Service, approximately 22 per cent of the cultivated land should be retired from cultivation due to one or more forms of soil erosion.

The cross timber area presents a major problem in Payne County. In this area some oats, grain sorghums, and legumes are being produced. Subsistence farming is being done and usually the farm unit in acres is larger and patches are being farmed, meaning that a small plot here and there is used for cultivated crops. According to the Soil Conservation Service, 54 per cent of cultivated land should be retired due to one or more types of soil erosion.

In summing up the amount of land that should be retired due to soil erosion, the following chart is prepared.

TABLE 8

PERCENTAGE OF LAND THAT SHOULD BE RETIRED FROM CULTIVATION

Soil Type	Per Cent of Cultivated Land	Per Cent of Cultivated Land Should be Retired
Bottom land	65	0
Prairie soil	52	22
Cross timber	30	54

C. Soil mineral conditions: A rather thorough survey was made to determine the soil mineral condition of the Stillwater service area. The purpose of this study is to help the instructor in setting up crop rotations for each soil type and to plan fertilizer combinations.

The following information was taken from the farm plans the Soil Conservation Service had prepared. This gave a good cross section of the area. A summary was also made of the soil samples the writer had analyzed. The results are given in Table 9.

TABLE 9

CALCIUM AND PHOSPHORUS NEEDS OF SOILS

Number Soil Samples*	Number Needing Calcium	Number Needing Phosphorus
32	21	22

*Number samples represent the different soil types analyzed.

The results on farms by townships as to mineral needs follows:

TABLE 10

PERCENTAGE OF SOILS DEFICIENT IN CALCIUM AND PHOSPHORUS BY TOWNSHIPS

Township	Number Farms	Number Samples	Number Needing Calcium	Number Needing Phosphorus	Per Cent Needing Calcium	Per Cent Needing Phosphorus
Stillwater	19	74	34	67	46	90.5
Henry	18	90	59	86	65	95.5
Cherokee	14	60	39	50	65	83.3
Eden	26	115	87	99	75.6	86.0

In these four townships the farms which were analyzed were scattered throughout the area giving a good average for each township. Both calcium and

phosphorus are deficient in the area, but phosphorus is the major problem.

The information in Table 10 was taken from the Payne County Soil Conservation Service records.

There were insufficient tests on potassium and organic matter on record to draw any type of conclusion as to their deficiency.

The township data cover a period of several years and they all show a definite deficiency in both calcium and phosphorus, with phosphorus being deficient in a larger percentage of farms.

In comparing the data received on townships from the Soil Conservation Service with those the writer analyzed, it was found that the percentage of farms needing lime and phosphorus was lower than what the Soil Conservation Service showed. This is due to the fact that the writer's tests are more recent and some steps have been taken to relieve the mineral conditions by individual farmers.

D. Soil recommendations for the area as prepared by the Soil Conservation Service.

1. Recommendations for Numbers 1 and 2 bottom land
    a. Drainage is needed in certain low areas
    b. Maintaining and improving soil fertility by:
        (1) Adding minerals to the soil
        (2) Including a legume in the crop rotation one in five years
        (3) Deep plowing to loosen the plow sole
2. Recommendations for the prairie soils
    a. Retire shallow soils from cultivation
    b. Improve soil fertility by:
        (1) Adding minerals to the soil

(2) Include a legume in the crop rotation two years out of five years

(3) Deep plowing to loosen the plow sole

c. Retire deep soils which are severely eroded from cultivation

d. Terrace sloping fields to prevent water erosion

e. Practice contour farming

f. Seed winter cover crops to control erosion

g. Revegetate some fields to native grasses

h. Control the number of cattle per acre on pastures in the area

3. Recommendations for the cross timbers area

a. Retire and revegetate land that has steep slopes

b. A large percentage of soils in this area is shallow; these soils should be retired from cultivation

c. Improve soil fertility by:

(1) Adding minerals to the soil

(2) Including a legume in the crop rotation two out of five years

(3) Tilling the soil so as to leave a mulch to aid in controlling wind erosion

d. Terracing is a must in this area

e. Contour farming is recommended for the area

f. Seed winter cover crops in the area

g. Control the number of cattle on each acre of pasture

h. Seed legumes and forage crops to as much of the land as possible

In summarizing the soil recommendations in the area, the writer has discovered that soil conservation and improvement are major problems in the area and should be given much emphasis if a stable agriculture is to be maintained. Terrachig, contour farming and crop rotation are not the only problems to be considered, but proper land use, selection of crops, fertilizers and proper tillage, constitute an important part of soil improvement work.

V. Types of Farming in the Stillwater Area

In the Stillwater community the major type of farming is dairy farming. The writer recognizes the importance of the beef cattle type of farm in the community, however, and for that reason in making the farm surveys, seven beef cattle farms were included.

In this particular part of the study a total of thirty farm surveys were made to determine the way successful farmers organize their farm business into an operating unit. This part of the study has revealed valuable information in addition to what appears in the report. Through these surveys the writer has been invited on many occasions to view the farming practices in cattle, pasture, and crops on the farm. These things have been of much value in associating the practices in effect with that of the inventory of the farm and its possibilities. It was found in almost every case that a successful farmer clearly recognizes his possibilities and his limitations and takes full advantage of this knowledge in his farming operations. The writer found in his observation of these particular farms that success in farming has a direct relationship to the ability of the farmer and his business operations, and is not dependent on size alone. This is to say that some farmers make as much--or more--money on a small farm as some make on a larger farm on the same soil types. This is due to the ability of the farmer to organize his factors of production in a more efficient way.

Factors of production referred to here are: (1) land; (2) labor; (3) capital; and (4) management.

G. W. Foster, author of Farm Organization and Management, says in connection with the factors of production: "It is well known that land, labor, and capital are all essentials to the production of an economic good. These factors, however, are not productive unless associated and combined." And further, "This complex thing which is called organization cannot, of course, come into being of itself. There must be some one individual, or group of individuals, who are responsible for the existence of any business organization."

In summarizing the types of farming in the area, the writer will present the two major types:*

A. Beef cattle type of farming

B. Dairy farming

A. The beef cattle type of farming will be considered first.

1. Average number acres operated

(1) Average acres in the farm: 459

(2) Average acres in the cropland: 148

(3) Average acres in pasture: 283

(4) Average acres in meadow: 33

2. Average investment in farming

(1) Average investment in land:	$10,929.00
(2) Average investment in cattle:	10,400.00
(3) Average investment in farm machinery:	10,500.00
(4) Total investment:	$31,829.00

*The writer is aware of the general type farm and the grain farm being in the community, but since they are not in large enough numbers, they have been omitted from this study.

3. Combinations of enterprises

(1) Beef cattle

(2) 71 per cent had swine

(3) 100 per cent reported poultry

(4) Crop combinations used by beef cattle farmers

a. 71 per cent produced corn with an average of 19.3 acres per farm

b. 85.7 per cent produced oats with an average of 40 acres per farm

c. 85.7 per cent produced alfalfa with an average of 23.7 acres per farm

d. 43 per cent produced grain sorghums with an average of 4.6 acres per farm

e. 57 per cent produced wheat with an average of 13.4 acres per farm

f. 43 per cent produced cotton with an average of 7.4 acres per farm

An interesting notation is that cotton as a cash crop is very frequent on beef cattle farms. This is perhaps due to the fact that beef cattle farmers in this community need other enterprises in order to utilize their labor and serve as an additional source of income to meet necessary living and farming expenses.

4. Kinds and numbers of livestock and practices

Average number of livestock kept

TABLE 11

KIND AND NUMBER OF LIVESTOCK

Kind	Number
Beef Cattle	52
Swine	3
Poultry	94

The following practices were found to be used by farmers:

(1) 86 per cent farmers fatten calves for market

(2) 11 months is the average age marketed

(3) 93 per cent of calf crop is saved

(4) 100 per cent farmers treat for flies and lice

(5) 100 per cent farmers use purebred sires

(6) 43 per cent farmers own purebred herds

(7) Most common diseases:

a. Hoof rot

b. Poisoning

c. Bang's disease

5. Yields of livestock

In preparing this information the following tables show this information:

TABLE 12

YIELDS OF LIVESTOCK

Average Number Cows Kept	Average Number Calves Born
52	45

6. Kinds of crops and yields

TABLE 13

ACRES OF CROPS AND YIELDS

Crop	Average Acres	Average Yields
Corn	19	36 bushels
Wheat	22	27 bushels
Oats	31	30.9 bushels
Alfalfa	24	2.5 Tons
Grain Sorghum	6	1.7 Tons
Cotton	6	.78 bale
Sudan	3	2 Tons
Peas	2	1.5 T Hay

7. Crop Practices

(1) 100 per cent practiced fertilization of crops

(2) None used certified seed

(3) 100 per cent practiced crop rotation

(4) 71 per cent beef farmers terraced and contour farmed

(5) 100 per cent beef cattle farmers surveyed cooperated with soil conservation and P. M. A.

(6) 71 per cent plowed under legumes as green manure

(7) 71 per cent used winter cover crops such as vetch, wheat, and oats.

The following conclusions were drawn in surveying the seven beef cattle farms:

1. Limitations in crop production are due to low soil fertility, soil erosion, irregular rainfall, and insects
2. Successful farmers in the survey use fertilizers*
3. Successful farmers have a planned program in soil conservation
4. Successful farmers strive for high yields in crops and livestock
5. Successful farmers are not bothered with livestock diseases to a great extent.

B. Dairy farms

1. Average acres operated
   (1) Average acres in the farm: 227 Acres
   (2) Average acres in cropland: 108 Acres
   (3) Average acres in pasture: 93.3 Acres
   (4) Average acres in meadow: 33 Acres
2. Average investment in farming

(1) Average investment in land:	$11,191.00
(2) Average investment in cattle:	5,678.00
(3) Average investment in machinery:	4,942.00
(4) Total investment:	$21,811.00

3. Combinations of enterprises
   (1) Dairy—100 per cent
   (2) Swine—11 out of 23 reported swine (This is approximately 50 per cent dairy farmers with swine with an average of 1.4 sows per farmer.)

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*Successful farmers as referred to in this study are those whose income from their farming activities alone is above the average for the community.

(3) Poultry--100 per cent with an average of 119 hens per farmer

(4) Crop combinations include

a. 80 per cent farmers produced oats with an average of 23.6 acres per farm

b. 70 per cent farmers produced alfalfa with an average of 12.7 acres per farm

c. 65 per cent farmers produced corn with an average of 16 acres per farm

d. 52 per cent farmers produced wheat with an average of 24.2 acres per farm

e. 48 per cent farmers produced grain sorghums with an average of 8.5 acres per farm

f. One farmer produced cotton out of the 23 surveyed

4. Kinds and numbers of livestock and practices

The following table shows the kinds and numbers of livestock:

TABLE 14

KINDS AND NUMBERS OF LIVESTOCK AND POULTRY KEPT BY DAIRYMAN

Kind	Average Number
Dairy	20
Swine	1.4 sows
Poultry	119

Practices in dairy cattle

(1) 74 per cent dairymen have mixed herds

(2) 56 per cent dairymen produced Grade "A" milk

(3) 90 per cent dairymen control flies

(4) 3.28 gallons of milk average per cow

(5) 100 per cent farmers feed protein feeds

(6) 96 per cent farmers feed mineral supplement

(7) 96 per cent dairymen feed cows on pasture

(8) 90 per cent farmers use purebred sires

(9) 35 per cent test for butter fat

(10) 74 per cent provide additional green pasture

(11) 30 per cent dairymen feed silage

(12) 50.5 per cent dairymen control Bang's disease by Bang's vaccination and testing

(13) 87 per cent dairymen raise their replacements

(14) 60 per cent vaccinate for Blackleg and Bangs

Most common diseases reported

(1) Mastitis

(2) Cow Pox

(3) Calf Scours

(4) Milk fever

(5) Hardware

(6) Premature birth

(7) Go off feed

5. Production of Dairy Cows

(1) Average daily production per cow: 3.28 gallons (28#)

(2) Average annual production per cow: 8,540 pounds

6. Kinds and Acres of Crops grown and Practices used

TABLE 15

ACRES OF CROPS AND YIELDS OF DAIRY FARMERS SURVEYED

Number Farmers Surveyed	Crop	Total Acres	Average Yield Per Acre	Per Cent Farmers Reporting
23	Wheat	567	22 bushels	60
	Corn	367	36 bushels	70
	Oats	543	24 bushels	78.3
	Alfalfa	296	2.7 Tons	70
	Grain Sorghum	195	5.2 Tons	48

Note: One dairy farmer surveyed produced cotton

Dairy farmers followed the following practices:

(1) 80 per cent farmers producing corn used hybrid seed

(2) 44.4 per cent farmers producing oats planted in the Fall

(3) 28 per cent farmers producing oats produced both fall and spring oats

(4) 22 per cent farmers put up silage

(5) 30 per cent farmers produce enough grain for dairy cows

(6) 80 per cent dairymen produced all roughage needed

(7) 34 per cent dairymen treated seed for smut

(8) 90 per cent dairymen practiced contour farming

(9) 83 per cent dairymen terraced

(10) 50 per cent dairymen used commercial fertilizer

(11) 43 per cent dairymen plow under legumes

(12) 70 per cent planted winter cover crops

(13) 34.8 per cent inoculated legumes

(14) 91 per cent rotated crops

(15) 100 per cent utilized barnyard manure

Most common limitations in crop production listed by dairymen are as follows:

(1) Low rainfall

(2) Insects

(3) Soil erosion

Summary and conclusions of dairy type of farming:

(1) Average size of farm in acres and in amount of money invested is smaller than that of beef farms.

(2) Animal enterprises on dairy farms include dairy, swine, and poultry. Swine appears more frequent on farms where grade "C" or cream is marketed.

(3) Crop enterprises include oats, alfalfa, corn, wheat, and grain sorghums.

(4) Successful dairymen in the community do not have purebred herds, but they raise their own replacements and breed to purebred sires.

(5) Successful dairymen get high production average. Herds are usually Jersey and Holstein mixed.

(6) Successful dairymen follow approved feeding practices. They possibly need additional information on the right combinations of feeds, however.

(7) Successful dairymen, as a rule, are not bothered with diseases to a great extent.

(8) As a rule, successful dairymen follow approved practices in crop production such as:

a. Contour farming

b. Terracing

c. Use commercial fertilizer

d. Plant winter cover crops (usually for pasture)

e. Follow a crop rotation

(9) Most dairymen produce all the roughage they need. It is the belief of the writer that the dairyman's cost could be reduced considerably if more of the grain could be produced on the home farm. Possibly if the wheat acreage was reduced and feed crops added, more of them could accomplish this. This would also be valuable from the standpoint of soil improvement.

(10) Successful dairymen strive for high yields in crop production

It is the writer's belief that great emphasis should be placed on this enterprise in the teaching plans of the Stillwater high school department of vocational agriculture. Problems of proper feeding, selection on basis of type and production records, selection of sire, sanitation, marketing milk and other problems in dairy management should receive a major part of the time in the teaching program.

VI. Farm Tenure Conditions

A check was made on the farm tenure conditions in the Stillwater community and the following table shows these conditions. This information is by townships and was taken from the 1945 census data on agriculture.

TABLE 15a

FARM TENURE CONDITIONS BY TOWNSHIPS

Township	Number Farms	Full Owners	Part Owners	Managers	Tenants
Cherokee	42	10	13	0	20
Eden	103	36	17	0	50
Henry	124	54	19	0	50
Stillwater	251	138	21	1	91

TABLE 16

PERCENTAGE OF FARM OWNERS AND TENANTS BY TOWNSHIPS

Township	Number Farms	Per Cent Owners*	Per Cent Tenants
Cherokee	42	53.5	46.5
Eden	103	51.4	48.6
Henry	124	59.6	40.4
Stillwater	251	61.4	38.6

*Included full owners and part owners.

In summarizing this information, the writer recognizes the fact that the percentage of tenants in the community is relatively high. This information is important in planning a long-time program in vocational agriculture

because individual farming program will have to be planned somewhat different for these people. Projects with a quick turnover must be emphasized for boys coming from farms whose parents are tenants. Landlord tenant relationships, better farm leases must be incorporated into the teaching plans in order to keep these people happily engaged in the business of farming.

The writer makes this observation in connection with farm tenure conditions on the thirty farms surveyed: 14 per cent of the beef cattle farmers are tenants and 40 per cent of the dairy farmers are tenants.

VII. Kinds of Farm Machinery in the Area

These data were obtained from the farm surveys taken in the area. The purpose of this information is to determine jobs to be taught in farm management dealing with selection of farm machinery. To aid young boys and farmers in proper selection of machinery and to aid in setting up jobs in the farm shop for repair of farm machinery are other purposes.

The following machines were found:

Tractor	Binder
Mower	Plow (Moldboard)
Manure Spreader	Baler
Drag Harrow	Cultivator
Disc Harrow	Drill (Grain)
Spring Tooth	Planter
Combine	Truck
Side Delivery Rake	Corn Picker
Wagon	Stalk Cutter
One Way Plow	Rotary Hoe

A. Value of Farm Machinery

The following kinds of farm machinery were found to have the

highest frequency on the farms in the Stillwater area. The machines were found to be the average investment on farms surveyed.

TABLE 17

AVERAGE NUMBER OF MACHINES AND VALUE PER FARM

Machinery	Average Number Per Farm	Value
Tractor	1	$2200
Mower	1	320
Harrow	1	26
Disc	1	245
Spring Tooth	1	90
Rake	1	425
Wagon	1	265
Plow (Moldboard)	1	320
Cultivator	1	270
Planter	1	365

Figuring these machines at present values, this would mean the average farmer has approximately $4,526.00 invested in farm machinery. This does not include dairy equipment, carpenter tools, repair tools, feed grinders, etc. Figuring these at $1,000, this would mean the average farmer would have $5,526.000 invested in machinery and equipment.

VIII. Activities of Former FFA Members

The study of former vocational agriculture students covers a period of eight years. The first year is 1941-1942 and through the school year, 1949-1950. This study includes all who were enrolled in Vocational

Agriculture whether they completed one semester or four years. During this time there were one hundred forty-five boys enrolled, and their names were taken from the enrolment report of previous years. The following chart shows the present activities of boys who are now out of high school.

TABLE 18

ACTIVITIES OF FORMER STUDENTS OF VOCATIONAL AGRICULTURE

Farming	Related Occupation	Other Occupation	Military	No Information
26	21	51	9	38

All the boys who were spending 100 per cent of their time either farming on their own, or in partnership with their fathers were counted to be in the vocation of farming.

Related occupation to agriculture took in employment at creameries, hatcheries, feed stores, agriculture students, etc.

Other occupations included power plant employees, filling station attendants, clerks, etc.

Military service included any member serving in Army, Navy, or any other branch of service.

There were thirty-eight boys who had moved away or could not be counted in the different vocations due to lack of information.

In analyzing this study and taking into consideration the convenience of a college to seek advanced study for practically any vocation, we find twenty-six choosing to farm. This is a good indication that the department of Vocational Agriculture should keep as its primary aim to train boys in the skills and the business of farming.

IX. Survey of Rural Youth

The purpose of this survey is to determine the number of farm boys becoming high school age who will be available for classes in vocational agriculture. This will aid the instructor in planning for facilities, providing library materials, providing transportation for field trips, etc.

Tables 19 and 20 show: (1) Number of boys in each school district (Some districts are consolidated with Stillwater at the present time) and (2) A survey of rural boys by ages.

TABLE 19

TOTAL BOYS BY DISTRICT AND TRANSFER AREA

District Number	Number Families Having Children Enumerated	Number Boys
2	12	15
4	13	22
5	27	28
6	14	15
7	16	24
17	33	43
18	19	24
27	15	18
72	15	20
73	14	22
16	54	59

Taken from 1950 school census--Information obtained from Payne County Superintendent of Schools.

TABLE 20

NUMBER OF FARM BOYS WHO MAY BE AVAILABLE FOR VOCATIONAL AGRICULTURE

AGE										
6	7	8	9	10	11	12	13	14	15	16
24	32	22	27	19	21	21	16	30	21	19

This information was obtained from census on record in the County Superintendent's office.

The purpose of Table 20 is to break down the number of boys by school districts into different age groups. From these different age groups the instructor of vocational agriculture can determine the number of farm boys who will be entering high school each year. A graph showing these numbers by years may be found on Page 34.

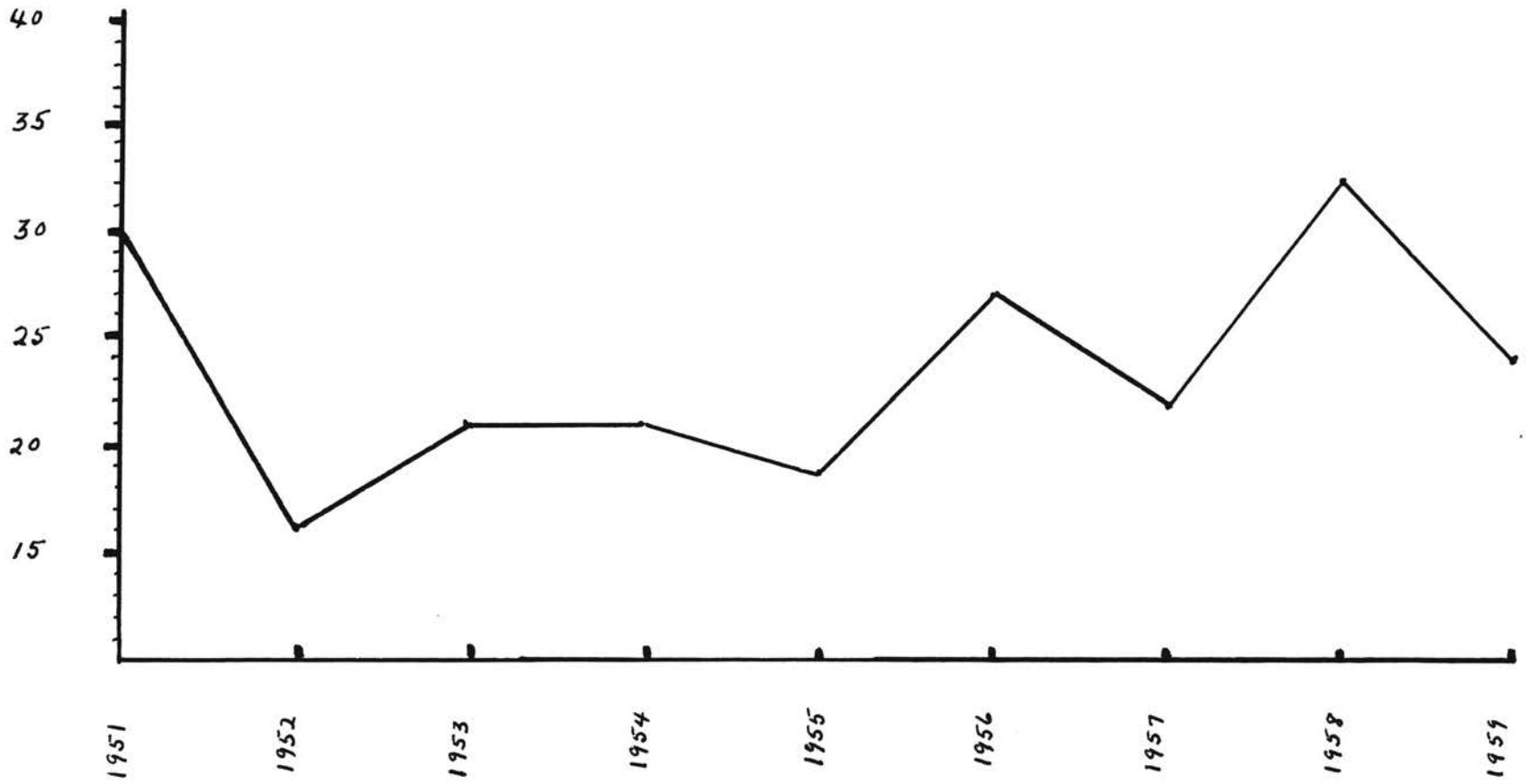
The following graph shows the results of the findings in the number of boys who will be available by years for Vocational Agriculture I.

There will be some variations to the actual number of farm boys enrolled and the number shown on this chart. This will be due to some of the following reasons:

1. Transfer to some other high school
2. Move from the area
3. Will not enter high school
4. Overlapping of school districts

The graph shows that from sixteen to thirty-three boys will be eligible for vocational agriculture each year through 1959.

Graph 1 Showing the Number of Farm Boys Entering High School



These data were taken from the 1950 census books in the Payne County Superintendent's office.

X. Surveys

A. Surveys of boys' home farms

The purpose of these surveys is to determine the type of farming being carried on on the farms of students enrolled in vocational agriculture. This type of information is necessary if a permenent type of supervised farming program can be developed for each individual member. It is the belief of the writer that a supervised farming program which is not based on the type of farming being conducted on the home farm will soon lead to a loss of interest on the part of the student, and also the student will not receive the full cooperation of his parents. As a result the objective of "establishment in farming" will not be reached.

Information about the home farm cannot be over-emphasized in this problem due to the fact that one of the objectives in vocational agriculture "To make a beginning and advance in farming" is dependent on the proper selection of a farming program by each student.

Table 21 shows the enterprises that contribute to the farm income in the Stillwater community.

B. Supervised Practice

These surveys were made to show the enterprises in which boys enrolled in vocational agriculture have selected to include in their individual farming programs. They are by years beginning in 1942, the year the department of vocational agriculture was established in the Stillwater school system, through and including the school year 1949-1950. This information was taken from the final all day report as submitted to the State Department of Vocational Agriculture. It must be remembered that all boys enrolled in vocational agriculture are not farm boys, and in some instances, projects were carried on to a greater extent than if all boys had been farm boys.

TABLE 21

SURVEY OF PUPILS' HOME FARMS

Number Farms Surveyed	Average Size Farm	Enterprise	Number Farms Reporting	Per Cent Farmers Receiving 40% or more of Total Farm Income From the Enterprise
25	320 A	Dairy	21	72
		Beef	5	16
		Swine	18	32
		Alfalfa	15	32
		Wheat	9	28
		Cotton	3	12
		Oats	20	Feed
		Corn	11	Feed
		Grain Sorghums	19	Feed

The size of the boys' farms ranged from 40 acres to 1100 acres. It will be noted that the last column in this table equals to more than 100 per cent. This is due to the fact that the farmers will have two or more enterprises from which they receive cash income.

From the information given in Table 22 the enterprises may be rated as to importance for supervised farming programs as follows:

1. Dairy
2. Swine
3. Poultry
4. Beef
5. Alfalfa
6. Wheat
7. Cotton

For feed crops:

1. Oats
2. Corn*
3. Grain sorghums

Note: Alfalfa may be included in the feed cropping program.

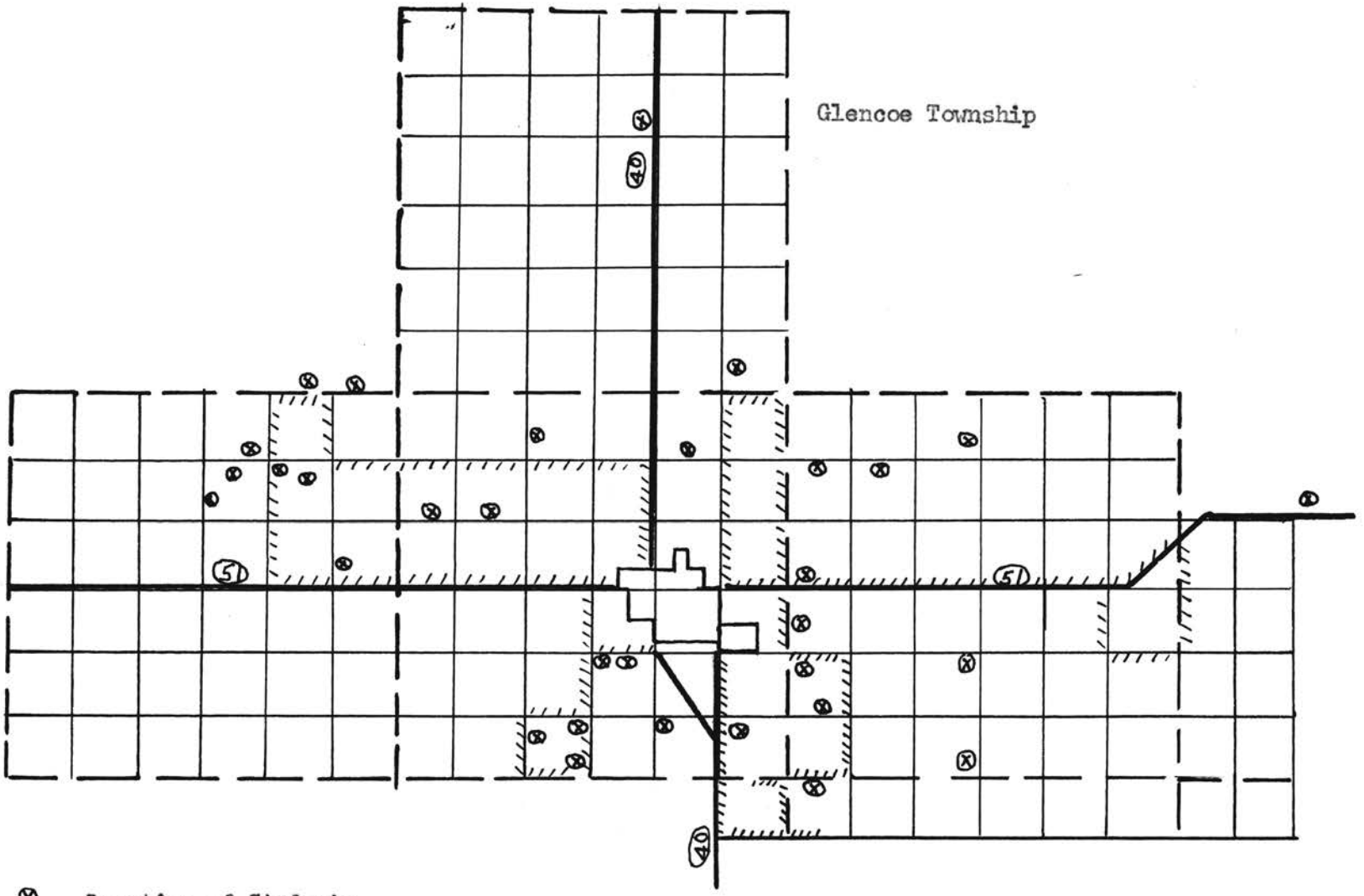
*Corn is increasing in acreage in the community due to greenbug damage to wheat and oats and drought conditions in the fall.

TABLE 22

NUMBER OF BOYS ENROLLED IN DIFFERENT ENTERPRISES BY YEARS

Enterprise	1941 1942	1942 1943	1943 1944	1944 1945	1945 1946	1946 1947	1947 1948	1948 1949	1949 1950
Enrollment	44	34	33	40	27	35	30	30	37
Legumes and hay						1	3	2	1
Dairy Products	8	9	7	14	14	10	18	16	20
Beef Products	6	3	4	4	4	5	2	6	7
Beef Fattening	2	8	6	4	4	6	2	5	3
Swine Products	15	18	7	14	14	9	14	15	11
Swine Fattening	18	21	14	15	15	6	8	11	12
Sheep Products	4	2	2	5	5	4	1	2	
Sheep Fattening				5	5	5		1	
Poultry Fryers		7	4	3	3		2	3	6
Corn	6	2	1	11	11	5	7	6	10
Oats	15.9	2	2	7	7	6		5	7
Rye				1	1				
Grain Sorghums	3			1	1	1	6	1	1
Mung Beans				1	1		3	1	
Cotton	2	3		2	2	1		2	
Egg Production	3	2	2			6	5	2	2
Rabbit Breeding		1							
Barley			1						
Wheat						1	5	4	1
Alfalfa						1	2	1	1
Vegetables	5						1	1	
Bee Culture							1	1	

Map 2. Bus Routes of the Stillwater High School and Location of Farm Boys Enrolled in Vocational Agriculture



CHAPTER III

GENERAL CONCLUSIONS

A. The Stillwater community is basicly agriculture in its source of revenue.

B. Training in agriculture in the public schools is a definite need.

C. The size of the city of Stillwater offers special opportunity for marketing dairy and poultry products. This is beneficial for boys seeking a short term cash project.

D. Marketing conditions have a definite need for improvement in the area.

E. An all-round soil conservation and improvement program is a definite need in the community.

F. Farming is big business requiring considerable capital invested.

G. Dairying is the major animal enterprise in the community.

H. Beef and swine are minor enterprises in the area.

I. Major cash crops in the area:

1. Wheat
2. Alfalfa

J. Minor cash crops

1. Cotton

K. Successful farmers in the area who were surveyed are very much aware of their business activities. They make investments in fertilizer and other materials with the idea of increasing their yield more than the cost

of the materials. They are good farm managers and have learned to be efficient in all of their business activities.

L. Tenants are less than 50 per cent of the population. It does constitute a problem in the area.

M. The vocational agriculture department is serving the community in an important way by establishing boys in the business of farming.

N. Larger enrollment in vocational agriculture can be expected in the future.

O. Enterprises are rated as to economic importance in the community:

1. Dairy
2. Alfalfa
3. Wheat
4. Swine
5. Beef
6. Oats
7. Corn
8. Grain sorghums
9. Cotton

P. Enterprises are rated as to importance for supervised farming program:

1. Dairy
2. Swine
3. Poultry
4. Beef
5. Alfalfa
6. Wheat
7. Cotton.

CHAPTER IV

COURSE OF STUDY

In preparing this part of the study the writer has let the following factors guide him in the selection of jobs and problems to be taught:

A. The type of farming being done in the Stillwater area

B. The supervised practice activities of the boys enrolled in vocational agriculture

C. The writer has let his own personal experience as a teacher of boys serve as a guide in planning

D. Observations of farmers' activities in maintenance, repair, and other shop work

E. Jobs have been planned according to the ability of the students to learn. The most difficult jobs are held until the junior and senior years.

F. Jobs have been planned so that unity in instruction may be maintained.

G. Jobs have been planned as near as possible to be taught in the season of the year when the problem actually exists, and it may be taught in its natural setting.

H. Jobs have been planned so as to teach the necessary skills in farming.

I. Jobs have been planned so the students may become efficient in managing the farm business.

Outline of a Four-Year Course of Study
in Vocational Agriculture for All-Day Students

Stillwater High School

Enterprise	Total Number Periods Allotted for 4 Years	Voc Ag I	Voc Ag II	Voc Ag III	Voc Ag IV
Dairy	60	20	15	10	15
Swine	40	20	15	5	
Beef	28		5	15	8
Orientation & Guidance	32	29	3		
Sup. Pract. Records	93	19	26	24	24
F.M. and Econ.	80	7	7	6	60
Sheep	10			10	
Poultry	30	15	15		
Wheat	15		5	10	
Cotton	10				10
Soil & Water Cons.	50	5	19	20	6
Pasture & Hay	30	7	10	13	
Feed Crops Oats Corn Grain Sorghum	35	5	15	15	
Home Garden	15			5	10
Home Orchard	15				15
Exams & Shows	40	10	10	10	10
FFA	15	5	5	5	
Shop & Maint.	122	38	30	32	22
TOTALS	720	180	180	180	180

Job Problem Layout

Month: September Year: Voc. Agri. I

Enterprise	Jobs to be taught	Problems	Method
Orientation	1-Introduction to Voc. Agri	Requirements of voc. agri. Policies of agri. dept. Library facilities Care of equipment	Lecture
Orientation	3-F. F. A.	FFA officers and their duties Understanding the FFA motto, creed, colors FFA degrees	Lecture Discussion Talk by Chapter officers
Farm Mgt.	4-Determining type of farming in community	Factors that determine type of farming How the understanding of type of farming can serve as a guide in selecting a farming program	Sup. study Conference Field trips
Farm Mgt.	3-Making a home farm survey	Make a record of the numbers and kind of livestock on the home farm Make a record of kind and acres of crops grown Make a record of all buildings and equipment Prepare a map of the home farm	Conference Project method
Guidance	4-Supervised Practice	Nature and purpose of supervised practice Advantages of a good supervised practice program	Conference
Guidance	5-Organizing a long-time agri. program	Types of projects to consider (Productive, improvement and supp.) Opportunities for different projects on the home farm Factors to consider in selecting my individual farming program Financing individual projects	Supervised study Conference
	20 periods		

Job Problem Layout

Month: October Year: Voc. Agri. I

Enterprise	Jobs to be taught	Problems	Method
Orientation and Guidance	3-Making a preliminary financial statement	Purpose of the preliminary financial statement How to prepare a preliminary financial statement Preparing a preliminary financial estimate	Sup. study Conference
Guidance	2-Making a business arrangement	Factors to consider in making the business agreement	Examples Sup. study
Guidance	11-Individual job analysis	Analyze enterprise to determine what he needs to know in conducting the enterprise Plan a study outline to solve problems Select suitable references	Conference Sup. study
Dairy	3-Determining the possibilities dairy cattle	Economic importance Compare cost of producing milk to other animal enterprises Compare income from dairy to other animal enterprises Equipment necessary for dairying Feed and care required by dairy cattle	Sup. study Conference
Swine	2-Possibilities for swine	Equipment and housing necessary for swine Pasture facilities for swine Hog-corn ratio Feed produced on home farm	Sup. study Conference

Job Problem Layout

Month: November Year: Voc. Agri. I

Enterprise	Jobs to be taught	Problems	Method
Swine	4-Selecting swine	Breeds of swine in Oklahoma	Sup. study
		Characteristics of breeds	Field trip
		Judging gilts for breeding	Conference
Swine	3-Breeding swine	Age and condition to breed gilts	Sup. study
		Recognizing the heat period	Conference
		Management during breeding	
Swine	3-Feeding the pregnant sow	Nutrients needed by the sow	Sup. study
		Source of nutrients	
		Combining the feeds	Conference
		Preparation of feeds	Field trip
Dairy	3-Breeds of dairy cattle	Breed characteristics	Sup. study
		Color and markings	
		Milk and butterfat producing capacities	Conference
		Factors to consider in selecting a breed of dairy cows for my farm	Field trip
Dairy	3-Housing for dairy cattle	Importance of adequate housing	Sup. study
		Shelter for calves	Conference
		Shelter for cows	
		What determines the size and number of buildings needed	Field trip
		Equipment for loafing sheds	
Examination	1 period		
Soil and water conser-	3-Importance of soil and water conservation in farming	The relationship of soil Conservation to high crop yields	Sup. study
		How soil conservation is related to success in farming	Conference
		Recognizing types of soil erosion	Field trip
	20 periods		

Job Problem Layout

Month: December Year: Voc. Agri. I

Enterprise	Jobs to be taught	Problems	Method
Shop	3-Identifying shop tools and equip.	Identify tools and equip. Uses of different shop tools Safety in using different tools Care and maintenance of tools	Visual aids Demonstra. Lecture Laboratory
Shop	5-Tool sharpening	Sharpen a plane iron Sharpen a wood chisel Sharpen a hand cross-cut saw Sharpen a rip saw Sharpen edged tools such as butcher knives, axes, etc.	Demonstra. Laboratory
Shop	2-Rope work	Securing ends of rope Splicing rope Making hitches with rope Make a rope halter Materials used in making rope	Demonstra. Laboratory
Shop	3-Farm Drawings	Printing numerals Printing letters A-Z Make a drawing of some object Make a drawing to scale showing three views	Demonstra. Laboratory
Shop	3-Forge work	Clean the forge Materials needed in forge Building a fire suitable for blacksmithing	Sup. study Demonstra.
F.F.A.	1-F.F.A. officers	Qualifications of officers Characteristics of good officers Duties and responsibilities of officers	Class discussion
Vacation	5		
	17 periods		

Job Problem Layout

Month: January Year: Voc. Agri. I

Enterprise	Jobs to be taught	Problems	Method
Shop	3-Soldering	Generate blowtorch Clean and tin copper Solder a seam on galvanized steel Solder a hole in galvanized steel	Demonstra. Laboratory
Shop	4-Woodwork	Select a shop project Select and figure materials Select screws and nails Lay off a piece of board and cut to size	Demonstra. Laboratory
Shop	11-Shop projects	Students will be given this time to become confident in the skills taught, woodwork, forge, tool sharpening, rope work, soldering, etc.	Laboratory Supervision
Records	4-Project book records	Students will bring all records up to date Students will analyze records	Supervised study
F.F.A.	1-Election of aux. officers	Students will elect a complete set of officers for their class	
Examination	1-Examination over shop information		
	24 periods		

Job Problem Layout

Month: February Year: Voc. Agri. I

Enterprise	Jobs to be taught	Problems	Methods
Records	4-Supervised practice records	Bring all project records up to date Analyze records	Supervised study
Shop	4-Shop Projects	Students will be given this time to learn shop skills taught and complete shop projects	Laboratory Supervision
Pasture	2-Determining the profitableness of pasture	The nutrition value of pasture The value of pasture in feeding dairy cows The amount of feed saved by pasture in feeding swine	Supervised study Conference
Pasture	3-Seeding a crop of sweet clover and lespedeza	Selecting seed seed bed preparation Soil treatments (fertilizer) Inoculation of seed Rate of seeding Time of seeding	Supervised study Conference Laboratory
Poultry	2-Determining possibilities for poultry	Housing and equipment needed for laying hens Housing and equipment needed for brooding chicks Possibilities for marketing fryers and eggs	Supervised study Conference Field trip
Poultry	4-Brood and feed baby chicks	Tempterature to keep brooder house Sanitation of house and equipment Ventilation of house Select feeds for baby chicks	Supervised study Conference Field trip
F.F.A.	1-FFA Meeting, Class officers presiding	Class officers know their parts Discussion on parlimentary procedure	Class participation
	20 periods		

Job Problem Layout

Month: March Year: Voc. Agri. I

Enterprise	Jobs to be taught	Problems	Methods
Records	3-supervised Practice Records	Project records will be brought up to date Analyze feed and labor records to determine efficiency	Supervised study
Shows	6-Attend State fat stock show	Members fattening swine, steers, and sheep to exhibit stock at the fat stock show, county and state	
Feed crops	1-Determining my feed production program	Reducing cash expense by producing grain for dairy, beef, and swine Grains suitable for dairy, beef, and swine Estimating grain needs Comparison of grain yields in community	Supervised study Conference
Feed crops	3-Planting the corn crop	Varieties of corn Advantages of hybrid corn Selecting seed Select land suitable for corn Prepare seed bed Rate of seeding Cultivation	Supervised study Conference Field trip
Swine	3-Care and management of sow during farrowing	Preparing for farrowing Preparing house for farrowing Feeding the sow Caring for new born pigs McLean County system of sanitation	Supervised study Conference
Swine	3-Feeding the sow and litter	Feed demands of the growing pig Feeding sow for maximum milk production Selecting grain rations Selecting protein supplements	Supervised study Conference Field trip
F.F.A.	1-Class meeting	Freshman Class officers preside at meeting Understand and practice good parliamentary procedure	Class participation
Exams.	1-Examination over major problem 21 periods		

Job Problem Layout

Month: April Year: Voc. Agri. I

Enterprise	Jobs to be taught	Problem	Methods
Records	4-Supervised practice records	Students to bring up all project records Analysis of success will be made	Supervised study
Poultry	3-Feeding the growing birds	Changing the mash to a growing and fattening food Adding grain to the ration Analyze feed cost	Supervised study Conference Field trip
Poultry	3-Housing and equipment necessary for raising pullets on the range	Square feet of pasture to be allowed for each bird planning and arranging fences Range houses and their construction Waterers and feed space Plan a range for poultry	Supervised study Conference
Dairy	7-Selecting and judging dairy cattle	Selection of dairy cattle on type Selection of dairy cattle on production records Judge dairy heifers Judge dairy cows Judge dairy bulls	Supervised study Conference Field trip
Swine	2-Caring for the young pigs	Castrate pigs Ear notch pigs Vaccinate pigs Control parasites	Field trip
F.F.A.	1-The period to be devoted to leadership activities in the FFA organization 20 periods	Freshmen officers to preside Conduct a business meeting	Student participation

Job Problem Layout

Month: May Year: Voc. Agri. I

Enterprise	Jobs to be taught	Problem	Methods
Dairy	4-Feeding young dairy stock	Feeding milk to calves Feeding concentrates Feeding young heifers for herd replacements	Supervised study Conference
Pasture	2-Seeding sudan grass for summer pasture	Seedbed preparation Date of seeding Rate of seeding per acre Time of grazing	Supervised study Conference
Soil Conservation	2-Seeding summer legumes	Value of soybeans, mungbeans, and cowpeas for hay Utilizing summer legumes seeds for feed Soil adaptations Rate of planting Selecting summer legume for my home farm	Supervised study Conference
Feed crops	1-Side dressing corn	Fertilizer elements needed When to apply Rate of fertilizer per acre	Field trip
Poultry	3-Selecting pullets for the laying flock	Select pullets according to standard of perfection Select on possibilities for good layers Cull pullets	Supervised study Conference Field trip
Records	4-Supervised practice records	Summarize project records and accounts	Supervised study
Exams.	1-Examination		
	17 periods		

Job Problem Layout

Month: September Year: Voc. Agri. II

Enterprise	Jobs to be taught	Problems	Methods
Records	3-Supervised practice records	Keep project records Summarize project records	Supervised Study
Wheat	3-Selecting a variety of wheat	Varieties recommended for Central Oklahoma Comparing yields of different varieties Soil requirements Test and baking qualities Selecting a variety	Supervised Study Conference
Wheat	2-Treating wheat seed	Importance of treating wheat seed Method of treating Materials used	Supervised Conference
Shows	4-Attend county and State fair		
Pasture and Hay	4-Alfalfa production	Varieties of alfalfa Soil and mineral requirements Seed bed preparation Inoculation of seed Rate of seeding	Supervised Study Conference
Pasture and	4-Seeding winter pasture	Crops suitable for pasture Advantages of winter pasture Combining legumes and small grains Dates of grazing	Supervised study Conference
	20 periods		

Job Problem Layout

Month: October Year: Voc. Agri. II

Enterprise	Jobs to be taught	Problems	Methods
Records	3-Supervised practice records	Keep project records Summarize project records	Supervised Study
Soil and Water Cons.	5-Seeding legumes for soil improvement	Legumes adapted to Okla. Classifying legumes as to season of growth	Supervised Study
		Advantages of winter legumes for soil improvement	Conference
		Selecting legumes Inoculating seed	Laboratory
Poultry	4-Selecting hens for egg production	Importance to cull When to cull	Supervised Study
		Things to consider in culling hens	Conference
		Cost of keeping non-layers How to detect a laying hen	Field trip
Poultry	3-Feeding hens for egg production	Nutrient requirements of laying hens Feeds suitable for laying hens	Supervised Study
		Amount of feed required Importance of water	Conference
Poultry	4-Housing the laying flock	Types of houses Construction of houses Materials	Supervised Study
		Dropping boards or pits Sq. feet to allow per hen	Conference
		Plan a laying house	Field trip
Exam.	1-Examination over major jobs studied		
F.F.A.	1-Class organization and reports on National F.F.A. Convention		
	21 periods		

Job Problem Layout

Month: November Year: Voc. Agri. II

Enterprise	Jobs to be taught	Problems	Methods
Records	3-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Economics	2-Marketing eggs	Seasonal variation in the price of eggs Grading eggs according to U. S. Dept. of Agri. standards	Supervised Study Conference Field Trip
Economics	5-Marketing milk and other dairy products	Seasonal variation in the price of dairy products Demand for milk in Stillwater Compare price of Grade "A" and Grade "C" milk Examine sediment disc Examine milk for off flavor	Supervised Study Conference Field Trip Laboratory
Dairy	3-Breeding the dairy heifer	Age and size to breed Inbreeding Line breeding Cross breeding Management of heifer during breeding Gestation period	Supervised Study Conference
Dairy	3-Feeding the pregnant dairy heifer	Nutrients required for pregnant heifer Feeding grain Feeding roughage	Supervised Study Conference
Soil Conservation	3-Soil minerals	Soil mineral needs of various crops and legumes Soil mineral conditions in Stillwater community Collecting soil samples for testing	Supervised Study Conference Field trip
F.F.A.	1-Planning an F.F.A. meeting 2 vacation 22 periods		Student participation

Job Problem Layout

Month: December Year: Voc. Agri. II

Enterprise	Jobs to be taught	Problems	Methods
Records	2-Supervised practice Records	Keeping supervised records and accounts Analyze supervised records	Supervised Study
Soil Conser-	5-Analyze soil for lime and phos. needs	Prepare soil for testing Materials for testing Soil testing procedure Perform soil test Examine results Apply lime and phosphate	Demonstra. Laboratory
Guidance	3-Revise long-time program in Vocational Agriculture	Re-examine possibilities of the home farm Build soil improvement around the needs of home farm Finance projects Invest profits into major enterprises for expansion	Supervised Study Conference Field trip
Swine	4-Feeding hogs for the market	Grains for fattening swine Selecting most economical grain for fattening swine Feeding value of skim milk Protein supplements Compare cost of different rations	Supervised Study Conference Field Trip
Swine	2-Pneumonia in swine	Cause of pneumonia Symptoms of pneumonia Treatment of pneumonia Prevention of pneumonia	Supervised Study Conference Field Trip
Exam	1-Examination over major problems studied		
	5-Christmas vacation		
	17 periods		

Job Problem Layout

Month: January Year: Voc. Agri. II

Enterprise	Jobs to be taught	Problems	Methods
Records	2-Supervised practice records	Keeping supervised practice records Analyze records	Supervised Study
Shop	3-Forge work and blacksmithing	Temper tool steel Bending, twisting, cutting drawing and shaping metal	Demonstra. Laboratory
Shop	3-Cold metal work	Proper use of taps and dies Cut threads Tap threads Riveting Use hack saw Use drill	Demonstra. Laboratory
Shop	6-Tractor maintenance	Service farm tractors Pack and replace wheel bearings Remove and replace magnets Engine timing	Demonstra.
Shop	3-Electricity	Make splices in wire Estimate electrical needs Estimate cost of electricity	Demonstra. Laboratory
Shop	6-Shop Practice	Students will praticipate in shop projects to develop confidence in doing the skills taught	Laboratory Supervision
F.F.A.	1-Program Planning for FFA meetings		Class participation
	24 periods		

Job Problem Layout

Month: February Year: Voc. Agri. II

Enterprise	Jobs to be taught	Problems	Methods
Records	3-Supervised practice records	Keeping supervised practice records Analysis of records	Supervised study
Feed Crops	3-Varieties of spring oats	Varieties recommended for Oklahoma Comparison of yield Maturity dates Ease of combining different varieties Certified seed	Supervised study Conference
Feed crops	2-Treating oat seed for control of smut	Chemicals need to treat seed Value of seed treatment Cost of seed treatment Method of seed treatment	Supervised study Laboratory
Feed Crops	2-Seeding spring oats	Date of seeding Rate of seeding Seedbed preparation Fertilizers	Supervised study Conference
Swine	2-Feeding and grooming barrows for spring show	Grain mixture of show barrows Protein supplements Exercising the barrows Grooming necessary before show time	Supervised study Conference Field trip
Swine	3-Marketing swine	Size and condition desired by market Seasonal variation in price of hobs Weight at which maximum return on feed is reached	Supervised study Conference
Feed Crops	5-Planning a feed crop program	Kind of crops needed Adaptation of crops Value of fertilizer Cultural practices and purposes Plan a 3-yr. rotation Plan a 5-yr. rotation	Supervised Study Conference
	20 periods		

Job Problem Layout

Month: March Year: Voc. Agri. II

Enterprise	Jobs to be taught	Problems	Methods
Records	3-Supervised practice records	Keep project records Summarize project records	Supervised Study
Shows	4-Attend county and state livestock shows	Boys fattening swine and cattle and lambs to exhibit their projects at the show	
Soil Conservation	2-The farm level	Parts of farm level How to set up and adjust the farm level Uses of the farm level Check level for accuracy	Supervised study Conference Laboratory
Soil Conservation	4-Laying out a terrace line	Measure slope of land Where to start first terrace Amount of fall per 100 feet Stake out a terrace line	Supervised Study Conference Field Trip
Swine	2-Butchering hobs	Sticking the job Temperature of water for scalding Scraping Remove intestines Curing pork	Laboratory
Swine	2-Cutting pork	Cutting carcas in wholesale cuts Cut wholesale cuts to retail cuts	Laboratory
Feed crops	3-Identify grain seeds	Identify grain sorghum seeds Identify bean seeds Identify oats and other cereal seeds	Laboratory
F.F.A.	1-Conduct an FFA meeting	How to make a motion Amend a motion Vote	Student participation
	21 periods		

Job Problem Layout

Month: April Year: Voc. Agri. II

Enterprise	Jobs to be taught	Problems	Methods
Records	3-Supervised practice records	Keeping sup. practice records Analyze records	Supervised Study
Beef	2-Breeds of beef cattle	Advantages of beef cattle Advantages of different breeds Origin of breeds Important blood lines	Supervised Study Conference
Beef	3-Selecting and judging beef cattle	Factors to consider in selecting females Factors to consider in selecting bulls Factors to consider in selecting fat cattle Judging beef cattle	Supervised Study Field Trip
Pasture	2-Grazing practices of permanent pasture	Early pasture plants Deferred grazing Control grazing Carrying capacity	Supervised Study Conference Field Trip
Dairy	3-Feeding dairy cows on pasture	Value of concentrates Amount of concentrates to feed Return expected from feeding concentrates	Supervised Study Conference
Dairy	3-Common diseases of calves	Recognizing and treating common scours Recognizing and treating white scours Recognizing and treating pink eye	Supervised study Conference
Poultry	4-Raising turkeys for the market	Equipment needed Breeds of turkeys Feeding Diseases	Field Trip Supervised Study Conference
	20 periods		

Job Problem Layout

Month: May Year: Voc. Agri. II

Enterprise	Jobs to be taught	Problems	Methods
Records	4-Supervised practice records	Keeping sup. practice records Analyze project records	Supervised Study
Shop	5-Concrete work	Constructing forms Testing aggregate Measuring materials Mixing materials Placing reinforcing material Pouring concrete Spading, tamping, finishing and curing concrete	Laboratory
Shop	4-Farm machinery repair	Repair and service a grain drill Assemble a tandem disc Replace harrow teeth	Laboratory
Dairy	3-Registering dairy calves	Tattoo dairy calves Fill in pedigree Draw markings	Supervised Study Field Trip
F.F.A.	1-All-day picnic		
	17 periods		

Job Problem Layout

Month: September Year: Voc. Agri. III

Enterprise	Jobs to be taught	Problems	Methods
Records	4-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Wheat	3-Fertilizing wheat	Fertilize elements needed for grain yield and forage Fertilizer experimental results The value of fertilizer	Supervised Study Conference Field Trip
Wheat	3-Seeding wheat	Date of seeding Rate of Seeding Seedbed preparation Weed control and cultivation in wheat Plan a wheat rotation	Supervised Study Conference
Pasture	4-Identify native grasses	Tall grasses in community Short grasses in community Characteristics and growth habits Palatability of grasses	Supervised Study Conference Field Trip
Fairs and	6-Attend county and State fair	Students prepare and exhibit livestock at county and State fair. Prepare and exhibit crops and poultry.	
	20 periods		

Job Problem Layout

Month: October Year: Voc. Agri. III

Enterprise	Jobs to be taught	Problems	Methods
Records	2-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Shop	10-Construction of a small frame building	Figure bill of materials Build foundation Brace buildings Nail on siding Cut rafters Put on roof	Supervised Study Laboratory Field Trip
Shop	3-Farm motors	Types of electric motors Selecting electric motors for particular farm jobs Cost of operation Gasoline motors Servicing gasoline and electric motors	Supervised Study Laboratory
Shop	6-Overhaul tractor motor	Remove oil pan Remove and replace piston rings Grind valves Clean spark plugs	Laboratory Supervised Study
	21 periods		

Job Problem Layout

Month: November Year: Voc. Agri. III

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Pasture	5-Plan a year-round pasture program	Use of winter small grains Use of winter legumes Use of summer legumes Use of summer forage plants Season crops are to be grazed Economy of pasture program	Supervised Study
Soil and water Conservation	4-Maintaining and improving soil fertility	Cropping practices Use of manure Use of green manure How organic matter improves the soil Terracing to control erosion Plowing to loosen plow sole	Supervised Study Visual aids Field Trip
Soil and water Conservation	4-The formation of soils	Parent rock material Weathering process Action of plant life Action of animal life Soil profile	Supervised Study Conference Field Trip
Soil and Water Conservation	4-Construction of terraces	Types of terraces Height of terrace Width and depth of channel Construction with mold board plow Constructing with road grader or bull dozer S.C.S. specifications	Supervised Study Conference Visual aids Field Trip
	2-Vacation		
	20 periods		

Job Problem Layout

Month: December Year: Voc. Agri. III

Enterprise	Jobs to be taught	Problems	Method
Records	2-Supervised Practice Records	Keeping project records Analyze project records	Supervised Study
Dairy	3-Dairy improvement	Plan my breeding program Cull herd of poor producers Artificial insemination Dairy records	Supervised Study Conference
Dairy	2-Grade "A" dairy barns and dquipment	Size of barn Construction according to county health specifications Floors and gutters Cooling equipment Cleaning and washing equipment Increase in income from sale of Grade "A" milk	Supervised Study Field trip
Dairy	5-Feeding cows for milk production	Selecting concentrates and roughage Feeding silage Balancing rations	Supervised Study Conference
Beef	4-Winter feeding and management of young beef stock	Feeding young beef calves Dehorning beef calves Castrating beef calves	Supervised Study Field Trip
F.F.A.	1-Special program		
	5-Vacation		
	17 periods		

Job Problem Layout

Month: January Year: Voc. Agri. III

Enterprise	Jobs to be taught	Problems	Method
Records	4-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Beef	5-Winter feeding and management of cows	Feeding silage Feeding roughage Feeding protein concentrates Balancing rations Housing beef cattle	Supervised Study Conference
Sheep	3-Determining the possibilities of sheep	Fences and equipment for sheep Housing for sheep Type of farming sheep is adapted Problems in sheep management	Supervised Study Conference Field Trip
Sheep	3-Feeding and management of ewes	Feeding pregnant ewes Caring for ewes before lambing Balancing rations	Supervised Study
Soil Conservation	5-Determining land capabilities and usage	Classifying land Determine texture of soil Determine extent of erosion Make soil treatment recommendations Determine cropping system	Supervised Study Field trip
Soil Conservation	3-Surface drainage of soils	Determine need for drainage Surveying drainage channel	Field trip
Exam	1-Semester exam.		
	24 periods		

Job Problem Layout

Month: February Year: Voc. Agri. III

Enterprise	Jobs to be taught	Problems	Method
Records	4-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Shop	5-Oxy-acetylene welding	Oxyacetylene welding equip. Care of equipment Safety in using equipment Adjusting pressure regulators Types of flames and their usage Making flame test Weldability of metals Oxyacetylene welding projects	Laboratory Supervised Study Demonstra.
Shop	5-Are welding	Arc welding equipment and machines Striking the arc Maintaining the arc Breaking the arc Cutting with the arc Selecting electrodes Arc welding projects Testing welds	Demonstra. Laboratory Supervised Study
Shop	3-Repairing farm machinery with welding equipment	Brazing cast iron Hardsurfacing plow shares Make butt welds Make fillet welds	Laboratory
Sheep	2-Caring for the young lambs	Docking lambs Castrating lambs	Supervised Study
F.F.A.	1-Leadership training	What makes an active F.F.A. Chapter	
	20 periods		

Job Problem Layout

Month: March Year: Voc. Agri. III

Enterprise	Jobs to be taught	Problems	Method
Home garden	5-Produce vegetables for home use	Select vegetable crops Select varieties Time of seeding Rate of seeding Fertilizing Seedbed preparation Cultivating vegetables	Supervised Study Conference
Shows and F.F.A.	3-Preparing and showing animals	Preparing animals for the show Handling animals in show Participating in state Junior livestock show	Demonstra. Supervision
Pasture and Hay	4-Seeding native grasses	Preparing land for seeding Rate of seeding Seeding equipment Fertilizing Establish a meadow of native grasses	Supervised Study Conference Field Trip
Beef	4-Controlling diseases and parasites of beef cattle	Common diseases of beef cattle Vaccinating for black leg Controlling lice and ticks Controlling flies	Supervised Study Field Trip
Beef	2-Marketing beef cattle	Seasonal variation price of stocker cattle Seasonal variation in fat cattle	Supervised Study Visual aids
Economics	3-Buying insurance	Crop insurance Livestock insurance Insurance on buildings Life insurance Insurance policies	Supervised Study Conference Lecture
	21 periods		

Job Problem Layout

Month: April Year: Voc. Agri. III

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Swine	3-Diseases of swine	Common diseases of swine Symptoms of diseases Prevention and treatment	Supervised Study Conference
Swine	2-Swine breeding	Determine size of sow herd Inbreeding Crossbreeding Line breeding Shy breeders	Supervised Study Conference
Economics	3-Borrowing money to finance the farm business	Obtaining a short term loan Obtaining a long-term loan Loaning agencies Legal papers in borrowing money	Supervised Study Conference Lecture
Feed Crops	4-Producing grain sorghums for feed	Uses of grain sorghums Feeding values Varieties Seeding Cultivating Harvesting	Supervised Study Conference
Feed Crops	3-Controlling weeds in crops	Control by cultivation Control by spraying Control by crop rotation	Supervised Study Conference
F.F.A.	2-Attend state F.F.A. Convention		
	20 periods		

Job Problem Layout

Month: May

Year: Voc. Agri. III

Enterprise	Jobs to be taught	Problems	Method
Records	2-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Sheep	2-Shearing sheep	Shearing the sheep Equipment Importance of keeping wool clean Tying the fleece	Demonstra.
Feed Crops	5-Controlling insects of field crops	Identify insects Controlling corn borer Controlling green bugs Controlling alfalfa aphid Chemicals and their uses Equipment for spraying	Supervised Study Conference Field Trip
Field crops	3-Diseases of field crops	Identify diseases Cause of disease Prevention of disease	Supervised Study Conference
Wheat	2-Harvesting wheat	Combining wheat Time to harvest Moisture content	Supervised Study Conference
Wheat	2-Marketing wheat	Weight test per bushel Protein content Storing wheat Market information	Supervised Study Conference
Exam.	1-Final exam.		
	17 periods		

Job Problem Layout

Month: September Year: Voc. Agri. IV

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Shows	5-Attend county and state fairs	Prepare and exhibit crops, livestock, dairy and poultry	Supervision
Shop	8-Water systems	Types of pumps Selecting a pump Selecting pump motor Selecting water tank Installing pipe in well Installing pump Starting pump	Supervised Study Demonstration Laboratory
Shop	4-Farm plumbing	Selecting pipe Cutting pipe Cutting threads Jointing pipe Increasing pressure	Demonstration Laboratory
	20 periods		

Job Problem Layout

Month: October Year: Voc. Agri. IV

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Shop	5-Constructing a septic tank	Locating septic tank Determining size Health Dept. specifications Constructing concrete forms Pouring concrete Build laterals	Laboratory
Economics	3-Buying grain to supply farm needs	Seasonal variation in price of grains Buying corn Buying grain sorghums Buying oats	Supervised Study Visual aids Conference
Farm Management	3-The nature of modern farming	The concept of a farm Self-sufficiency of the modern farmer Farming as an industry Standardization of farm products	Supervised Study Conference
Farm Management	5-Problems of farm organization	Define farm organization Define factors of production Factors that cause farmers to succeed Relationship of enterprises to each other Absolute cost vs. comparative costs Market information Records and accounts	Supervised Study Conference
Farm Management	2-Determining which to follow: diversification or specialization in farming	Define specialization and diversification Advantages of specialization Advantages of diversification How successful farmers in the community are organized	Supervised Study Conference
	21 periods		

Job Problem Layout

Month: November Year: Voc. Agri. IV

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Farm Management	5-Selecting and combining enterprises for the farm business	Size of farm Location to market Fertility of soil Buildings and improvements Select major animal enterprise Select feed crops Select cash crop	Supervised Study Conference Field Trip
Dairy	5-Controlling diseases of dairy cattle	Common diseases in Oklahoma Controlling mastitis Controlling bloat Controlling milk fever Controlling Bangs disease Sanitation	Supervised Study Conference Field Trip
Dairy	3-Science of milk secretion	Physiology of dairy cow Hormones Enzymes Water requirements Structure of the udder	Supervised Study Visual Aids Conference
Dairy	4-Dairy cattle breeding	Bloodlines of dairy breeds Dairy cattle pedigrees Principles of breeding Breeding for type and production Genetics	Supervised Study Conference
	20 periods		

Job Problem Layout

Month: December Year: Voc. Agri. IV

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised Practice records	Keeping project records Analyze project records	Supervised Study
Dairy	3-Classifying dairy cattle	Establishing dairy herds D.H.I.A. testing ass'ns. Classifications of dairy cattle How dairy cows are classified individually	Supervised Study Conference Field Trip
Farm Management	5-Taking a farm inventory	Value of a complete farm inventory Inventory land and improvements Inventory livestock and poultry Inventory feeds, seeds and supplies Determine increases in inventory Prepare net worth statement	Supervised Study Field Trip
Farm Management	6-Summarize and analyze the farm business	Summarize records of the year's business Analyze the dairy enterprise Analyze the wheat enterprise Analyze the beef enterprise Analyze the cotton enterprise Analyze the swine enterprise Analyze the poultry enterprise Making adjustments in the farm enterprises	Supervised Study Conference
	5-vacation		
	17 periods		

Job Problem Layout

Month: January Year: Voc. Agri. IV

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised Practice records	Keeping project records Analyze project records	Supervised Study
Farm Management	2-Preparing farmers income tax returns	Forms to use Exemptions allowed Receipts and sales Itemizing farm expense	Supervised Study Conference
Home Garden	2-Preparing the garden area for seeding	Winter plowing Fertilizing Cultivating Mulching	Supervised Study Conference
Home Garden	2-Preparing hot beds and coldframes	Materials needed for hot beds Construction of hot beds Heating the bed Plants and planting dates	Supervised Study Field Trip
Home Orchard	5-Pruning fruit trees and berries	Pruning peaches & Plum trees Pruning apples & Pears Pruning blackberries Pruning grapes	Supervised Study Field trip
Home Orchard	5-Spraying fruit trees to control insects	Spray formulas for peaches and plums Insects to control Spray formulas for apples and pears Insects to control Spraying grapes	Supervised Study Conference Field Trip
Farm Management	3-Selecting farm machinery and equipment	Factors affecting the selection Compare cost of owning a grain combine to cost of hiring grain combined	Supervised Study Conference
Exam.	2-Review and examination		
	24 periods		

Job Problem Layout

Month: February Year: Voc. Agri. IV

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised Practice records	Keeping project records Analyze project records	Supervised Study
Soil and water conservation	3-The relationship of soil fertility on farm earnings	Compare income from farms with high fertility to low fertility Maintaining soil fertility	Supervised Study
Soil and water conservation	3-Soil conservation working agreements	The operation of a soil conservation district Making an agreement Making a farm plan Soil surveys	Supervised Study Conference
Home orchard	5-Planning a home orchard	Fruits adapted to the area Determine size of orchard Selecting fruits and berries Transplanting fruit trees Transplanting berries Selecting varieties of fruits and berries	Supervised Study Conference Field Trip
Farm Management	4-Obtaining the use of a farm	Leasing a farm Buying a farm Appraising the farm Making a Federal Land Bank loan Earning power of a farm	Supervised Study Conference
Farm Management	2-Planning the farm layout	Factors to consider The effect of farm layout on the use of factors of production Plan a farm layout	Supervised Study Conference
	20 periods		

Job Problem Layout

Month: March Year: Voc. Agri. IV

Enterprise	Jobs to be taught	Problems	Method
Shows	3-Attending state Junior livestock shows	Students with fat livestock to prepare and exhibit at state show	Supervision
Farm Management	5-Economics of farm practices	Maintaining soil fertility Use of labor, machinery and capital The law of diminishing productivity Marginal analysis Effect of farm practices to net income	Supervised Study Conference
Economics	5-Agricultural prices	Law of supply and demand Economic forces affecting agri. prices Why agri. products cannot be standardized Effect of general price level on agri. prices Economic reports Market reports	Supervised Study Conference
Beef Cattle	4-Equipment for beef cattle farms	Shelter for beef cattle Feed troughs Hay feeders Corrals Squeeze chutes Catch pens	Supervised Study Conference Field Trip
Beef Cattle	4-Management of the cow herd	Determining size of herd Determine whether to sell fall calves or fatten for market Beef breeding	Supervised Study Conference
	21 periods		

Job Problem Layout

Month: April Year: Voc. Agri. IV

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Cotton	4-Selecting a variety of cotton	Varieties adapted to Okla. Comparison of yield Comparison of staple length	Supervised Study Conference
Cotton	3-Seedbed preparation for cotton	Select soil for cotton Prepare seed bed Treating cotton seed Seeding date Rate of seeding	Supervised Study Conference
Home garden	4-Controlling vegetable insects	Identify insects Control insects on beans, cucumbers, and other vegetable crops Materials to use Methods of control	Supervised Study Conference Field Trip
Home garden	2-Controlling vegetable diseases	Identify diseases affecting vegetable crops Resistant varieties Seed treatment Methods of controlling vegetable diseases	Supervised Study Conference Field Trip
Farm Management	4-Farm Budgeting	Prepare a budget for family Prepare a budget for farm business Keeping farm records and accounts	Supervised Study Conference

20 periods

Job Problem Layout

Month: May Year: Voc. Agri. IV

Enterprise	Jobs to be taught	Problems	Method
Records	3-Supervised practice records	Keeping project records Analyze project records	Supervised Study
Cotton	3-Controlling Cotton insects	Controlling the boll weevil Controlling the boll worm Controlling other insects Method of control	Supervised Study Conference
Economics	6-Marketing farm products	Principles of marketing Marketing agencies and their function Recognize market grades of crops and livestock Recognize market grades of livestock, poultry, and dairy products	Supervised Study Conference
Shop	5-Shop projects	Students will complete all individual projects	Laboratory

CHAPTER V

PROBLEM PLANS

The writer has included teaching plans of a few of the more important enterprises included in the four year course of study. These plans have been made of jobs taught in each section of vocational agriculture.

In preparing these teaching plans the writer has attempted to analyze the job to determine what the student should know and be able to do in order to accomplish the most. The past and present experiences of the students and adult farmers are to be utilized when possible. It is also the hope of the writer that the knowledge learned will function in the daily activities of the students.

PROBLEM PLAN

Year taught in Voc Agri I Month November Periods 3

Enterprise Dairy Job Breeds of dairy cattle

Problem Factors to consider in selecting a breed of dairy cattle for the Stillwater community.

Motivation To compare the difference in volume of production by different farmers in the community. Cite the market demands for the Stillwater milk shed

Pivotal Points:

1. What breeds of dairy cattle are common to Okla.?
2. What are the color and markings of each breed?
3. Compare the sizes of the different breeds.
4. What are the milk and butterfat producing abilities?
5. To what area are the different breeds adapted?
6. What factors should be considered in selecting a breed of dairy cattle?
7. What type of product is needed in the Stillwater Area? Whole Milk or butterfat?
8. Which breed will supply this product the most economically?

References: "Dairy Cattle and Milk Production" by Eckles, Anthony and Palmer

U.S.D.A. Farmers Bulletin #1443

Methods: Supervised study, visual aids, conference and field trips

Teaching Accomplishments: To develop the ability of the student to select a breed of dairy cattle that will be best adapted to the Stillwater community.

PROBLEM PLAN

Year taught in Voc Agri I Month November Periods 3

Enterprise Swine Job Feeding the pregnant sow

Problem Select grain rations suitable for feeding the pregnant sow

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Motivation Stimulate interest in proper feeding of the sow by citing actual examples with which boys are familiar that compare the effects of both good and bad methods of feeding.

Pivotal Points:

1. Why are good rations necessary for the pregnant sow?
2. What are the nutritional needs for the pregnant sow?
3. What loss in weight can be expected during farrowing and the nursing period?
4. Why are proteins and minerals needed in the ration?
5. How do feed requirements increase with advancement of pregnancy?
6. Compare the grains suitable for pregnant sows
7. Compare protein supplements
8. What is the value of alfalfa hay?
9. What is the value of pasture?
10. Plan a combination of feeds that is adaptable to your home situation.

References: "Pork Production" by Smith

"Feeds and Feeding" by Morrison

Methods: Supervised study and conference, field trip. Have each boy plan a combination of feeds for the pregnant sow.

Teaching Accomplishments: Improved feeding practices carried out by boys in class and also by farmers in the area.

PROBLEM PLAN

Year taught in Voc Agri I Month December Periods 3

Enterprise Farm Shop Job Forge work

Problem Building and maintaining a fire in the forge

Motivation Impress on the students the importance of a good fire in doing efficient work

Pivotal Points:
1. What is the first requirement for good blacksmithing?
2. What are the characteristics of a good fire?
3. What are the steps in starting a fire in the forge?
4. Keeping the fire in good heating condition
5. Cleaning the fire
6. Start a fire in the forge suitable for blacksmithing

References: "Shop Work on the Farm" by Jones

Methods: Demonstration and laboratory

Have each boy start a fire in the forge.

Teaching Accomplishments: To develop the ability on the part of the students to build and maintain a fire for good blacksmithing.

PROBLEM PLAN

Year taught in Voc Agri I Month February Periods 2

Enterprise Poultry Job Brooding baby chicks

Problem Preparing the brooder house for the chicks and to properly brood the baby chicks

Motivation Compare results obtained by different boys who have brooded baby chicks as a project

Pivotal Points:

1. What preparations need to be made before chicks are received?
2. How much floor space must be allowed for each chick?
3. How much feed and water space must be provided for each chick?
4. Adjusting the heat in the brooder house
5. Sanitation practices necessary
6. What is value of good brooding?
7. What is a good procedure for brooding baby chicks?

References: "Poultry Science and Practice" by Winter and Funk

Oklahoma Experiment Station #C-268

Methods: Field trip, supervised study and conference

Develop a plan for brooding baby chicks on your home farm.

Teaching Accomplishments: To have the students adopt approved brooding practices on the home farm.

PROBLEM PLAN

Year taught in Voc. Agri. I Month March Periods 3

Enterprise Swine Job Feeding the sow and litter

Problem How should the sow be fed so she will be able to raise large healthy pigs? What are the feed demands of the growing pigs?

Motivation Impress on the students that efficiency of swine production is directly related to the care of the sow and litter. Compare feeding methods of different boys and farmers in the community.

Pivotal Points:

1. What loss in weight of the sow can be expected during farrowing and after?
2. What is the primary purpose in feeding the sow after farrowing?
3. What are some feeds necessary for body maintenance?
4. What are some feeds necessary for milk production?
5. What are the feed demands of the growing pigs?
6. At what age will pigs start eating?
7. Explain the mineral needs of the new and growing pigs
8. What combinations of concentrates are suitable for feeding the sow and litter at different stages?

References: Feeds and Feeding Abridged, by Morrison

Pork Production by Smith

Methods: Supervised Study, Conference, and Field Trips

Have each boy in the class plan a ration for his home situation.

Teaching Accomplishments: For the students to put into practice better feeding and management practices of the sow and litter.

PROBLEM PLAN

Year taught in Voc. Agri. I Month April Periods 7

Enterprise Dairy Job Selecting and judging dairy cattle

Problem Select dairy cattle on the basis of type and production records.

Motivation Point out to the students how some dairy farmers have built good herds of dairy cattle through selection. Dairy cattle judging contests.

Pivotal Points:

1. What are the things to take into consideration in selecting on type?
2. What is the importance of production records in selecting individual animals?
3. How are production records used in selecting dairy cattle?
4. How much emphasis should be put on general appearance?
5. How much emphasis should be put on the mammary system?
6. How much emphasis should be put on body capacity?
7. How much emphasis should be put on dairy character?
8. How are young heifers judged?
9. How would you select individual animals for your dairy herd?

References: Dairy score card, Oklahoma A. & M. College

Dairy Cattle and milk production by Eckles, Anthony and Palmer

U. S. Department of Agriculture Farmers Bulletin #1998

Methods: Supervised study, Conference, and Field Trips.

Teaching Accomplishments: To improve the quality of dairy cattle owned by the students in their supervised farming programs and to improve the quality of dairy cattle in the community.

PROBLEM PLAN

Year taught in Voc. Agri. I Month May Periods 2

Enterprise Soil Conservation Job Seeding summer legumes

Problem Select a summer legume that can be included in the crop rotation system on the farms in the Stillwater area.

Motivation How some farmers in the community have utilized their oat stubble and other fields for soil improvement and feed production.

Pivotal Points:

1. What are the uses of summer legumes?
2. What are some summer legumes adapted to the Stillwater community?
3. What are some varieties of cowpeas?
4. What are some varieties of mungbeans?
5. What type of soil is needed for the production of mungbeans and cowpeas?
6. What type of seedbed is needed for cowpeas and mungbeans?
7. When should these crops be seeded?
8. What is the rate of seeding these crops?
9. How can these crops fit into a farming program?
10. What legume and variety would you select for your home farm?

References: Crop Production by Hughes and Henson

Oklahoma Agricultural Experiment Station Bulletin #M-120 and B-347

Methods: Supervised Study and Conference

Have each student plan a summer legume for his home farm.

Teaching Accomplishments: To get the students aware of the possibilities of summer legumes and to get adult farmers to include them in their farming programs.

PROBLEM PLAN

Year taught in Voc. Agri. II Month September Periods 3

Enterprise Wheat Job Selecting a variety of wheat

Problem Make a comparison of the yield of different varieties of wheat and choose the one that will be best adapted for the Stillwater community.

Motivation Illustrate how some farmers in the community have increased their yield of wheat through the selection of improved varieties. How this increases the farm income.

Pivotal Points:
1. List the varieties recommended for Oklahoma
2. List the varieties recommended for this area of the stat
3. Make a comparison of the yield of the different varieties for this area
4. Compare the milling and baking qualities of the different varieties
5. Compare the combining qualities of different varieties
6. Compare the Maturity dates of different varieties
7. What variety of wheat meets your home farm situation?

References: Winter Wheat Varieties for Oklahoma, Okla. Agri. Exp. St. Bulletin #297

Wheat Production in Oklahoma, Okla. Agri. Exp. St. Bulletin #447

Methods: Supervised Study and Conference

Have each boy select a variety of wheat for his home farm.

Teaching Accomplishments: To get the students to select improved variety of wheat for a project and to get adult farmers to increase their income from the wheat enterprise through the selection of better varieties.

PROBLEM PLAN

Year taught in Voc. Agri. II Month September Periods 4

Enterprise Pasture and Hay Job Seeding Winter Pasture

Problem Plan and seed small grains and legumes for grazing during the winter months.

Motivation How increased milk and beef production may be obtained by providing green pasture during winter months. Examples of successful farmers in the area.

Pivotal Points:

1. What is the economic value of green pasture?
2. What are some small grains adapted to the community that are suitable for winter pasture?
3. What are some legumes that may be used for winter pasture?
4. What are some small grain and legume combinations for winter pasture?
5. What months will these crops provide pasture?
6. What are some seeding practices of winter pasture?
7. What are some grazing practices to follow on winter small grains and legumes?
8. Select winter pasture crops.

References: Okla. Exp. Sta. C-125

Okla. Ext. Ser. C-482

Methods: Supervised Study, Conference

Have students plan a winter pasture progra m

Teaching Accomplishments: To make the students aware of the value of winter pasture as feed for dairy and beef cattle. To increase the acreage of winter pasture in the community.

PROBLEM PLAN

Year taught in Voc. Agri. II Month October Periods 4

Enterprise Poultry Job Housing for the laying flock

Problem Plan a laying house for the farm poultry flock.

Motivation Compare egg production during the winter months from flocks that are properly housed to a flock that is poorly housed.

Pivotal Points:
1. What are the different types of laying houses?
2. What should be included in the plan for a laying house?
3. What kinds of materials are needed for the construction of the laying house?
4. How do you determine the size of the laying house?
5. Figure the bill of materials
6. Draw three views of the laying house?
7. Draw the floor plan showing the arrangement of lighting, dropping pits, and nests.

References: Poultry Science and Practice by Winter and Funk
Farm Building Plans by Agri. Engr. Dept. Oklahoma A. & M. College

Methods: Field Trip, Supervised Study, Conference

Have each boy in class make housing plans for his home farm flock.

Teaching Accomplishments: To create a desire on the part of the students for an approved type laying house for the laying flock. Improvement of the laying houses in the community.

PROBLEM PLAN

Year taught in Voc. Agri. II Month November Periods 3

Enterprise Dairy Job Feeding the pregnant dairy heifer

Problem To properly feed the pregnant dairy heifer so that she will come into production in a healthy and thrifty condition.

Motivation Losses that have been experienced by dairymen in the community through faulty feeding practices of the pregnant heifer.

Pivotal Points:

1. What condition should the dairy heifer be in when she comes into production?
2. What feeding practices should be followed six months before calving?
3. What feeding practices should be followed 3 months before calving?
4. How does the condition of the heifer serve as a guide in feeding grain?
5. What should provide the main part of the dairy heifer's ration?
6. What combinations of feeds provides the heifer a good ration?
7. What changes are needed in the ration as she approaches calving?
8. What feeding practices should be followed at calving time?
9. Develop a ration for pregnant dairy heifers.

References: Feeds and Feeding by Morrison

Dairy Cattle and Milk Production by Eckles, Anthony and Palmer

U. S. Dept. of Agri. F. B. 1723 Feeding, Care and Menagement of Young Dairy Stock.

Methods: Supervised Study, Conference, and Field Trip

Have each boy plan a ration using home grown feeds.

Teaching Accomplishments: To have the students in the class put into practice better feeding practices of the bred dairy heifer; healthier and thriftier cows.

PROBLEM PLAN

Year taught in Voc. Agri. II Month December Periods 4

Enterprise Swine Job Fattening swine for market

Problem Selecting the most economical feeds for fattening swine

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Pivotal Points:

1. Do cereal grains meet the nutrient requirements for fattening swine?
2. Compare the different grains for fattening swine
3. Figure the value of different grains at present prices
4. Compare the feeding value of protein supplements
5. What is the value of 100# of skim milk?
6. How does pasture fit into a swine feeding program?
7. Compare the cost of different rations
8. Compare the gains made by hogs on different rations
9. Develop a ration for fattening hogs

References: "Feeds and Feeding" by Morrison

"Pork Production" by Smith

Methods: Supervised study, Conferences, and Field Trips

Have each boy in class prepare a ration for his home situation.

Teaching Accomplishments: The selection of efficient feeds for fattening swine by students in the class and adult farmers.

PROBLEM PLAN

Year taught in Voc. Agri. II Month March Periods 4

Enterprise Soil Conservation Job Laying out a terrace line

Problem Where to locate the first terrace in the field and how to use the farm level in staking out the line.

Motivation The importance in terracing as a means of controlling soil erosion in the community.

Pivotal Points:

1. Make observations of the field to be terraced as to fences, roads, and outlets, etc.
2. Make observations of the field as to soil type and degree of erosion
3. Where should you start in staking out a terrace?
4. How much fall should be allowed for each 100 feet of terrace?
5. How do you move the target on the rod to obtain the fall desired?
6. How do you find the slope of the field?
7. How is the first terrace located?
8. How do you find the different stations along the line?

References: Oklahoma Ext. Service C-413

U. S. Department of Agri. F.B. #1789

Methods: Supervised Study, Conference, and Field Trip

Have the students in class lay out a terrace line.

Teaching Accomplishments: To stimulate interest on the part of the students in the class for soil conservation improvement projects. To control soil erosion in the community by terracing the farms as a part of the soil improvement plans.

PROBLEM PLAN

Year taught in Voc. Agri. II Month April Periods 3

Enterprise Dairy Job Common diseases of dairy calves

Problem To recognize diseases common among calves and how to prevent and control them.

Motivation The losses that some dairymen have had through failure to recognize common diseases of calves and how to treat them.

Pivotal Points: 1. What is the cause, symptoms, and prevention and treatment of white scours?

2. What is the cause, symptoms, and prevention and treatment of common scours?

References: Common Diseases of Livestock by Ledederle Laboratories Division
Animal Sanitation and Disease Control by Dykstra
Dairy Cattle and Milk Production by Eckles, Anthony, and Palmer

Methods: Supervised Study, Conference, and Field Trips

Teaching Accomplishments: To develop the interest on the part of the students in helping their dads combat the common ailments of dairy calves.

PROBLEM PLAN

Year taught in Voc. Agri. III Month November Periods 5

Enterprise Pasture Job Plan a Year Round Pasture Program

Problem Plan a cropping system to supplement the native pasture that will provide year-round grazing for livestock in the community.

Motivation How cost in feed can be cut on the home farm by providing pasture for year-round grazing. Examples of farmers in the community who have year-round grazing.

Pivotal Points:

1. What forage crops provide grazing during fall and winter months?
2. What is the seeding date of the crops for fall and winter grazing?
3. What crops will provide grazing during the early spring months?
4. When should crops for early spring grazing be seeded?
5. What months will native pasture be available for grazing?
6. What crops will provide grazing in August and late summer?
7. Plan a crop calendar of pasture plant for year-round grazing.
8. How much cottonseed meal will an acre of green pasture replace?

References: Okla. Ext. Circ. 482

Okla. Exp. Sta. Circ. 125

Okla. Exp. Sta. Circ. 116

Methods: Supervised Study, Conference, Visual Aids

Have each student plan a year-round pasture program for his home farm.

Teaching Accomplishments: To Develop the interest on the part of the students in helping with the pasture plans of the home farm. To adult farmers to provide green feed for their livestock the year round.

PROBLEM PLAN

Year taught in Voc. Agri. III Month December Periods 2

Enterprise Dairy Job Grade "A" Dairy Barns

Problem To recognize the increased income from Grade "A" milk over Grade "C" and to plan a grade "A" dairy barn for the home dairy farm.

Motivation How some dairymen have increased their income from their dairy cows by building a Grade "A" dairy barn.

Pivotal Points:

1. What are the County Health requirements of Grade "A" dairy barns?
2. Determine the size of the barn
3. Determine the materials needed
4. Determine the type of gutter for the barn
5. Draw three views of the barn showing the location of cooling room, feed room, etc.
6. Determine the cost of construction

References: Farm Building Plans by Agri. Engr. Dept. Okla. A. & M. College
Dairy Cattle and Milk Production by Eckles, Anthony, and Palmer

Methods: Field Trip, Supervised Study, and Conference

Have each boy draw a complete plan for a Grade "A" dairy barn.

Teaching Accomplishments: To develop an understanding on the part of the students the construction and arrangement of the Grade "A" dairy barn. To increase the number of grade "A" dairy barns in the community.

PROBLEM PLAN

Year taught in Voc Agri III Month December Periods 5

Enterprise Dairy Job Feeding cows for milk production

Problem Select roughages and concentrates to feed cows for milk production

Properly combine roughages and concentrates for the dairy ration

Motivation Increased production some farmers in the community are getting as a result of improved feeding practices.

Pivotal Points:
1. What are the purposes in feeding dairy cows?
2. What are the classes of feeds used in feeding dairy cows?
3. Compare the roughages as to feeding value for dairy cows?
4. Estimate the value of silage for dairy cows
5. Compare the concentrates as to feeding value for feeding dairy cows
6. Balance a ration for dairy cows using Morrison's feeding standards
7. Balance a ration for dairy cows on the basis of roughage fed.

References: Okla. Ext. Cir. 311

Feeds and Feeding by Morrison

Dairy Cattle and Milk Production by Eckles, Anthony and Palmer

Methods: Supervised Study, Conference

Have each boy balance a ration for dairy cows using feeds on home farm.

Teaching Accomplishments: To develop an interest in the students of problems in feeding dairy cattle on the home farm. To establish better feeding practices among dairy farmers in the community.

PROBLEM PLAN

Year taught in Voc. Agri. III Month January Periods 3

Enterprise Sheep Job Feeding and Management of Ewes

Problem Balancing rations for pregnant ewes

Motivation To stimulate interest in improved feed practices of pregnant ewes by pointing out how successful sheep owners profit by good feeding

Pivotal Points:
1. What feeding practices should be followed in feeding the ewe four months before lambing?
2. What feeding practices should be followed in feeding the ewe one month before lambing?
3. Compare roughages for feeding ewes.
4. Compare concentrates as to feeding value for ewes.
5. Balance a ration for a pregnant ewe.
6. What changes should be made in the ration just before lambing?
7. Plan a ration for pregnant ewes.

References: "Sheep" by Horlacher and Hammonds
"Feeds and Feeding" by Morrison

Methods: Supervised study and conference
Have each student plan a combination of feeds for pregnant ewes.

Teaching Accomplishments: Acquaint the students with problems involved in feeding the pregnant ewe. Sheep owners to produce sturdier and healthier lambs.

PROBLEM PLAN

Year taught in Voc. Agri. III Month February Periods 5

Enterprise Shop Job Arc Welding

Problem To acquaint the student with the use of the arc welding equipment

Motivation Good examples of arc welding projects completed by former students

Pivotal Points:
1. What are the kinds of arc welding machines?
2. What personal equipment is needed by the operator?
3. How is the machine adjusted to get different amounts of heat?
4. How are electrodes selected?
5. Striking and maintaining the arc
6. The weldability of different metals
7. Testing the weld

References: "Welding and its Application" by Rossi

"Shop Work on the Farm" by Jones

Methods: Laboratory, demonstration, and supervised study

Have each boy in the class make different welds.

Teaching Accomplishments: To develop the ability of each student to perform jobs in welding with the arc welder.

PROBLEM PLAN

Year taught in Voc. Agri. III Month February Periods 5

Enterprise Shop Job Oxy-acetylene welding

Problem To develop the ability of the student to use the oxy-acetylene welding equipment

Motivation To become skilled in the art of welding. Examples of oxy-acetylene welding projects by former students

Pivotal Points:

1. What gases are used in oxy-acetylene welding?
2. What are some welding jobs that can be accomplished by oxy-acetylene welding?
3. List some equipment needed by the operator.
4. Safety in the use of the welding equipment.
5. How are pressure regulators adjusted for welding.
6. What are the three types of flames for welding?
7. The technique in oxy-acetylene welding.

References: "Welding and its Application" by Rossi

"Shop Work on the Farm" by Jones

Methods: Laboratory and Demonstration

Have each member in class do different welds.

Teaching Accomplishments: To develop the ability of each student to perform jobs in welding with the oxy-acetylene equipment.

PROBLEM PLAN

Year taught in Voc. Agri. III Month April Periods 3

Enterprise Economics Job Borrowing money to finance the farm business

Problem To obtain loans to finance the farm business

Motivation How some farmers in the community have used credit to increase farm earnings

Pivotal Points:
1. What are the sources of farm credit?
2. How to obtain a short-term loan
3. How to obtain a Federal Land Bank loan
4. Legal papers involved in borrowing money
5. Figuring interest on borrowed money
6. Personal qualifications of the borrower for short term and long term loans

References: "Elements of Farm Management" by Hopkins
"Agricultural Finance" by Murray

Methods: Supervised study, Conference, and Lecture by local banker and Federal Land Bank representative

Teaching Accomplishments: To develop the ability to use farm credit wisely

PROBLEM PLAN

Year taught in Voc. Agri. IV Month October Periods 5

Enterprise Farm Management Job Problems of farm organization

Problem Combining and organizing the factors of production

Motivation Point out how farmers become successful through knowing how to organize their farm business into a unit

Pivotal Points:
1. What is farm organization?
2. Define the factors of production
3. What factors cause farmers to succeed?
4. The relationships of farm enterprises one to another
5. Which is the more important—absolute cost or comparative cost in the selection of enterprises?
6. What market information is available?
7. What is the value of records and accounts?

References: "Elements of Farm Management" by Hopkins
"Farm Organization and Management" by Forster

Methods: Supervised study and conference

Teaching Accomplishments: To develop an understanding of the organization of the farm business. Successful establishment in farming by vocational agriculture students.

PROBLEM PLAN

Year taught in Voc. Agri. IV Month November Periods 5

Enterprise Farm Management Job Selecting and combining enterprises of farm business

Problem To select and combine enterprises for a farm in the Stillwater community

Motivation Enterprises on farms of successful farmers in the community

Pivotal Points:
1. Size of farm
2. Location to market
3. Type and fertility of soil
4. Kinds of buildings and improvements
5. Select major animal enterprise
6. Select feed crops
7. Select cash crops
8. Plan enterprises for a dairy farm
9. Plan enterprises for a beef farm
10. Plan enterprises for a general type farm

References: "Elements of Farm Management" by Hopkins

"Farm Organization and Management" by Forster

Methods: Supervised study and conference

Have students combine enterprises for different types of farming in the community.

Teaching Accomplishments: The successful establishment in farming by vocational agriculture students.

PROBLEM PLAN

Year taught in Voc. Agri. IV Month December Periods 5

Enterprise Farm Management Job Taking a farm inventory

Problem To take a complete inventory of a farm in the area

Motivation Cite the values of farm inventories in planning the farming activities on individual farms

Pivotal Points:
1. Value of a complete farm inventory
2. Inventory land and improvements
3. Inventory livestock and poultry
4. Inventory feed, seeds, and supplies
5. Determine increases or decreases in inventory
6. Prepare a net worth statement

References: "Elements of Farm Management" by Hopkins

"Oklahoma Farm Account Book" Oklahoma A. & M. College

Methods: Supervised study, conference, and field trip

Have each member of the class take a farm inventory.

Teaching Accomplishments: To develop ability of students to make a complete farm inventory.

PROBLEM PLAN

Year taught in Voc. Agri. IV Month January Periods 5

Enterprise Home Orchard Job Spraying fruit trees to control insects

Problem To control insect pests of fruit

Motivation Compare the quality of fruit from sprayed trees with that of non-sprayed trees.

Pivotal Points:
1. When should sprays be applied?
2. What insects need to be controlled?
3. Spray formulas for peaches and plums
4. When to apply sprays on peaches and plums
5. Insects controlled
6. Spray formulas for apples and pears
7. When to apply sprays on apples and pears
8. Plan a spray calendar for grapes

References: Oklahoma A. & M. Extension Service Circular 168, "Controlling Fruit Pests in Oklahoma"

Methods: Supervised study, laboratory, and field trips

Teaching Accomplishments: For the students to put into practice the spraying of orchards to control insect pests.

PROBLEM PLAN

Year taught in Voc. Agri. IV Month January Periods 5

Enterprise Home Orchard Job Pruning fruit trees and grapes

Problem To properly prune the home orchard

Motivation Compare the life of trees that have been properly pruned with those that have not been properly pruned.

Pivotal Points:
1. What method of pruning should be followed for peaches and plums?
2. What method of pruning should be followed for apples and pears?
3. On what age wood is fruit produced?
4. Describe the systems of pruning grapes.
5. What is a method of pruning grapes?

References: Oklahoma Agri. Exp. Sta. M-16

Methods: Supervised study, laboratory, and field trips

Have each member of the class prune fruit trees and grapes

Teaching Accomplishments: To develop ability of student to prune fruit trees properly.

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