

T H E S I S

RELATIVE ACHIEVEMENTS IN
SUPERVISED FARM PRACTICE IN THE
SAN LUIS VALLEY,
COLORADO

Submitted by
Leon L. Hopkins

In partial fulfillment of the requirements
for the Degree of Master of Science
Colorado State College
of
Agriculture and Mechanic Arts
Fort Collins, Colorado

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RELATIVE ACHIEVEMENT IN SUPERVISED FARM PRACTICE IN THE
SAN LUIS VALLEY, COLORADO

In this thesis the writer has tried to show the relative achievements in the home project work in vocational agriculture conducted by the vocational agriculture students in the schools of Center, Del Norte, Monte Vista, and Sargent, Colorado. In studying this problem, the writer took the following things into consideration:

1. Within what farm enterprises have projects been carried?
2. What were the scopes of the crop and of the livestock projects?
3. What enterprises were carried most often in any given year?
4. What were the total labor and management incomes per project?
5. What were the total reported costs per project?
6. How much pupil time was spent per project?

This study covered the 18-year period from 1921 to 1939.

Enterprises carried
as projects

This study reveals the fact that there were five livestock enterprises more important than the others,

and three crop enterprises more important than the others when judged by the number of years carried as projects. None of the other project enterprises were carried in more than half of the years of the period under consideration. The important livestock enterprises were:

- | | | |
|----------|-------------|----------|
| 1. Swine | 3. Dairy | 5. Sheep |
| 2. Beef | 4. Chickens | |

The important crop enterprises were:

- | | |
|-------------|----------------|
| 1. Potatoes | 3. Garden peas |
| 2. Lettuce | |

The above list of livestock and crop enterprises also proved to be the most popular from the standpoint of the number of projects carried on in the enterprises in any given year. Potatoes and swine were by far the most popular enterprises of the entire group during the period under consideration.

Size of projects

In general, the size of projects chosen in the enterprises was of average scope, with only an occasional project assuming greater proportions than the others. Livestock enterprises varied from as few as one head per project in beef cattle to as high as 20 head in sheep projects. Crop enterprises showed a slight tendency to be reduced in size during the most recent years. The farm management enterprises were the largest carried on in any of the crop enterprises, running as high as 160

acres in one year. Other crop enterprises showed variation from as low as one-tenth of an acre to as high as 86 acres. The average size of the important livestock and crop projects was as follows:

- | | |
|----------------------|-------------------------|
| 1. Swine, 3 head | 1. Potatoes, 4 acres |
| 2. Beef, 2 head | 2. Lettuce, 2 acres |
| 3. Sheep, 20 head | 3. Garden peas, 2 acres |
| 4. Dairy, 2 head | |
| 5. Chickens, 60 head | |

Cost per project

In general, it was not possible to show any relationship between the size of the projects carried and the costs per project. There was a considerable variation in the costs per project from year to year with a tendency toward decreased costs in some instances. The cost per project in the lettuce enterprise seemed to be more or less related to the amount of pupil labor on the project. The high and low costs per project for the eight important projects are shown in the following table:

Enterprise		High	Low
1.	Swine	\$162.89	\$24.25
2.	Beef	779.09	28.05
3.	Sheep	615.08	33.11
4.	Dairy	223.13	11.82
5.	Chickens	107.80	20.38
1.	Potatoes	343.28	81.12
2.	Lettuce	371.56	9.50
3.	Garden peas	226.17	32.98

Pupil hours per project

The amount of time spent by the pupil per project displayed a considerable variation, running from as low as 6 hours per project to as high as 817.5 hours per project. No relationship could be found between the amount of time spent on the projects and the total income per project. In noticing the extremely small amount of time spent by the students on projects in some instances, the writer is inclined to wonder if they could actually be considered as the boys' projects, and if they could, just how much educational value projects of this sort were to the student. The average number of pupil hours spent per project were as follows:

- | | |
|-----------------------|--------------------------|
| 1. Swine, 50 hours | 1. Potatoes, 70 hours |
| 2. Beef, 45 hours | 2. Lettuce, 120 hours |
| 3. Sheep, 50 hours | 3. Garden peas, 60 hours |
| 4. Dairy, 150 hours | |
| 5. Chickens, 50 hours | |

Average income per project

The best guide to the relative achievements of the vocational agriculture projects carried on by agricultural students is unquestionably the incomes derived from these projects. The incomes per project of the more important enterprises varied sharply up and down from time to time, but all showed a tendency to decrease during the more recent years. The beef, sheep, and dairy enterprises all showed losses during one or two

years of the study, but the other important enterprises did not display such losses in total income.

The average income per project figured on the bases of the number of years that the project was carried reveals significant facts. None of the eight project enterprises which were carried in the majority of the years of this study were in the loss column. Of these eight enterprises, the crop projects produced the highest average incomes for the time that they were carried with chickens yielding the smallest average income of the group. Farm management projects, carried in two years of the study, produced the greatest average total returns because of the greater scope. The average income per project for the eight important enterprises and the two losing enterprises were as follows:

1. Swine - - - - -	\$ 78.34	1. Potatoes - - -	\$247.64	<i>avels. 4</i>
2. Beef - - - - -	77.35	2. Lettuce - - -	126.96	
3. Sheep - - - - -	114.42	3. Garden peas -	139.82	
4. Dairy - - - - -	114.29	4. Cabbage - - -	-.85	
5. Chickens - - - -	28.87	5. Beans - - - -	-8.91	

Average return to
management per project

In farm management studies, the return to management per hour of labor is considered to be an acceptable criterion of the success of the enterprise. The writer found that 16 of the 30 enterprises carried by vocational agriculture boys as farm practice projects returned more than \$1.00 per hour of labor to management

on an average computed on the years carried. Canning peas returned the greatest average return per hour to management of the group, with cabbage and beans being the only two in the loss column. The following are the average returns to management for the eight important livestock and crop enterprises and the two enterprises, cabbage and beans, which showed average losses:

1. Swine - - -	\$1.05	1. Potatoes - - -	\$3.52
2. Beef - - - -	1.21	2. Lettuce - - -	.90
3. Sheep - - -	1.26	3. Garden peas -	2.96
4. Dairy - - -	.59	4. Cabbage - - -	-.10
5. Chickens - -	.35	5. Beans - - - -	-.33

Only seven of the projects which were carried over a sufficient time to be considered as significant in this study did not show a loss to management at any time in the study. All of the others made no return to management in at least one or two years of the period.

Conclusions

The writer concludes from this study that all of the major enterprises carried on in the past as projects in the four schools could be recommended as projects to future vocational agriculture students of the Center, Del Norte, Monte Vista, and Sargent schools. The writer also concludes that some of the minor enterprises which have not been carried so often have definite possibilities as profitable projects. In this latter category are all of the grains, strawberries, rabbits, and turkeys.

Recommendations for
further study

In pursuing this study the writer discovered a number of problems which he believes deserving of further study. There seems to be a definite need for some kind of project standards set up for the State of Colorado to be used as a basis of judging how worthwhile are students' projects. A definite system to be used in recording the data on the final project reports should be worked out and established. In recording production on projects there is an urgent need for uniformity; for example, some livestock projects are recorded in heads while others are recorded in pounds. There is a need for establishing some minimum standards of student labor on the projects that are to receive credit.

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I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY
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G. Schmidt
In Charge of Thesis

APPROVED *G. Schmidt*
Head of Department

Examination Satisfactory

Committee on Final Examination

G. Schmidt
Carl G. Howard J. L. Duffley
Hayden C. Espinwall

U. E. Dawson
Dean of the Graduate School

Permission to publish this thesis or any part of it
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CONTENTS

	Page
CHAPTER I: INTRODUCTION - - - - -	7
CHAPTER II: REVIEW OF LITERATURE - - - - -	12
CHAPTER III: METHODS OF PROCEDURE - - - - -	21
CHAPTER IV: RESULTS OR FINDINGS - - - - -	25
Swine projects - - - - -	26
Beef projects - - - - -	28
Sheep projects - - - - -	31
Dairy projects - - - - -	33
Poultry projects - - - - -	35
Rabbit and bee projects - - - - -	37
Potato projects - - - - -	39
Lettuce projects - - - - -	41
Garden and canning pea projects - - - - -	43
Miscellaneous vegetable projects - - - - -	45
Grain crop projects - - - - -	48
Forage crop projects - - - - -	50
Miscellaneous enterprise projects - - - - -	51
CHAPTER V: DISCUSSION AND ANALYSIS - - - - -	53
CHAPTER VI: SUMMARY AND CONCLUSIONS - - - - -	75
Enterprises carried as projects - - - - -	75
Size of projects - - - - -	76
Costs per project - - - - -	76
Pupil hours per project - - - - -	77
Average income per project - - - - -	77
Average return to management per project - - - - -	77
Conclusions - - - - -	78
Problems for further study - - - - -	78
APPENDIX - - - - -	79
BIBLIOGRAPHY - - - - -	98

LIST OF TABLES

Table	Page
1. The labor and management return from swine projects - - - - -	27
2. The labor and management return per hour from beef projects - - - - -	30
3. The labor and management return per hour from sheep projects - - - - -	32
4. The labor and management return per hour from dairy projects - - - - -	34
5. The labor and management return per hour from poultry projects - - - - -	36
6. The labor and management return per hour from rabbit and bee projects - - - - -	38
7. The labor and management return per hour for potato projects - - - - -	40
8. The labor and management return per hour for lettuce projects - - - - -	42
9. The labor and management returns per hour for garden and canning pea projects - - - - -	44
10. The labor and management returns per hour for miscellaneous vegetable enterprise projects	46
11. The labor and management returns per hour for grain enterprise projects - - - - -	49
12. The labor and management returns per hour for forage enterprise projects - - - - -	51
13. The labor and management returns per hour for miscellaneous enterprises - - - - -	52
14. The enterprises carried in the 18 years - - -	53

LIST OF FIGURES

Figure	Page
1. Frequency of selection of potatoes, swine, dairy, and poultry - - - - -	57
2. Average total income per project for the entire study - - - - -	68
3. The total incomes from the major livestock enterprises - - - - -	69
4. The total incomes from the major crop enterprises - - - - -	71
5. The average return to management per hour for all enterprises - - - - -	73

RELATIVE ACHIEVEMENTS IN SUPERVISED FARMING PRACTICE IN
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Chapter I
INTRODUCTION

In 1920, as a result of the passage of the Smith-Hughes act, departments of vocational agriculture were set up in the schools of Center, Monte Vista, and Sargent, Colorado, and one year later in 1921, a department was established in the school at Del Norte, Colorado. All of these agricultural departments have been in continuous operation since their organization and have been responsible for the farm training received by a large number of established farmers in their communities since that time.

In accordance with the requirements of the Smith-Hughes act, the boys who studied vocational agriculture in the four schools have all carried some kind of home project. Each year the results of these projects have been recorded in final project reports and sent to the State Supervisor of Vocational Agriculture in Denver where they have been kept on file.

8

In every effective vocational training course, theory and practice should go hand in hand--theory to guide and direct practice, and practice to fix habits of doing. It is because of this fundamental principle that home projects in agriculture are required of all students of vocational agriculture. Then too, home projects in agriculture give boys a splendid opportunity to acquire managerial ability. The projects pertaining to particular enterprises also give the boys an opportunity to build up profits from their work and these profits assist them to at least partly become established in farming by the time they have completed high school or a few years thereafter. Since earning a profit from the home projects is regarded as desirable, one naturally wonders what projects carried on by the boys in the supervised home practice have been most lucrative. It has been the experience of the writer that students, parents, and instructors appreciate facts and information on this question; also results of this study may serve as some basis for selecting home projects which are most likely to result in a profit. It is a belief of the writer that a study of past performances and records of completed projects is a correct approach to answering the questions involved in this study.

What have been the relative achievements in the home project work in vocational agriculture conducted by the vocational agriculture students of the Center,

9

Del Norte, Monte Vista, and Sargent schools over a comparatively long period of years?

To at least partially solve this problem it has been necessary for the writer to take several factors into consideration. In what farm enterprises have projects been carried by the vocational agriculture students in these schools? What were the scopes of the projects carried in both crops and livestock enterprises? What enterprises have been most popular as shown by the frequency with which projects have been selected and carried to completion? What were the total labor and management incomes per project? What were the total reported expenses per project? How much time was spent by the students on each project? Which enterprises proved most profitable?

In solving the problems underlying this study the writer made a study of the records of the project work in the above mentioned schools for the 18-year period from 1921 through 1939, during which time the agriculture departments have been in operation in these schools. The period covers sufficient time to give an accurate picture of the project situation from the standpoint of frequency, trend of profit, size, costs, and general development. Furthermore, by selecting these years, it affords an opportunity to study the results of projects during both depression and boom periods. This should give a much better comparison of relative

achievements.

The four schools which constitute this study are located in the west central part of the San Luis Valley. The San Luis Valley was at one time the bed of an ancient lake. It has a very fertile soil, and is uniquely fortunate in having a very high water table which allows for subirrigation. The Rio Grande River affords a supply of irrigation water for irrigating the crops. Irrigation is necessary because of the low rainfall of only eight inches per year. An elevation of over 7000 feet assures cool summer weather conducive to the growing of certain crops.

None of the four schools are more than 20 miles apart, and in the surrounding farming areas, a very comparable cropping system prevails. There are two other schools in the San Luis Valley which now have vocational agriculture departments, one at Saguache, and one at Manassa. Since these departments are not as old as the four selected for this study and do not have similar farming situations, one being in the north end of the valley and the other in the south, they have been omitted.

Monte Vista, Del Norte, and Sargent, a consolidated school located in the open country, are all in Rio Grande County, a county which for years has been one of the leading potato producing counties of the United States. Center, the fourth school in the study, is in

2

11

Saguache County, but is very near Rio Grande County and lies in the large potato producing area also.

In addition to potatoes, other important crops grown in the area are small grains, vegetables, alfalfa, sweet clover, field peas, native hay, strawberries, and sugar beets. Included among the small grains are wheat, oats, and barley. The most important vegetables are lettuce, garden and canning peas, carrots, cabbage, spinach, radishes, turnips, cauliflower, and broccoli. This section of Colorado is well known for its excellent quality of vegetables, and several hundred cars of green vegetables are shipped out each season.

Being close to the mountains and the range land of the Rio Grande National Forest, it is only natural that a considerable number of livestock are found in this area. There are several large bands of sheep, and some herds of beef cattle in the valley. Most of the farms in this vicinity have hogs, horses, and some poultry. Some bees are kept because of the fields of sweet clover which make a very good grade of honey.

Chapter II
REVIEW OF LITERATURE

In investigating the literature written on the relative achievements of vocational agriculture boys in their supervised practice projects, the writer found that this subject has been of interest to others in other sections of the country, and although they have not touched on the subject from exactly the same standpoint, their contributions have added much to the field of agricultural education and have come from widely separated areas of the United States.

A study made in the South approached more nearly than any other the same type of study made by the writer. Meadows (11) made a summarization of the returns from supervised home projects in the South in terms of net profits, hours of labor required, frequency of the different enterprises selected, and the relative ranking of projects in net profit per hour of projects.

Any work done in connection with the financial outcome of projects naturally brings up a question concerning the variation in project incomes. Spriggs (12), in studying the factors influencing the financial income from farm projects of Smith-Hughes classes, found that the distribution of total project income showed a wide

range, with a marked skew having the peak toward the lower end of the scale. Seventy percent of the incomes were below the \$100 goal set by the California State Supervisor of Agricultural Education. Little difference existed between the projects of freshmen and of sophomores; though some juniors and seniors showed greater project size and income, the majority of students seemed to be plodding along with smaller projects and correspondingly insignificant incomes. Measured by the financial success of the projects it makes little difference whether or not the project is in line with the course taken in high school. The incomes on projects, from which over half the produce was used at home, were consistently small. The incomes from projects from which less than half of the produce was used at home were decidedly larger, and slightly outranked the incomes on projects from which all produce was sold. The majority of the larger projects were selected relatively early in the school year. There is a wide variation in the incomes of boys spending the same amount of time on their projects. Projects large enough to absorb more than 200 hours of labor appear to produce larger incomes more consistently. The number of times the project was visited by the instructor seemed to have no great effect on the total project income.

One writer was interested in both the educational and financial gain from home project work. This

14

was in line with what the present writer has attempted to take up, except that the educational value was not considered. Daughtridge (4) in 1926 made a study of home projects in North Carolina and made suggestions for realizing more of the potential educational values and increasing the financial returns. His purpose was to analyze home projects with the idea of discovering their educational values as well as financial gains. To do this, he made a survey of vocational agriculture departments by personal visits and of project summary information by means of a questionnaire; he made an analysis of project reports to the supervisory office and of miscellaneous literature. To bring out definite essential values in project work and to bring out how the values might be realized, project reports were summarized and analyzed for strong and weak points. The recommendations, made upon the basis of the essentials of good projects, were: Coordination of classroom work, development of managerial ability, establishment of ideals and habit of good record keeping, the importance of a good plan, the need for adequate supervision and close cooperation with the parents, continuity of projects, and the utilization of group cooperation in projects.

Kenestrick (9) analyzed some of the same enterprises which were included in the work of the present writer. He analyzed the project record books accompanying the projects in productive enterprises conducted by

vocational boys in one-seventh of the departments in Ohio. The analyses were made on the basis of standards in farm accounting approved by the department of rural economics of Ohio State University. Summaries were prepared for each of the following kinds of projects: Chick projects for pullet production, poultry management, swine management, sheep management, potato production, corn production, and wheat production. A summary of projects of each kind included a comparison of about 25 selected items in each of the five years, 1928 to 1932, inclusive. A second summary, with reference to about 20 significant items in the cost of production and production practices, was made in each enterprise.

Hammonds (6) also approached the problem from a relative standpoint in an attempt to set up a course of study in relation to the enterprises. He estimated the relative economic importance of farm enterprises, developed techniques for arriving at "gross production value", "net production value", and "cash sales" from each productive farm enterprise. The techniques were then applied to all the enterprises by counties in Kentucky as a basis of building courses of study related to these enterprises.

Some work has been done in setting up minimum standards of achievement for projects. A study such as that made by the present writer might be used as background material for setting up such standards.

Howard (8), in setting up minimum standards of achievement for the supervised farming of Wyoming vocational agriculture boys, surveyed the records of individual boys on their several enterprises. Averages were determined in each school for the projects; then state averages were taken for each enterprise. Because of the drought conditions during the year of the study, the state average was not truly representative, and hence must remain tentative. These results were presented by enterprises for the several schools. Recommendations were made for the continuation of the work. The tentative minimum standards are being used by the boys partly as an incentive to improve.

As the writer does in the present study, Wood (13) included in his study the item of labor income. To determine which enterprises made the most labor income, in which enterprises the largest percentage of completed projects were found, and which enterprises were most numerous each year, he studied and analyzed the completed records of supervised practice work in vocational agriculture for a 3-year period in Florida. Supervised practice programs were recommended for different parts of the state as a result of the study.

Studies of students' supervised practice records in vocational agriculture have uncovered the fact that errors occur in their work. This sometimes causes studies based upon them to be slightly inaccurate,

though most of these records are sufficiently correct for all practical purposes.

From a study of hundreds of project books and analyzing them for such inaccuracies, Gibson (5,5:27) listed 24 inaccuracies in keeping hog project records. The 24 inaccuracies are summarized as follows:

1. Listing the same items in both beginning inventory and expense record.
2. Information lacking that would give pounds of feed per pound gain, namely: Beginning weight of hogs, final weight of hogs, amount and kind of feed in terms of pounds, failure to separate feed items for fattening animals and others.
3. Amount per hour allowed for self labor varies among boys in the same school.
4. Kind and weight of feed not given.
5. Items such as hog pens and hogs, included in inventory and counted as an expense, but omitted in closing inventory.
6. Including both rent and interest on the same items.
7. Counting net loss as profit when adding to self labor to get labor income.
8. Cost of growing and fattening out litter of pigs not based on natural cycle of production.
9. Failure to allow rent on equipment on some projects while doing so on others.
10. Failure to charge interest on investments on some projects while doing so on others.
11. Including costs for hogs or other items purchased during project in the closing inventory while omitting them in the expense record.
12. Hogs that were sold and recorded in receipts also included in closing inventory.

- 13. Frequent cases where the number of hogs in closing inventory plus number sold does not agree with number in the beginning.
- 14. Allowing no expense items for weaner pigs either in the beginning inventory or expense record.
- 15. Apparently too much variation in amount of self labor for hog projects.
- 16. Failure to keep separate records for different project enterprises, making it impossible to determine separate costs.
- 17. Failure to enter pasture as a feed cost.
- 18. Beginning and closing dates often difficult or impossible to determine.
- 19. Cost of breeding and boar services not included in expense record.
- 20. When computing cost per pound of pork production, the increase in weight of hogs on hand at close of project not included.
- 21. Questionable whether some projects can be considered the boys' projects due to small amount of self labor.
- 22. Where two project records are mixed together, analysis will show that boy has made a profit on one and lost on the other, yet there is no indication from the records that the boy has made this discovery.
- 23. An analysis of pounds feed per pound gain would lead the boy to discovery of inaccurate records.
- 24. Frequent failure to include skim milk in feed items although records show that it was used.

Such inaccuracies as are mentioned above bring up the question of why they exist. Cook (3,9:25) gives ten reasons why project records are poor:

- 1. Teacher does not spend enough time on instruction on this phase of the work.

2. Teacher does not appreciate value of accurate and complete records.
3. Teacher does not check records on each visit.
4. Teacher does not visit project often enough.
5. Students allowed to keep records on scrap paper.
6. Records not put in book until close of project.
7. Lack of interest on part of some students.
8. Lack of cooperation at home.
9. Lack of teacher encouragement.
10. Teacher may not set up high standards and require students to live up to them.

Some writing has been done on the desirability of studies of the nature of the one the writer has done. Maltby (10,6:70) in writing on the use of supervised practice records in teaching vocational agriculture said:

Farmers, as a whole, charge to conditions over which they have no control, as weather, market prices, etc., their success or failure. If this were true, there would be no use of keeping records as they would not be able to change the condition anyway. The fallacy of the farmer's thinking is that business methods are more largely responsible for success or failure than he realized.

Maltby also gives in his article three reasons why students should keep careful records:

- a. As a student he wants to learn all he can from supervised practice.
- b. He wants to know whether his labor has been efficient, cost of enterprise, yields, profit, income, etc.
- c. He must know these things if he is going to have any influence on increasing his returns in the future.

Bass (2,9:24) said:

The analysis of project records of pupils enrolled in vocational agriculture is a measuring stick for the value of vocational agriculture to the student. A final analysis summary over a period of years is of untold value to the students in planning their supervised practice programs and to farmers in laying out their management operations. It gives the boys an incentive to try to beat the ones who preceded them. **** The instructor who analyzes his students' records has erected for his efforts a monument of local agricultural information at his finger tips. It is better than state or national data because it represents the conditions within the community in which the department of vocational agriculture has its patronage area.

The preceding article by Bass sets up a basis of use and value for the study being conducted by the writer and gives an added incentive for carrying it out. Another writer who thought along the same lines was Hellbusch (7,9:155) who said that the analysis of project problems by the instructor and pupil is one of the most important jobs that occur in vocational agriculture and is probably one of the most unorganized activities.

Chapter III

METHODS OF PROCEDURE

In making this study the writer found that there were two possible sources of information from which he could secure the data needed to solve the problem. One source was the files kept by the teachers of vocational agriculture at the Center, Del Norte, Monte Vista, and Sargent schools. The other source was the duplicate records which are kept on file in the office of the State Supervisor of Vocational Agriculture in Denver.

The writer visited the four schools and searched their files for reports. He was disappointed in this search to find that although most of the records were kept, some of them were missing. Therefore, it would have been impossible to have the continuity of completed projects desired by the writer in making this study. Not finding the complete records in the four schools, the writer went to the office of the Colorado State Board for Vocational Education which is located in Denver where he found the needed reports on project work on file.

There have been certain changes made in the form used in reporting the results of the supervised home projects during the 18-year period studied by the

writer. In 1922 the report contained the following items:

1. Name of pupil
2. Age of pupil
3. Agricultural subjects studied during current school year
4. Title of home project
5. Scope of home project
6. Total charges
7. Total credits
8. Pupil net profit
9. Paid self for labor
10. Total income
11. Total yield
12. Actual hours devoted to project
13. Number of times teacher visited project

The above items were used until 1926 when another change was made in the form. The second form was used for ten years, from 1926 to 1936. This second contained the following items:

1. Name of pupil
2. Age of pupil
3. Agricultural subjects studied during the current school year
4. Title of home project
5. Scope of project
6. Total charges
7. Total credits
8. Net profit
9. Paid self for labor
10. Total income
11. Total yield
12. Cost per unit of production
13. Profit or loss per unit of production
14. Actual hours devoted to project
15. Number of times teacher visited project

The third form used from 1936 to the present time contains the following items:

1. Name of student
2. Age of student
3. Course (crops, AH or Agri. 1, 2, 3, 4)
4. Kind of enterprise

5. Unit,(acres, head, etc.)
6. Scope (total number of units)
7. Production (bushels, tons, pounds, etc.)
8. Total charges
9. Total credits
10. Net profit
11. Allowed self for labor
12. Total labor income
13. Hours student spent on project
14. Student's actual income
15. Improvement projects
16. Supplementary farm practices
17. Placement for farm experience

The second form used differed from the first by having in it a column for "cost per unit of production" and another related column for "profit or loss per unit of production". In addition to these two changes, all information was summarized on the back, which was not done on the first form.

The third form differed from the second in that the columns giving information on the "cost per unit of production" and the "profit or loss per unit of production" were omitted. In addition the column headed "number of times teacher visited project" which was in both the first and the second forms was also omitted. Five additional columns were added to this third report form. These were: (1) unit of the project, (2) student's actual income, (3) improvement projects carried by the student, (4) supplementary farm practice jobs conducted by the student, and (5) placement for farm experience in lieu of project work.

From the reports the writer took the following type of common information:

1. Kind of project enterprise
2. Scope
3. Production
4. Total charges
5. Total labor income
6. Hours student spent on project
7. Number of students carrying each enterprise

To make this information available for ready use in this study, the writer transferred all data to a master sheet. The information contained on the master sheet was then tabulated for presentation in the succeeding chapters.

Chapter IV
RESULTS OR FINDINGS

In this chapter are presented tables giving the information found in the final project reports which pertained to this study. The 13 tables which follow pertain to the items listed below:

- | | |
|---------------------|-------------------------------|
| 1. Swine | 8. Lettuce |
| 2. Beef | 9. Garden and canning peas |
| 3. Sheep | 10. Miscellaneous vegetables |
| 4. Dairy | 11. Small grains |
| 5. Poultry | 12. Forage crops |
| 6. Rabbits and bees | 13. Miscellaneous enterprises |
| 7. Potatoes | |

These tables give such information as the name of the enterprise within which the projects were carried, the years that the projects were carried, the number of projects carried in the enterprise, the average scope of the projects, the reported average costs per project, the average return to labor and management for each project, the hours of student labor spent on each project, the labor and management return per hour, and the return to management alone for each hour the pupil spent on the project.

These tables and findings are analyzed and summarized in the pages that follow.

Swine projects

Table 1 contains data pertaining to the swine enterprise during the 18 years under consideration. It will be noted that swine have been carried as projects during the entire period. During the period from 1929 to 1931 swine projects were very popular; 47 projects were carried in one year and 43 in the other. The smallest number of swine projects carried in any one year was ten. There was little change in the sizes of projects carried during the entire time.

During the 18-year period, costs of pork production have gradually decreased. The total income on swine projects varied throughout the entire period, but there was very little change of any consequence in the actual amount of time spent by the pupils on these projects. In figuring the management return per hour on a project, the boys' labor was figured at 15 cents per hour. This amount has been set for all boys in the state for student labor on the project. The 15 cents allowed for self labor was subtracted from the labor and management return per hour to determine the return per hour for management. The labor and management income varied from \$2.43 per hour to \$.22 per hour. Management return per hour has varied in the same proportion, but in no year did swine fail to return some payment to management.

Table 1.--THE LABOR AND MANAGEMENT RETURN FROM SWINE PROJECTS

Year	Number of projects	Average scope per project in heads	Average reported costs per project	Return for labor and management	Hours of student labor per project	Labor and management return per hour ¹ / ₁	Management return per hour
1	2	3	4	5	6	7	8
1921-22	16	2	\$ 70.06	\$114.68	63	\$1.82	\$1.67
1922-23	17	5.5	125.39	72.59	94.5	.77	.62
1923-24	22	4.2	73.08	62.65	43	1.46	1.31
1924-25	21	2.6	108.60	100.19	49	2.05	1.90
1925-26	12	3	112.29	191.91	79	2.43	2.28
1926-27	10	2	173.46	114.14	57	2.00	1.85
1927-28	15	4.25	162.89	96.27	82.6	1.17	1.02
1928-29	16	3	88.25	89.47	60.5	1.31	1.16
1929-30	47	5.5	157.91	50.33	36	1.40	1.25
1930-31	43	2.2	50.88	30.01	44.3	.68	.53
1931-32	34	3.7	57.51	18.76	51.2	.37	.22
1932-33	28	3	26.04	38.01	45	.84	.69
1933-34	20	1.6	50.76	32.96	40.5	.81	.66
1934-35	14	2.14	50.23	68.36	31.5	.22	.07
1935-36	20	3.9	55.30	67.14	52	1.29	1.14
1936-37	21	2.7	62.65	85.12	58	1.47	1.32
1937-38	15	2	59.79	25.61	61	.42	.27
1938-39	27	7	24.25	51.84	47	1.10	.95

¹/₁ In calculating labor and management return, all fractions of a cent over one half were added and all under one half were dropped.

Beef projects

Data on beef projects are given in Table 2. Beef cattle have been carried as projects through 16 consecutive years, beginning in 1923. For the most part, beef projects have been small and have shown but little change in size during all of the 16 years. The least number of beef projects to be carried in any one year was two. In the school year 1938-39, the last year mentioned in this study, there were 15 beef projects. In the remainder of the years, no more than nine projects were carried in any given year.

In 1924, the average scope per beef project was 14.25 head, and in 1928 there were 51 head per project. In the remainder of the years, the size varied from one to three head per project.

The costs of beef projects varied with the size of the project, although in some cases there were differences which might be accounted for in the change in price of feed from year to year. Total incomes from beef projects have shown considerable variation, as shown in column 5. In 1930, beef cattle projects showed a loss of \$18.75 per project, and in general the profits shown in column 5 have followed the natural trends of the beef cycle. The labor and management return per student hour per project has varied from a loss of \$.42 to a profit of \$4.06. Corresponding returns are found

in the management returns as shown in column 8.

Table 2 shows that there is no definite relationship between the size of beef projects and the hours spent by the students on the projects.

Table 2.--THE LABOR AND MANAGEMENT RETURN PER HOUR FROM BEEF PROJECTS

Year	Number of projects	Average scope per project in heads	Average reported costs per project	Return for labor and management	Hours of labor student per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
1923-24	5	2	\$ 84.99	\$ 28.19	53	\$.53	\$.38
1924-25	4	14.25	182.25	265.60	71	.37	.22
1925-26	6	1.33	114.07	35.00	31.2	1.12	.97
1926-27	3	2	74.79	118.04	29	4.07	3.92
1927-28	2	4.5	85.30	242.65	89	2.73	2.58
1928-29	7	51	779.09	162.89	70	2.33	2.18
1929-30	3	1.66	98.92	26.57	60	.44	.29
1930-31	8	1	144.60	-18.75	45	-.42	-.27
1931-32	5	3.6	92.34	3.29	26.5	.12	-.03
1932-33	8	1	35.99	60.89	15	4.06	3.91
1933-34	5	2	33.78	47.10	20.6	.23	.08
1934-35	8	3	70.66	62.68	45.5	1.38	1.23
1935-36	2	1	28.05	104.59	41	2.50	2.35
1936-37	3	1	73.49	29.28	65.33	.22	.07
1937-38	9	3	83.90	21.37	65	.33	.18
1938-39	15	3	139.61	48.16	32	1.51	1.36

Sheep projects

Table 3 shows that sheep projects have been chosen by the boys the last 15 consecutive years involved in this study. There was a gradual increase in the number of sheep projects per year. The number of sheep per project did not show any definite consecutive trend except that there was an indication of a gradual decrease in the number of head per project.

The costs for each sheep project decreased gradually from year to year. This is probably due to the decrease in the number of sheep per project. The sheep industry was affected by the depression to the extent of causing a loss in two years as will be noted in column 5 of the table.

The hours spent per project varied from 23.5 to 146, but in the year 1932-1933 when 105 head of sheep were carried per project, only 25 hours were spent per boy on the projects. Since this was one of the poorer years from the standpoint of profit in sheep, there was nothing unusual about the labor and management return per hour.

Table 3.--THE LABOR AND MANAGEMENT RETURN PER HOUR FROM SHEEP PROJECTS

Year	Number of projects	Average scope per project in heads	Average reported costs per project	Return for labor and management	Hours of student labor per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
1924-25	3	52	\$615.08	\$420.66	80	\$5.26	\$5.11
1925-26	4	29	507.38	33.46	77	.43	.28
1926-27	4	20	249.90	225.77	138.2	1.63	1.48
1927-28	4	21	365.69	178.02	61	.29	.14
1928-29	6	24	127.14	96.78	83.3	1.16	1.01
1929-30	2	34	172.13	262.53	102	2.57	2.42
1930-31	13	10.7	74.62	-9.42	25	-.38	-.23
1931-32	7	10.57	33.11	-.36	23.5	-.02	-.13
1932-33	5	105	509.16	71.84	25	2.87	2.72
1933-34	6	19	119.39	56.74	47.3	1.20	1.05
1934-35	5	23	230.26	49.47	146	.34	.19
1935-36	8	6.5	53.71	36.56	36	1.02	.87
1936-37	8	19.6	143.61	153.84	85.6	1.80	1.65
1937-38	15	20.3	108.55	81.79	68	1.20	1.05
1938-39	19	19	138.00	58.63	39	1.50	1.35

Dairy projects

Dairy projects were carried by boys continually from 1923 to 1938. Column 2 of Table 4 shows, however, that there was a slight decrease in the number of dairy projects carried in each year. The size of projects varied from 1 head to 7.5 head, but in general there was a tendency toward the lower number.

The cost per project decreased gradually during the period of the study. Dairy projects lost money during two of the 15 years in which they were carried. There were no great general variations in the labor hours spent per project, but in three years the number of hours were unusually low in comparison with the remainder of the time.

Table 4.--THE LABOR AND MANAGEMENT RETURN PER HOUR FROM
DAIRY PROJECTS

Year	Number of projects	Average scope per project in heads	Average reported costs per project	Return for labor and management	Hours of labor student per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
1923-24	8	1.5	\$ 95.67	\$ 55.85	106	\$.53	\$.38
1924-25	9	3	183.79	354.20	308	1.12	.97
1925-26	5	1	145.94	45.01	118	.38	.23
1926-27	2	7.5	223.13	392.32	177	2.22	2.07
1927-28	3	1.6	102.49	160.21	179	.90	.75
1928-29	5	3	227.21	319.85	183	1.75	1.60
1929-30	2	1	175.74	41.78	153.5	.27	.12
1930-31	2	1.5	70.28	-19.59	41	-.48	-.33
1931-32	3	2.6	125.92	-2.74	123.6	-.00	-.15
1932-33	3	2.3	11.82	21.29	19	1.12	.97
1933-34	4	2.5	106.20	102.61	196.2	.52	.37
1934-35	6	1	114.57	82.77	173	.48	.33
1935-36	3	1	82.90	94.87	112	.85	.70
1936-37	3	1.3	58.78	88.18	257.5	.34	.19
1937-38	3	1.6	50.85	55.81	107.6	.52	.37
1938-39	5	4	39.05	36.27	37	.98	.83

Poultry projects

Table 5 deals with poultry enterprises and includes both chickens and turkeys. Chicken projects have been carried in 16 of the 18 years of the study. There were no chicken projects carried in either the first year of the study or in the tenth year. Column 2 shows that there was a tendency toward increased popularity of chickens for projects in the last years of the study. The average scope of chicken projects has remained fairly constant throughout the entire time. The other columns in the table indicate a certain degree of constancy as far as cost, income, and hours of labor per project are concerned.

Turkeys were only carried in four of the 18 years involved in this study, and have not been a very popular enterprise. The costs per project varied from \$5.25 to \$68.45, and the incomes varied from a loss of \$2.60 to a profit of \$162.33. The hours labor spent on each project also showed considerable variation from 10 to 144 hours.

Table 5.--THE LABOR AND MANAGEMENT RETURN PER HOUR FROM POULTRY PROJECTS

Year	Number of projects	Average scope per project in heads	Average reported costs per project	Return for labor and management	Hours of labor student per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
<u>Chickens</u>							
1922-23	7	88	\$ 62.83	\$ 12.42	69	\$.18	\$.03
1923-24	12	45	38.51	27.14	59.5	.46	.31
1924-25	5	38	61.44	48.94	59	.83	.68
1925-26	1	50	107.80	27.85	72	.39	.24
1926-27	14	200	31.08	42.90	45	.95	.80
1927-28	10	65.7	36.65	41.46	51.1	.81	.66
1928-29	8	50	62.09	40.15	78.6	.51	.36
1929-30	4	83.5	65.35	34.65	41	.85	.70
1931-32	8	121	57.67	22.14	84.4	.26	.11
1932-33	6	53	20.38	5.97	29	.21	.06
1933-34	2	30	27.20	8.72	52	.17	.02
1934-35	7	48	39.49	22.73	60	.38	.23
1935-36	12	92	46.21	37.89	73.2	.52	.37
1936-37	16	65.5	40.11	20.39	75	.27	.12
1937-38	11	90	56.55	40.17	44	.91	.76
1938-39	16	100	44.60	28.35	64	.44	.29
<u>Turkeys</u>							
1922-23	1	7	68.45	162.33	144	1.13	.98
1928-29	2	2.5	41.07	13.48	68.5	.20	.05
1931-32	1	5	42.55	-2.60	55	-.05	-.10
1934-35	1	2	5.25	10.67	10	1.07	.92

Rabbit and bee projects

Two of the minor livestock enterprises which were carried by vocational agriculture boys of the four schools involved in this study were rabbits and bees. Table 6 shows that rabbits were selected for projects in seven of the 18 years, and bees were selected in six years. Neither of these enterprises were selected for projects by more than one boy in any given year. The scope of the rabbit projects showed some increase in the years they were carried. Bee projects increased in size up to the fourth year that they were carried, but decreased in the last two years. The costs in rabbit projects were fairly constant except in the first year when they were exceptionally low. Bee projects had one year of low costs and one year of extremely high costs. In the latter year, however, the scope was quite large. Considerable variation may be found in the incomes from these projects as is shown in column 5 and in the hours of student labor as shown in column 6. The variations in income do not seem to follow any definite trend, and since they do not cover a large enough number of cases, they cannot be considered as significant. The increase in hours of labor per project tends to follow closely the increase in size of the project.

Table 6.--THE LABOR AND MANAGEMENT RETURN PER HOUR FROM RABBIT AND BEE PROJECTS

Year	Number of projects	Average scope per project in heads and stand	Average reported costs per project	Return for labor and management	Hours of student labor per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
<u>Rabbits</u>							
1926-27	1	(1)	\$ 2.75	\$56.69	15	\$3.78	\$3.63
1927-28	1	2	32.61	14.84	53.5	.28	.13
1929-30	1	5	31.50	13.00	57.5	.23	.03
1931-32	1	6	19.00	18.53	49.5	.37	.22
1932-33	1	16	25.01	47.30	158	.30	.15
1933-34	1	8	22.00	38.40	60	.64	.49
1934-35	1	12	47.25	13.75	65	.21	.06
<u>Bees</u>							
1926-27	1	6	2.75	3.45	15	.23	.08
1931-32	1	3	11.10	20.30	32	.63	.48
1932-33	1	20	29.00	75.20	98	.77	.62
1933-34	1	30	220.18	94.57	171	.55	.40
1936-37	1	4	26.85	8.56	70	.12	-.03
1937-38	1	6	24.00	25.80	80	.32	.17

(1) Scope not given in records.

Potato projects

Table 7 shows that potatoes have been carried in all of the 18 years of the study. The number of projects carried in this enterprise increased from 10 projects in 1923 to 74 projects in 1934, but decreased to less than half that number in 1938. There was little change in the size of projects during the period, but column 3 shows that there was a small decrease in size generally in the last few years. Column 4 indicates a decrease in the reported costs per project over the intervening period of years. There were definite high and low points in the income derived from potato projects, but no definite trend can be noted. Potatoes were badly affected by the depression. The hours of labor per project did not indicate any significant changes in any place in the study. The labor and management return per hour in 1924 which was unusually large was brought about by the fact that a large income was made in that year because of good prices, and no more than average time was given to the projects.

Table 7.--THE LABOR AND MANAGEMENT RETURN PER HOUR FOR POTATO PROJECTS

Year	Number of projects	Average scope per project in acres	Average reported costs per project	Return for labor and management	Hours of student labor per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
1921-22	18	7	\$255.93	\$ 56.35	91	\$.62	\$.47
1922-23	13	5.75	226.60	354.91	160.5	2.21	2.06
1923-24	10	7.5	272.24	337.05	71	4.75	4.60
1924-25	15	5.25	222.81	887.20	68	13.05	12.90
1925-26	20	4.9	276.75	698.77	124	5.64	5.49
1926-27	23	2.8	239.45	165.14	60.25	2.74	2.59
1927-28	26	5	220.94	58.13	80	.73	.58
1928-29	17	4	325.34	460.42	90	5.12	4.97
1929-30	30	6	343.28	296.30	70	4.23	4.08
1930-31	39	3	102.82	5.13	44	.12	-.03
1931-32	48	3.5	81.12	1.90	60.5	.03	-.12
1932-33	50	4.1	133.81	217.61	56	3.89	3.74
1933-34	65	2.8	98.27	60.06	41	1.47	1.32
1934-35	74	1.8	95.68	73.64	67.7	1.09	.94
1935-36	67	2.8	130.90	398.40	60.5	6.59	6.44
1936-37	66	3.6	159.50	93.38	53	1.76	1.61
1937-38	53	3.33	130.78	114.45	64	1.79	1.64
1938-39	36	3	144.41	178.73	44	4.06	3.91

Lettuce projects

Lettuce was carried for projects in all but the second year of the study. Table 8 indicates that only small numbers of lettuce projects were carried in any given year except the last year when 13 lettuce projects were carried. Column 3 does not indicate any appreciable change in the size of projects at any time in the period. The costs per project seem to have run in more or less well defined cycles, while the total incomes shown in column 5 have moved very erratically up and down, as have the hours spent per project. In 1929, lettuce projects paid a labor income of \$.15 but did not return anything to management. In 1933, and 1935, the projects did not make enough to completely pay the labor charge, and therefore the management return in column 8 shows a loss.

Table 8.--THE LABOR AND MANAGEMENT RETURN PER HOUR FOR LETTUCE PROJECTS

Year	Number of projects	Average scope per project in acres	Average reported costs per project	Return from labor and management	Hours of student labor per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
1921-22	2	5	\$145.00	\$200.63	248	\$.81	\$.66
1923-24	2	2.12	211.42	417.22	262.5	1.59	1.44
1924-25	6	1.5	50.12	51.51	75	.69	.54
1925-26	1	1	9.50	25.50	50	.51	.36
1926-27	5	1.4	46.42	59.64	79	.76	.61
1927-28	7	1.3	166.21	323.33	104	3.11	2.96
1928-29	4	4	371.56	158.41	192.5	.82	.67
1929-30	4	2.3	47.17	6.51	42	.15	.00
1930-31	3	1	52.38	120.81	117	1.03	.88
1931-32	4	1.1	42.76	14.79	57	.26	.11
1932-33	3	1.6	42.68	343.20	66	5.20	5.05
1933-34	5	1.5	78.83	8.59	88.5	.10	-.05
1934-35	4	1.1	39.16	36.96	60	.62	.47
1935-36	1	2	53.05	81.75	69.5	.12	-.03
1936-37	3	2	37.85	34.22	58	.60	.45
1937-38	6	2.6	65.62	190.19	53	.59	.44
1938-39	13	3	92.22	85.04	99	.86	.71

Garden and canning
pea projects

Table 9 pertains to both garden and canning peas. Canning peas were only carried in two years while garden peas, like lettuce, were carried in all but the second year of the 18 years. Canning peas showed a certain degree of constancy in everything but the total income, which was nearly trebled in the second year that they were carried; and because only half the hours of labor were used in the second year as in the first, the labor and management return per hour was more than 5 to 1. Column 2 shows that there was a slight increase in the number of pea projects in the 17 years. The size of pea projects, on the other hand, remained about the same. Column 4 indicates that the average cost per pea project became somewhat higher with the passing years.

In 1927, pea projects returned \$1069.34 per project, which was the largest return made by any project during the entire period of the study. This large return is reflected in columns 7 and 8. The returns to labor and management per hour in this year was exceeded in 1921, however, because of the extremely small amount of time which the students spent on the projects.

Table 9.--THE LABOR AND MANAGEMENT RETURNS PER HOUR FOR GARDEN AND CANNING PEA PROJECTS

Year	Number of projects	Average scope per project in acres	Average reported costs per project	Return for labor and management	Hours of student labor per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
<u>Garden peas</u>							
1921-22	1	5.	\$ 67.30	\$ 94.28	6	\$15.71	\$15.56
1923-24	1	9	38.76	213.64	64	3.34	3.19
1924-25	3	1.3	44.40	305.49	39	7.83	7.68
1925-26	3	.8	46.67	90.40	127	.71	.56
1926-27	4	1.2	18.20	11.69	24	.49	.34
1927-28	3	2.4	226.17	1069.34	79	13.52	13.37
1928-29	7	3	146.48	92.13	71	1.30	1.15
1929-30	4	1	32.98	17.71	65.5	2.70	2.55
1930-31	2	3	116.52	12.93	56	.23	.08
1931-32	5	2.1	73.25	47.77	88	.54	.39
1932-33	2	3	61.22	48.07	54	.89	.74
1933-34	6	2.3	66.52	75.87	96	.79	.64
1934-35	5	1.6	87.09	66.84	111	.60	.45
1935-36	3	2.6	52.80	30.74	49	.63	.48
1936-37	3	1.2	52.08	33.38	59	.57	.42
1937-38	4	1.4	88.23	95.24	55	1.73	1.58
1938-39	4	3	88.69	71.39	54.5	1.31	1.16
<u>Canning peas</u>							
1929-30	2	2.5	14.40	50.70	28	1.81	1.66
1930-31	2	2.5	17.87	141.94	13	10.92	10.77

Miscellaneous vege-
table projects

Table 10 deals with projects in miscellaneous vegetable enterprises. Only three of these were carried in enough years to have any significance at all. The others were only carried in one year, excepting cabbage which was carried in two years. None of these enterprises were very popular as indicated by the small number of projects taken in them. The scopes of most of these projects were in fractions of an acre. The costs in some cases varied somewhat, but not significantly. Beans lost money in two of the four years that they were carried, and cabbage lost money in one of the two years that it was carried.

Table 10.--THE LABOR AND MANAGEMENT RETURNS PER HOUR FOR MISCELLANEOUS VEGETABLE ENTERPRISE PROJECTS

Year	Number of projects	Average scope per project in acres	Average reported costs per project	Return for labor and management	Hours of labor student per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
<u>Vegetable Gardens</u>							
1923-24	1	5	\$49.35	\$ 46.71	102	\$.46	\$.31
1924-25	1	1.2	67.55	130.00	108	1.20	1.06
1925-26	3	1/6	14.70	25.80	33	.78	.63
1929-30	2	3/8	10.57	10.79	66	.16	.01
1931-32	4	.36	15.84	16.73	48	.35	.20
1932-33	3	.25	10.28	22.46	----	----	(1)
1933-34	4	.25	18.19	40.78	86	.47	.32
1937-38	1	.5	24.40	.80	56	.01	-.14
1938-39	4	.5	24.54	11.85	64	.19	.04
<u>Beans (green)</u>							
1930-31	1	1.5	27.92	-18.69	51	-.37	-.21
1934-35	2	1.6	65.99	2.01	119	.02	-.13
1935-36	2	.87	35.18	-27.88	24	-1.16	-1.01
1936-37	1	.6	19.47	8.93	51	.18	.03
<u>Strawberries</u>							
1923-24	4	1/10	6.31	24.08	64.5	.37	.22
1924-25	1	1/10	35.50	77.00	----	----	(1)
1931-32	1	(2)	1.70	35.90	11.5	3.12	2.97
1932-33	1	.25	4.10	59.40	27	2.20	2.05
1934-35	1	(2)	28.50	41.40	49	.85	.70
1935-36	2	1/10	24.07	20.25	48	.42	.27
1938-39	1	.25	15.00	7.70	10	.77	.62
<u>Spinach</u>							
1935-36	1	2	84.67	52.92	101	.52	.37

Table 10.--THE LABOR AND MANAGEMENT RETURNS PER HOUR FOR
MISCELLANEOUS VEGETABLE ENTERPRISE PROJECTS (continued)

Year	Number of projects	Average scope per project in acres	Average reported costs per project	Return for labor and management	Hours of student labor per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
<u>Celery</u>							
1932-33	1	800 plts	\$ 8.98	\$37.34	12.5	\$3.11	\$2.96
<u>Plants</u>							
1935-36	1	1/8	37.85	37.40	78.5	.48	.33
<u>Carrots</u>							
1937-38	1	.75	48.02	46.31	40	1.16	1.01
<u>Cabbage</u>							
1921-22	1	1	39.63	-12.95	63	-.21	-.06
1934-35	2	1	49.85	11.25	123.5	.01	-.14

- (1) Student hours labor not reported in the records.
(2) Acreage not reported in the records.

Grain crop projects

Table 11 shows the grain crop projects that were carried during the study. Barley was carried in seven years, wheat and oats in five years each, field peas in four years, and corn in one. The number of projects in any of the enterprises was not large, varying from one to four in any year. A considerable variation in size of projects will be noted in column 3, running from one barley project of one acre to two field pea projects of 86 acres each. The costs per project also show a considerable span, running from \$7.78 for one field pea project to \$374.69 for one oat project. Incomes per project ran as low as \$.42 and as high as \$601.87. The hours of student labor varied from 9 hours per project to 500 hours per project. Management return per hour went from a loss of \$.13 to a profit of \$9.95.

Table 11.--THE LABOR AND MANAGEMENT RETURNS PER HOUR FOR GRAIN ENTERPRISE PROJECTS

Year	Number of projects	Average scope per project in acres	Average reported costs per project	Return for labor and management	Hours of student labor per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
<u>Wheat</u>							
1922-23	1	12	\$309.32	\$309.08	500	\$.62	\$.47
1927-28	1	9	235.35	124.52	101.5	1.23	1.08
1933-34	1	25	39.00	202.00	20	10.10	9.95
1934-35	2	4.5	33.65	42.27	45.5	.93	.78
1935-36	4	6	55.16	71.24	16	4.45	4.30
<u>Oats</u>							
1928-29	1	2.5	21.89	126.92	28	4.53	4.38
1929-30	3	11	157.27	59.90	18	3.33	3.18
1931-32	1	5	37.11	.42	27.5	.02	-.13
1934-35	1	8	110.92	180.88	45	4.02	3.87
1935-36	1	20	374.69	368.01	98	3.76	3.61
<u>Barley</u>							
1924-25	1	15	139.98	601.87	85	7.08	6.93
1925-26	1	10	148.50	30.35	96	.32	.17
1926-27	1	20	87.00	159.00	128	1.24	1.09
1931-32	2	7.5	93.21	68.49	16	4.24	4.09
1933-34	1	1	62.90	19.90	48	.41	.26
1935-36	2	30.7	185.76	21.83	213	.10	-.05
1938-39	2	13.5	128.05	127.45	30	4.25	4.10
<u>Field peas</u>							
1923-24	2	86	284.60	327.19	47	6.96	6.81
1924-25	4	20	89.36	216.47	69	3.14	2.99
1929-30	1	3	7.78	6.18	9	.69	.54
1938-39	1	6	67.90	24.35	15	1.62	1.47
<u>Corn</u>							
1937-38	1	2	16.34	17.91	15	1.19	1.04

Forage crop projects

Alfalfa, sweet clover, and native hay were the only forage crop enterprises carried as projects.

Table 12 shows that these projects were not popular in that they were carried only in four years of the 18. Alfalfa was the only one of the three to be carried in more than one year. The scope of these projects was reasonably large except in the first year that alfalfa was carried, when only 6 acres were carried. The costs per project in alfalfa showed an unaccountable decrease in the second year inasmuch as the project in that year was more than three times as large as that in the first year. The same condition was true of the profit as shown in column 5.

Table 12.--THE LABOR AND MANAGEMENT RETURNS PER HOUR FOR FORAGE ENTERPRISE PROJECTS

Year	Number of projects	Average scope per project in acres	Average reported costs per project	Return for labor and management	Hours of student labor per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
<u>Alfalfa</u>							
1928-29	1	6	\$134.00	\$102.00	26	\$3.92	\$3.77
1936-37	1	20	63.87	82.63	130	.64	.49
<u>Sweet clover</u>							
1927-28	1	25	257.50	126.00	218	.58	.43
<u>Native hay</u>							
1931-32	2	20	38.00	90.25	120	.75	.60

Miscellaneous enterprise projects

Table 13 takes up two miscellaneous enterprises, namely farm management, and sugar beets, that were carried as projects. Farm management work was carried as projects in two years and sugar beets were carried in three years. The number of projects varied from 1 to 6. In farm management the scope in the first year was 80 acres and in the second year it was 160 acres. In the sugar beet enterprise, all of the projects were of one acre. The only data of real interest

to the study in this table is shown in column 5 in the second year of the sugar beet enterprise. In this year sugar beets lost money. It is of interest to note that the year was 1928-29 when prices were considered to be good.

Table 13.--THE LABOR AND MANAGEMENT RETURNS PER HOUR FOR MISCELLANEOUS ENTERPRISES

Year	Number of projects	Average scope per project in acres	Average reported costs per project	Return for labor and management	Hours of student labor per project	Labor and management return per hour	Management return per hour
1	2	3	4	5	6	7	8
<u>Farm management</u>							
1922-23	2	80	\$412.97	\$476.28	817.5	\$.58	\$.43
1924-25	1	160	344.68	506.82	200	2.53	2.38
<u>Sugar beets</u>							
1924-25	2	1	46.80	21.96	55	.40	.25
1928-29	6	1	37.91	-.05	89	-.00	-.15
1929-30	1	1	24.30	17.20	25	.69	.54

Chapter V

DISCUSSION AND ANALYSIS

During the 18-year period under consideration in this study, projects were carried in eight livestock enterprises and in 22 crop enterprises. Only two enterprises were carried in each of the 18 years of the period, namely, swine in the livestock enterprises and potatoes in the crop enterprises.

Table 14 shows the enterprises carried in the 18 years and the number of years in sequence that they were carried as projects.

Table 14.--THE ENTERPRISES CARRIED IN THE 18 YEARS

Enterprise	Years	Enterprise	Years
<u>Livestock</u>		<u>Crops (continued)</u>	
Swine - - - - -	18	Wheat - - - - -	5
Beef - - - - -	16	Beans - - - - -	4
Dairy - - - - -	16	Field peas - - -	4
Chickens - - - -	16	Sugar beets - - -	3
Sheep - - - - -	15		
Rabbits - - - - -	7	<u>Miscellaneous</u>	
Bees - - - - -	6	Canning peas - -	2
Turkeys - - - - -	4	Cabbage - - - - -	2
		Alfalfa - - - - -	2
<u>Crops</u>		Farm management	2
Potatoes - - - - -	18	Carrots - - - - -	1
Lettuce - - - - -	17	Celery - - - - -	1
Garden peas - - -	17	Corn - - - - -	1
Gardens - - - - -	9	Native hay - - -	1
Strawberries - - -	7	Plants - - - - -	1
Barley - - - - -	7	Spinach - - - - -	1
Oats - - - - -	5	Sweet clover - - -	1

It will be observed from the above figures that the majority of the projects carried during the period under study have been in a relatively few of the enterprises. Occasionally ventures have been made in supposedly experimental projects in some of the minor enterprises that are possible under the prevailing growing conditions in the area.

The popularity of an enterprise can best be judged by noting how often and by how many boys projects are chosen from within the enterprise. Of the eight livestock enterprises listed in this study, the swine enterprise was the most popular. The least number of projects carried in the swine enterprise in any one year was ten, and swine were selected for 47 projects in one year. Sheep were next in popularity ranging from two selections to 19 in their highest year. Chickens were selected for projects by one student in the lowest year and by 16 in their most popular year. Beef cattle were selected as projects by two boys in their lowest year and 15 in their highest. The other livestock enterprises were selected but once or twice in any given year.

Of the crop projects, potatoes proved most popular, not only from the standpoint of being the only crop enterprises carried in all 18 years of the study, but also they were carried by more boys as a project than any other. They were chosen by 74 boys in their

best year and by ten boys in their poorest year. The swine enterprise exceeded the potato enterprise in the number of projects in the early years of the study, but in the last years the potato enterprise far exceeded the swine enterprise. None of the other crop project enterprises were exceedingly popular with the boys from the standpoint of the number of projects carried in them in any one year. Lettuce was carried by one boy in the poorest year and by 13 boys in the highest year. Numerically, garden peas were next, then sugar beets. Others ranged from one to four projects per year with most enterprises.

Not many of the enterprises have shown significant change in the frequency of selection during the entire period. Most of them have varied slightly up or down from time to time, but have not given any indication of definite tendencies to become more or less popular. Some of the project enterprises have enjoyed one or two years of exceptional popularity, but other than that have made no perceptible change other than that which could be expected with increased enrollment in the vocational agriculture classes. Enterprises which are among this group are the beef, sheep, lettuce, garden pea, and sugar beet enterprises.

Some of the enterprises, on the other hand, have shown some changes in frequency of selection which the writer feels are worth pointing out. Enterprises

included in this group are the swine, poultry, dairy and potato enterprises. Figure 1 shows how the frequency of selection of these enterprises varied. It can be seen on this graph that potatoes increased in their popularity for projects until the peak in 1934 and since that time their number has decreased, even though there has been a gradual increase in the enrollment of the four schools since that time. There is a possibility that the low returns from potato projects in 1930 and 1931 and then again in 1933 and 1934 may have had some effect on the popularity of the potato enterprise for boys' projects; but in 1936 the price was unusually good for potatoes, and the total labor income from potato projects was very favorable, being the fourth highest recorded in the 18 years. This should have increased the number of potato projects, at least in the following year, if the profit to be gained had had any effect on the popularity of the enterprise.

The swine enterprise, as shown by the graph, enjoyed a brief rise in frequency of selection during the boom period of 1928 and 1929, but has since that time settled back to the level of the early twenties. This drop in the number of swine projects might be explained in part by the fact that the depression and its effects were quite disastrous to the hog industry and made it a less popular enterprise, although it was still ranked among these most popular in spite of the decrease in

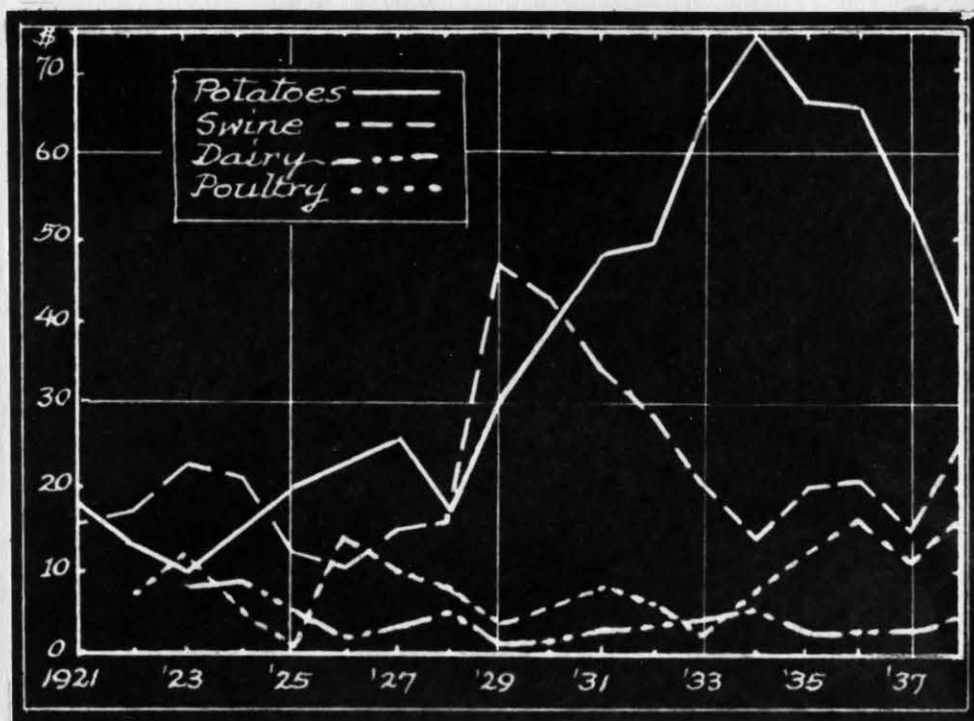


Figure 1.--Variation in the frequency of selection in four major enterprises.

number.

The dairy enterprise never showed the popularity which it should during the period of the study inasmuch as it is one of the important enterprises on most farms in the region. Not only has the dairy enterprise been none too popular, but it has shown a tendency to decrease as far as the number of projects in it are concerned. This decrease has been slight, but in the light of the increase in enrollment in the four schools during the 18 years, it seems unaccountable that such an enterprise would not show a rise in the number of projects.

Poultry has shown more up and down movement in the number of projects than have the other three enterprises shown on this graph, but seems to be pointing generally upward. This upward swing is probably due to the increased knowledge in poultry which has been disseminated to the farming public, and to better and more economical methods of handling baby chicks.

There has been considerable variation in the size of some of the projects carried in some of the enterprises, while in others there has been some degree of constancy with but little change in the scope over the entire period of years. Swine projects have shown but little change, although they have varied from an average of 1.6 head to 7 head per project. The beef enterprise has run generally from 1 to 3 head per project

excepting in two years. In one year the projects averaged 14.25 head per project and in 1928 they averaged 51 head per project for 7 projects. Sheep projects have varied from 6.5 head per project to 105 head, but there has been a general decrease in the recent years of the study. The number of head of dairy cows per project has remained consistently small during the entire period. In 1926 the projects average 7.5 head per project, which was the largest number recorded. Most of the projects ran from 1 to 3 head per project. There has been a considerable change up and down in the average number of head of poultry during the period studied. In 1933 there were 30 head of chickens per project, while in 1926 there were 200 head. There does not seem to be any definite indication that the passage of time has had any effect upon the size of chicken projects since the upward and downward swing seems to be very well distributed throughout the entire period. Turkey projects show a variation of from 2 head to 7 head per project, but this is not significant since turkey projects have only been carried in four years of the study. The scope of rabbit projects can not be indicative of anything in particular, since record of their size can only be quoted for six years. The first record given on the size of rabbit projects in 1926 shows 2 head per project. In 1932 there were 16 head per project and in 1934 there were 12. Bee projects have varied in size from 3 stands per project to 30

stands per project, but the more recent projects have been smaller.

Potato projects have shown a tendency to become smaller, although the decrease in size has not been steady, and there has been a considerable up and down swing in size. The largest acreage recorded for potato projects was 7.5 and the smallest was 1.8. Lettuce projects have been from 1 acre to 5 acres in size. Garden peas and canning peas have been for the most part from 1 to 3 acres in size, but in the first two years of the study they were larger. In 1921 they averaged 5 acres, and in 1923 they averaged 9 acres per project. No pea projects were carried in 1922. The miscellaneous vegetable projects have been small for the most part, most of them being only a fraction of an acre to an acre in size. One boy in 1923 carried a 5-acre garden project. Acreages of grain have been from 1 acre to 86 acres, but none of the grains have been carried for a sufficient length of time to give any usable data as to scope. The forage crops have averaged around 20 acres per project, except in 1928 when one boy carried 6 acres of alfalfa as his project. Sugar beets have averaged 1 acre per project in each year they were carried. Two farm management projects are recorded, one for 80 acres and the other for 160 acres.

An extremely wide spread in the cost per project was found in most of the projects. Of the eight

livestock projects, beef had the greatest difference in cost per project with a cost of \$28.05 in 1935 and a cost of \$779.09 in 1928. This difference is largely accounted for in the fact that in 1935 the average scope per project was 1 head, and in 1928 it was 51 head. Other than this one peculiarity there were no really significant trends or changes in costs per project other than those that could be expected with ever changing prices of feed and equipment.

The swine enterprise costs showed no indication that there was any relationship between the size of the project and the costs incurred in the project. The lowest cost recorded was \$24.25 in 1938 and the highest cost recorded was \$173.46 in 1926. Costs of swine projects listed in the study did show a tendency to become less with the passing years.

Costs incurred in sheep enterprises were also somewhat less in the latter years of the period. There did seem to be some relationship between cost and scope in the sheep enterprise, which was not true in swine. The lowest cost listed in sheep was \$33.11 in 1931 and the highest cost was \$615.08 in 1924.

The lowest cost of any of the larger livestock enterprises was recorded by the dairy enterprise in 1932. The cost in this year was \$11.82 and in 1928 the cost was \$227.21. There did not appear to be any direct connection to scope and cost in the dairy enterprise.

There was a slight decrease in cost in the last few years of the study.

Costs in the chicken enterprise decreased somewhat. The high cost of \$107.80 was recorded in 1925 and the low cost of \$20.38 was recorded in 1932.

The other three livestock enterprises were not carried long enough to provide much dependable data as to cost; however, the cost of keeping bee projects showed some increase. The low cost for turkeys was \$5.25 in 1934 and the high cost was \$68.45 in 1932, for rabbits \$2.75 in 1926 and \$47.25 in 1934, and for bees \$2.75 in 1926 and \$220.18 in 1933.

The costs of potato projects had no relationship to the size of the projects. Costs increased from 1921 to 1929, after which they dropped rather sharply and did not again come back to their former proportions. It is significant to note that costs were low during the periods of low income. This may be due in part to the fact that when potato prices are low the cost of seed is less, and seed is an important item of expense in potato production.

Costs of lettuce projects have varied up and down, although there has been no correlation between costs and size of project. Inasmuch as labor is the big item of expense in the cost of lettuce production, it is possible that the price of labor has had a good deal to do with the changes in costs. It will be seen

by referring to Table 8 in the preceding chapter, that there is a definite relationship between the number of hours of student labor per project and the costs per project.

There was a slight upward tendency in costs of pea projects. This increase has probably been partly due to higher priced seed, and the necessity for greater expenditures in controlling pests. The writer could find nothing of significance in the costs recorded for the miscellaneous vegetable enterprises. Variations in the costs of grain projects seems to be more or less related to the size of the projects.

The number of hours which the students spend on their projects were included in this thesis in an effort to discover if there was any relationship between the amount of time per project and the incomes derived from the projects. It is also of interest to note the different amounts of time spent on different types of enterprises and the variation of time within the project years. There is no definite relationship between the amount of time that boys spent on their projects and the total incomes from the projects. The time factor is more plainly reflected in the labor and management return per hour, and the management return per hour. A large income, coupled with few hours of student labor, resulted in abnormally large labor and management, and management, returns per hour in some cases.

The labor devoted to swine projects varied from 36 hours per project to 94.5 hours per project, but did not seem to show any relationship to the size of the project.

In the beef enterprise, projects seemed to require slightly less time per project than in the swine enterprise. Beef projects required from 15 to 71 hours per project.

Sheep projects showed a wider spread in the hours per student than did beef or swine projects. The lowest amount of time spent on a sheep project was 23.5 hours, and the highest was 146 hours.

Dairy projects required the most time of any of the livestock enterprises, and showed an extremely wide variation in some instances, with three years being unusually low in comparison to the other years. In 1932, only 19 hours were spent per project, while in 1924 the boys spent 308 hours on each project.

The chicken enterprise did not show any surprising changes in the amount of time spent per project, varying from 29 to 84.4 hours per project. Turkeys, on the other hand, displayed quite a wide spread with the number of hours running from 10 to 144.

Both rabbit and bee enterprise projects varied extensively in the high and low years, but otherwise showed a rather even trend. The low number of hours spent in rabbit projects was 15, and the high number of

hours was 158. In bees the low was 15 hours and the high was 171 hours.

Probably the most significant bit of information discovered concerning the amount of time spent by students on potato projects was that there was a slight decrease in the amount of time required per project with the passing of time. On the whole this might be due to a slight reduction in the size of the projects in the latter years of the study.

A wide spread was observed in the amount of time spent on lettuce projects. This fact is reflected in the cost column as mentioned previously in the discussion. It appears from a study of lettuce projects, that there might be some correlation between the income per project and the amount of time spent on each project, although this is not borne out in every instance. Variations in the number of hours spent per project were from 42 to 262.5. During the year that only 42 hours were spent per project, the income was \$6.51 per project; and in the year that 262.5 hours were spent on the projects, the income per project was \$417.22 which also was the highest income per project.

The 6 hours spent per project in the first year of the study in which garden peas were carried was really the only unusual fact concerning the hours spent on garden peas.

The number of hours spent per project on

canning pea projects in both years in which the enterprise was carried were low in comparison with other enterprises.

The data on miscellaneous vegetable projects showed variations from as low as 10 hours per project to as high as 123.5 hours per project, but did not disclose any usable facts.

Student labor on grain projects showed a wide spread from 9 hours per project to 500 hours per project. The hours spent per project did not, however, seem to have any connection with the other data of the study.

The hours of labor per project for forage enterprises varied somewhat and seemed to be related to the size of the projects.

In sugar beets there is an unaccountable variation in the time spent per project from 25 hours to 89 hours.

The farm management enterprise recorded the greatest number of hours per project. The smallest project in 1922 required 817.5 hours per project, while the project carried in 1924, which was twice as large, required only 200 hours.

The most important data contained in this thesis in finding the relative achievements of the students in vocational agriculture in their farm practice projects is the labor and management return per project.

Some of the enterprises were not carried in a sufficient number of years to provide any truly significant results, but fairly satisfactory information was gained on a large number of the enterprises.

Figure 2 lists all of the enterprises carried in the 18 years under consideration, the number of years that each was carried, and gives the average income per project for the period that each was carried.

The farm management enterprise gave the largest average total return. This was undoubtedly due to the large scope of the projects carried on in this enterprise. Of the normal sized projects, potatoes gave the greatest average returns over the entire period of time. The average return per year from potatoes was \$247.64. Green beans were only carried in four years of the period, but made an average loss per year of \$8.91. The only other enterprise to fall into the loss column in average yearly income was cabbage with a loss of \$.85 per year.

The more important crop enterprises exceeded the more important livestock enterprises in yearly income.

Figure 3 shows the total return to labor and management graphically by years for four of the more important livestock enterprises. There was a considerable up and down variation in the incomes of these projects as a whole, with the dairy enterprise showing

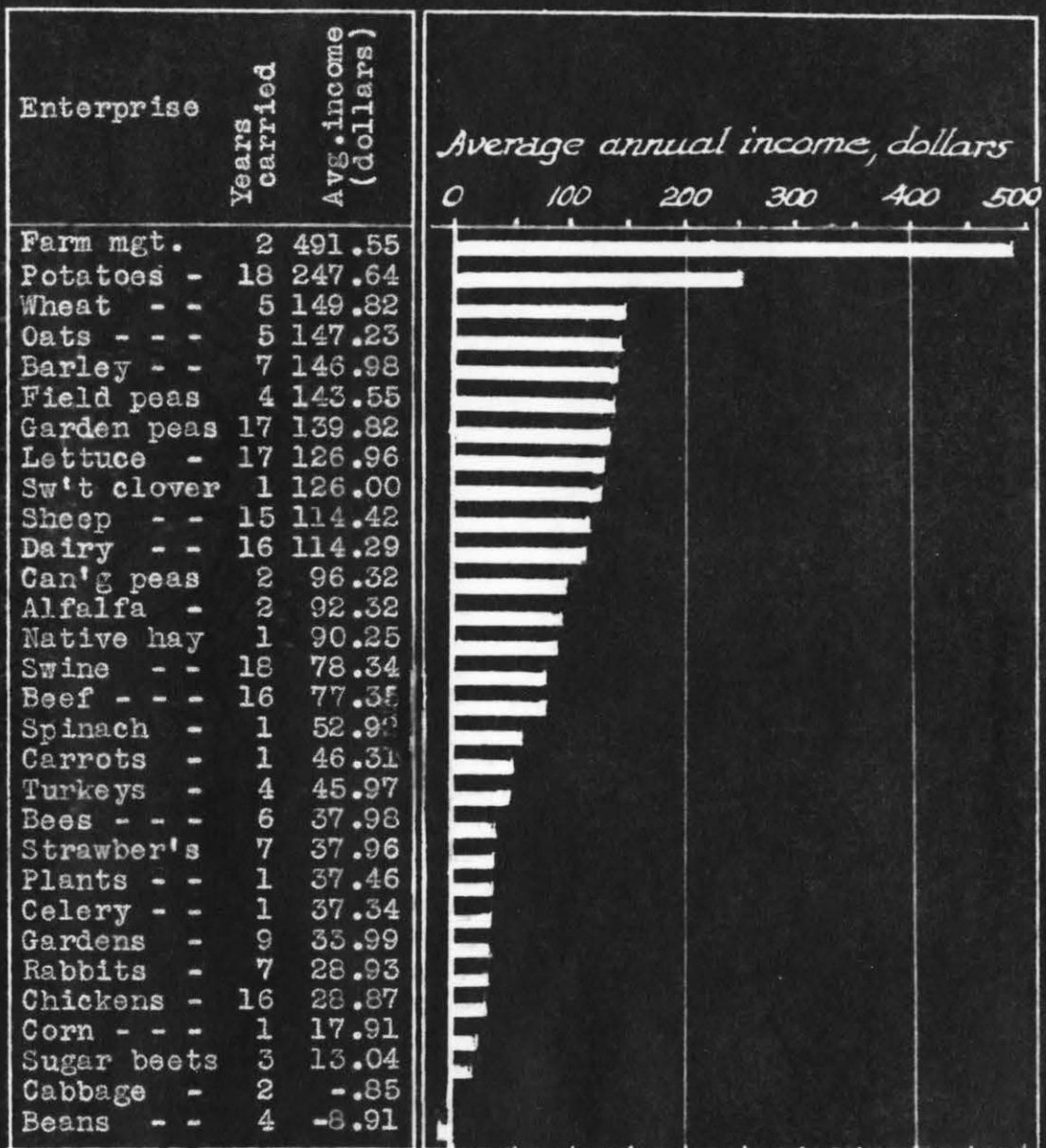


Figure 2.--Average annual income per project.

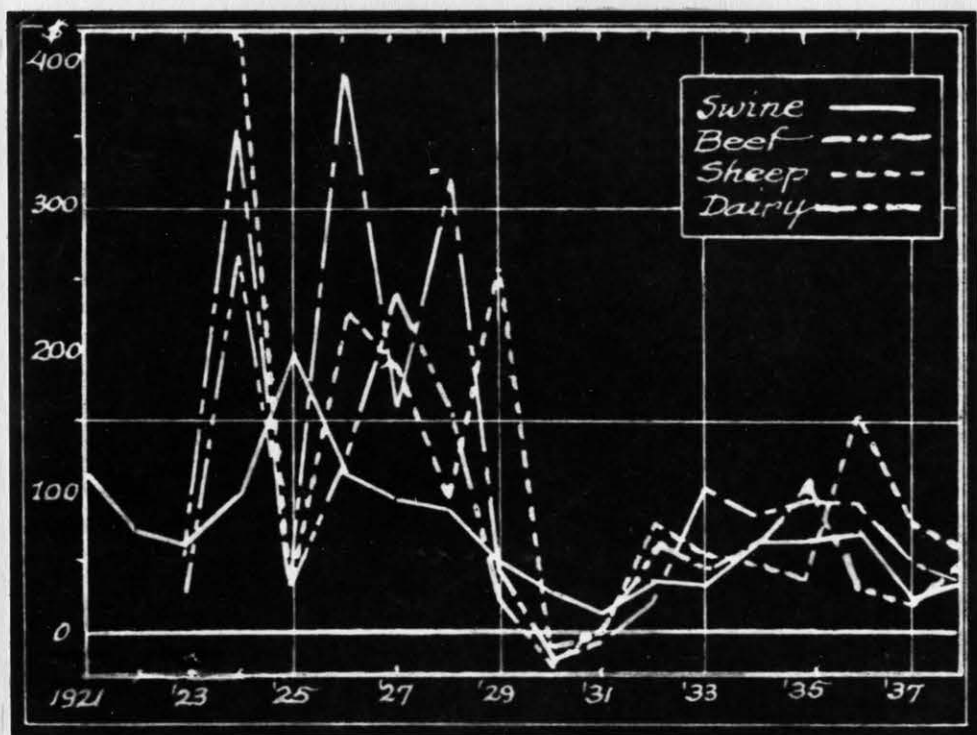


Figure 3.--The total incomes from the major livestock enterprises.

the greatest changes, followed closely by sheep. Swine showed the least variations of any of the others.

The total incomes from all four of the enterprises were lower in the last years of the period. Swine was the only one of the four enterprises which did not show a loss during 1930 and 1931.

The dairy enterprise gave the highest return of the four during the first year that it was carried.

The total returns per project for the three most important crop enterprises are graphically illustrated in Figure 4. The results of the crop enterprises shown in this graph were quite comparable to those in Figure 3 on livestock. A wide variation is shown in the incomes of the enterprises given.

The income per project decreased with the passage of time, although this tendency is not so sharply pronounced in the crop enterprises as in the livestock enterprises.

In 1927 the garden pea enterprise projects exceeded \$1000.00 per project, which was the largest return for labor and management made by any enterprise during the entire 18 years. Potatoes returned more than \$880.00 in total income per project in 1924. None of the project enterprises were in the loss column, although both lettuce and potatoes were very close to the border line in a couple of years.

Probably the best criteria for judging the

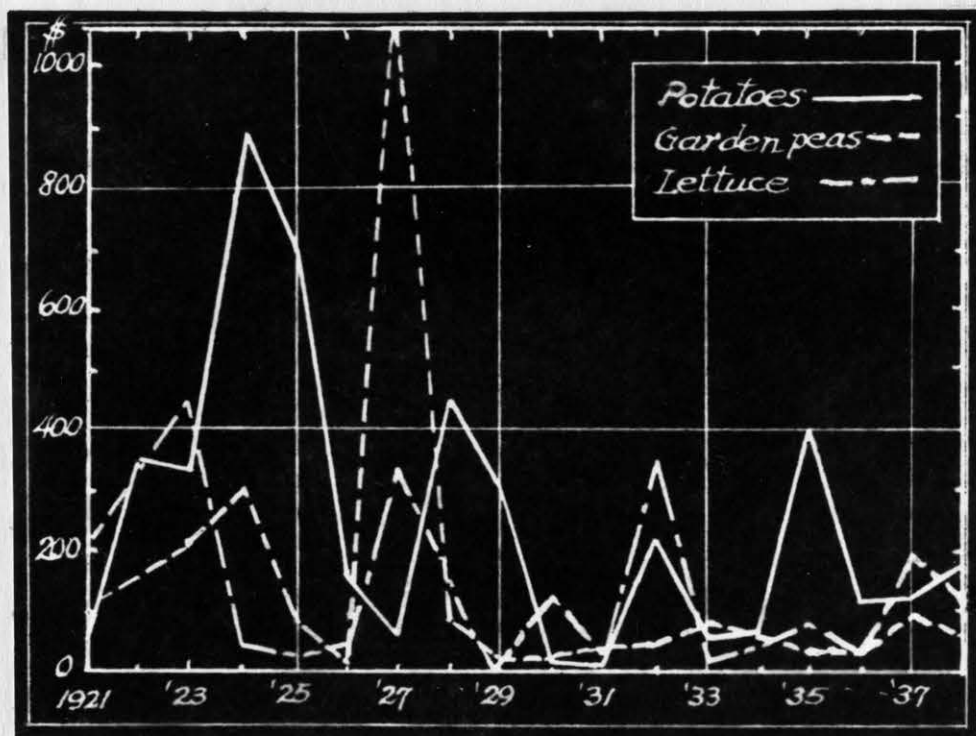


Figure 4.--The total incomes from the major crop enterprises.

profitableness of any enterprise is the return to management per hour of labor spent on the projects within the enterprise. In most cases there was a considerable variation in this factor from year to year depending upon the total labor and management return and the number of hours that pupils spent on the projects. In most of the projects, the management return per hour varied from reasonably high figures to quite low figures, with some enterprises showing a loss to management in one or two years. The greatest loss to management occurred in the bean enterprise in 1935, when a loss of \$1.01 occurred.

Figure 5 illustrates the average returns per hour to management for all of the enterprises. Canning peas gave the largest returns with \$6.22, and beans again proved the lowest with a loss of \$.33.

Slightly over half of the enterprises gave average returns to management of over \$1.00. In spite of the fact that some of the project enterprises have not been carried in enough years to make data concerning them very accurate, it would be safe to conclude that most of the projects carried could be counted on to provide some return to management in average years.

It is the opinion of the writer that any of the projects which have been carried in a majority of the years studied, and which have yielded a reasonable average return to management for the entire time, could

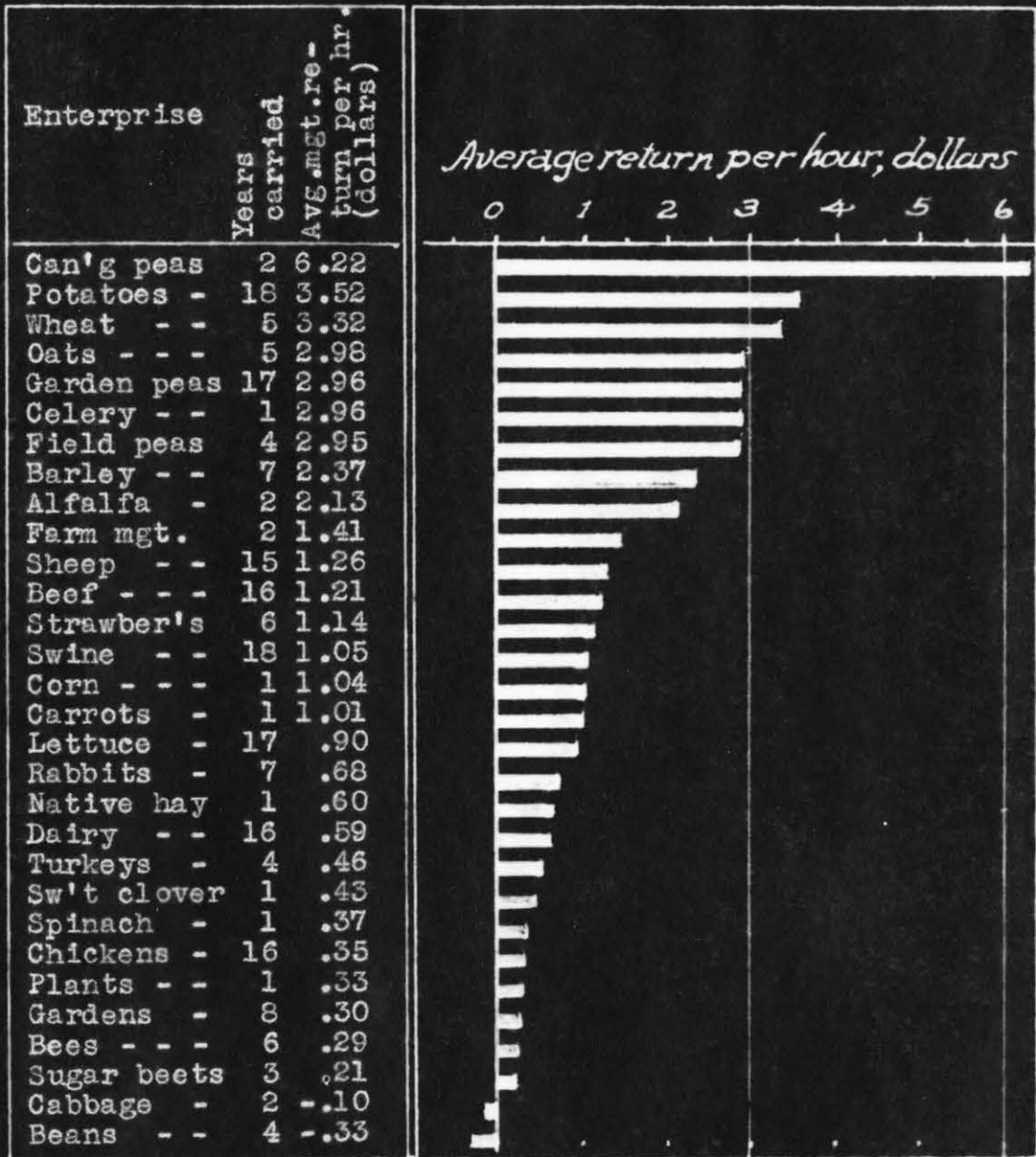


Figure 5.--The average return to management per hour for each enterprise.

be recommended as future projects.

Some of the more select enterprises which have never shown a loss to management are the following:

- | | |
|----------------|-----------------|
| 1. Swine | 5. Strawberries |
| 2. Chickens | 6. Wheat |
| 3. Rabbits | 7. Field peas |
| 4. Garden peas | |

There were other projects carried in the 18 years which did not show any loss, but they were only carried in one or two years and cannot be considered as having been properly tested.

Chapter VI

SUMMARY AND CONCLUSIONS

In this thesis the writer has tried to show the relative achievements in the home project work in vocational agriculture conducted by the vocational agriculture students in the schools of Center, Del Norte, Monte Vista, and Sargent, Colorado. The study covered the 18-year period from 1921 to 1939. In studying this problem, the writer took the following things into consideration:

1. Within what farm enterprises have projects been carried?
2. What were the scopes of the crop and of the livestock projects?
3. What enterprises were carried most often in any given year?
4. What were the total labor and management incomes per project?
5. What were the total reported costs per project?
6. How much pupil time was spent per project?

Enterprises carried as projects.---There were eight livestock enterprises carried by boys as projects during the period of which the following five were the most popular:

- | | | |
|----------|-------------|----------|
| 1. Swine | 3. Dairy | 5. Sheep |
| 2. Beef | 4. Chickens | |

Twenty-two crop enterprises were carried by students as farm projects during the period. The following three crop projects were carried most often:

- | | |
|-------------|----------------|
| 1. Potatoes | 3. Garden peas |
| 2. Lettuce | |

Size of projects.--In general the size of projects were of average scope with occasional projects assuming larger size. The average size of projects was about as follows:

- | | |
|----------------------|-------------------------|
| 1. Swine, 3 head | 1. Potatoes, 4 acres |
| 2. Beef, 2 head | 2. Lettuce, 2 acres |
| 3. Sheep, 20 head | 3. Garden peas, 2 acres |
| 4. Dairy, 2 head | |
| 5. Chickens, 60 head | |

Costs per project.--The costs per project varied somewhat for all enterprises. The following table shows the low and high costs for each of the important enterprises:

<u>Enterprise</u>	<u>High</u>	<u>Low</u>
1. Swine - - - - -	\$162.89	\$24.25
2. Beef - - - - -	779.09	28.05
3. Sheep - - - - -	615.08	33.11
4. Dairy - - - - -	223.13	11.82
5. Chickens - - - - -	107.80	20.38
1. Potatoes - - - - -	343.28	81.12
2. Lettuce - - - - -	371.56	9.50
3. Garden peas - - - - -	226.17	32.98

Pupil hours per project.--The amount of time spent by the students on each project varied from 6 hours to 817.5 hours. The average number of hours spent on each project in the more important enterprises were as follows:

<u>Project</u>	<u>Hours</u>	<u>Project</u>	<u>Hours</u>
1. Swine - - - -	50	1. Potatoes - - -	70
2. Beef - - - -	45	2. Lettuce - - -	120
3. Sheep - - - -	50	3. Garden peas -	50
4. Dairy - - - -	150		
5. Chickens - - -	50		

Average income per project.--The average income per project was rather high in most cases. Two project enterprises showed losses. The average income per project for the eight important enterprises and the two losing enterprises were as follows:

<u>Project</u>	<u>Income</u>	<u>Project</u>	<u>Income</u>
1. Swine - - - -	\$ 78.34	1. Potatoes - -	\$247.64
2. Beef - - - -	77.35	2. Lettuce - -	126.96
3. Sheep - - - -	114.42	3. Garden peas	139.82
4. Dairy - - - -	114.29	4. Cabbage - -	-.85
5. Chickens - - -	28.87	5. Beans - - -	-8.91

Average return to management per project.--
 In farm management studies, the return to management per hour of labor is considered to be an acceptable criteria of the success of an enterprise. The following are the average returns to management for the eight important enterprises and the two enterprises which showed average losses:

<u>Project</u>	<u>Returns</u>	<u>Project</u>	<u>Returns</u>
1. Swine - - - -	\$1.05	1. Potatoes -	\$3.52
2. Beef - - - -	1.21	2. Lettuce -	.90
3. Sheep - - - -	1.26	3. Garden peas	2.96
4. Dairy - - - -	.59	4. Cabbage -	-.10
5. Chickens - -	.35	5. Beans - -	-.33

Conclusions.--The writer concludes from this study that the students who carried projects during the 18 years studied in the area under consideration for the most part carried projects which were the more important enterprises in actual farm practice. By carrying projects particularly related to true farming situations, the students become better able to enter into farming after completing their school work.

Problems for further study.--In pursuing this study the writer discovered a number of problems which he believes deserving of further study. There seems to be a definite need for some kind of project standards set up for the State of Colorado to be used as a basis of judging how worth while are student projects. A definite system to be used in recording the data on the final project reports should be worked out and established. In recording production on projects, there is an urgent need for uniformity; for example, some live-stock projects are recorded in heads while others are recorded in pounds. There is a need for established minimum standards of student labor on the projects that are to receive credit.

APPENDIX

	Page
Master chart of raw data - - - - -	80
Bibliography - - - - -	98

MASTER CHART OF RAW DATA
1921-22

Item	No.	Scope	Pro- duction	Total income	Total cost	Total labor
Swine			<u>1/</u>			
Sow & litter						
(head) - - -	16	2		\$114.68	\$70.06	63 hrs
Shoats						
(head) - - -						
(pounds) - -						
Chickens						
Eggs - - - -						
Broilers - -						
Turkeys - - -						
Beef						
(head) - - -						
(pounds) - - -						
Sheep						
(head) - - -						
(pounds) - -						
Dairy milk - -						
Spinach - - -						
Dairy b. f. -						
Rabbits - - -						
Strawberries -						
Potatoes - - -	18	7a		56.35	255.99	91
Lettuce - - -	2	5a		200.63	145.00	248
Garden peas -	1	5a		94.28	67.30	6
Canning peas -						
Wheat - - - -						
Oats - - - -						
Barley - - - -						
Beans - - - -						
Vegetables - -						
Alfalfa - - -						
Cabbage - - -	1	1a		-12.95	39.63	63
Field peas - -						
Farm mgt. - -						
Sugar beets -						
Bees - - - -						
Sweet clover -						
Native hay - -						
Celery - - - -						
Plants - - - -						
Corn - - - -						
Carrots - - -						

1/ No production recorded.

MASTER CHART OF RAW DATA (continued)

1922-23

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter						
(head) - -	14	1.5	8.8	\$63.13	\$83.98	96
Shoats						
(head) - -	3	24		116.76	318.64	88
(pounds) -						
Chickens						
Eggs - - -	7	88		12.42	62.83	69
Broilers -						
Turkeys - -	1	7	53	162.33	68.45	144
Beef						
(head) - -						
(pounds) -						
Sheep						
(head) - -						
(pounds) -						
Dairy milk -						
Spinach - -						
Dairy b. fat						
Rabbits - -						
Strawberries						
Potatoes - -	13	5.75a	483	354.91	226.60	160.5
Lettuce - -				108.33		
Garden peas						
Canning peas						
Wheat - - -	1	12 a	480 bu.	309.08	309.32	500
Oats - - -						
Barley - - -						
Beans - - -						
Vegetables -						
Alfalfa - -						
Cabbage - -						
Field peas -			(15.5T.alf			
Farm mgt. -	2	80	(2813 bu.	476.28	412.97	817.5
Sugar beets			(gr.&spuds			
Bees - - -						
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)

1923-24

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow and litter (head) - - -	21	2 hd		\$61.92	\$63.18	43
Shoats (head) - - -	1	50 hd		70.78	280.97	51
(pounds) - -						
Chickens						
Eggs - - - -	12	45 hd		27.14	38.51	59.5
Broilers - -						
Turkeys - - -						
Beef						
(head) - - -	5	2 hd		28.19	84.99	53
(pounds) - -						
Sheep						
(head) - - -						
(pounds) - -						
Dairy milk - -	8	1.5	5222#	55.45	95.67	106
Spinach - - -						
Dairy b. fat -						
Rabbits - - -						
Strawberries -	4	.1a	24.5gal	24.08	6.31	64.5
Potatoes - - -	10	7.5a		337.05	272.27	71
Lettuce - - -	2	2-1/8	508cr.	417.22	211.42	262.5
Garden peas -	1	9 a	7200#	213.68	38.76	64
Canning peas -						
Wheat - - - -						
Oats - - - -						
Barley - - - -						
Beans - - - -						
Vegetables - -	1	5 a		46.71	49.35	102
Alfalfa - - -						
Cabbage - - -						
Field peas - -	2	86		327.19	284.60	47
Farm mgt. - -						
Sugar beets -						
Bees - - - -						
Sweet clover -						
Native hay - -						
Celery - - - -						
Plants - - - -						
Corn - - - -						
Carrots - - -						

MASTER CHART OF RAW DATA (continued)
1924-25

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter						
(head) - - -	19	2 hd		\$103.80	\$105.50	52
Shoats						
(head) - - -	2	8 hd	1400#	65.96	138.10	16
(pounds) - -						
Chickens						
Eggs - - - -	5	38 hd	191dz.	48.94	61.44	59
Broilers - -						
Turkeys - - -						
Beef						
(head) - - -	3	3	1 hd	22.33	113.33	55
(pounds) - -	1	54 hd	66,988#	995.40	398.00	120
Sheep						
(head) - - -	3	52 hd	57 lambs	420.66	615.08	80
(pounds) - -						
Dairy milk - -	9	3 hd	6,084#	354.20	183.79	308
Spinach - - -						
Dairy b. fat - -						
Rabbits - - -						
Strawberries -	1	.1 a		77.00	35.50	
Potatoes - - -	15	5.25 a	440.5sks	887.20	22.81	68
Lettuce - - -	6	1.5 a	180 cr.	51.51	50.12	75
Garden peas -	3	1.1/3a	3250#	305.49	44.40	39
Canning peas -						
Wheat - - - -						
Oats - - - -						
Barley - - - -	1	15 a	2000#	601.87	139.98	85
Beans - - - -						
Vegetables -	1	1.25 a	10,780#	130.00	67.55	108
Alfalfa - - -						
Cabbage - - -						
Field peas - -	4	20 a		216.48	89.36	69
Farm mgt. - -	1	160 a		506.82	344.68	200
Sugar beets -	2	1 a	21,411#	21.26	46.80	55
Bees - - - -						
Sweet clover -						
Native hay - -						
Celery - - - -						
Plants - - - -						
Corn - - - -						
Carrots - - -						

MASTER CHART OF RAW DATA (continued)
1925-26

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -	2	2 hd		\$91.32	\$62.08	48
Shoats (heads) (pounds) -	10	3	15,953#	212.03	222.34	85.5
Chickens						
Eggs - - -	1	50 hd	290 dz.	27.85	107.80	72
Broilers -						
Turkeys - -						
Beef						
(head) - -	1	6	2 hd	70.00	586.00	30
(pounds) -	5	2 hd	378#	28.00	19.69	31.5
Sheep						
(head) - -	1	10 hd	8	69.30	30.00	8
(pounds) -	3	35 hd	1420#	21.52	666.50	100
Dairy milk -	1	1 hd	1984#	25.00	110.00	75
Spinach - -						
Dairy b. fat	4	1 hd	333#	50.02	154.92	129
Rabbits - -						
Strawberries						
Potatoes - -	20	4.9 a	689.5sk	698.77	276.75	124
Lettuce - -	1	1 a	56 cr	25.50	9.50	50
Garden peas	3	.8a	2620#	90.40	46.67	127
Canning peas						
Wheat - - -						
Oats - - - -						
Barley - - -	1	10 a	9250#	30.35	148.50	96
Beans - - - -						
Vegetables -	3	1/6 a		25.80	14.70	33
Alfalfa - -						
Cabbage - -						
Field peas -						
Farm mgt. -						
Sugar beets						
Bees - - - -						
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)

1926-27

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -						
Shoats (head) - -						
(pounds) -	10	2 hd	15,845#	\$114.14	\$173.46	57
Chickens						
Eggs - - -	3	62	90 dz	19.82	15.68	24
Broilers -	11	238	331#	49.20	35.28	51
Turkeys - -						
Beef						
(head) - -						
(pound) - -	3	2 hd	1256#	118.04	74.79	29
Sheep						
(head) - -	1	8	5 hd	63.00	37.00	40
(pound) - -	3	24	3250#	280.03	320.87	171
Dairy milk -	1	14 hd	856,734#	710.90	286.40	238
Spinach - -						
Dairy b. fat	1	1 hd	67#	73.75	159.85	116
Rabbits - -	1		193#	56.67	2.75	15
Strawberries						
Potatoes - -	23	2.8 a	608 sks	165.14	239.45	60.25
Lettuce - -	5	1.4 a	108 cr	59.64	46.42	79
Garden peas	4	1.2 a	1290#	11.69	18.20	24
Canning peas						
Wheat - - -						
Oats - - -						
Barley - - -	1	20 a	14,800#	159.00	87.00	128
Beans - - -						
Vegetables -						
Alfalfa - -						
Cabbage - -						
Field peas -						
Farm mgt. -						
Sugar beets						
Bees - - - -	1	6 st	42#	3.45	2.75	15
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)
1927-28

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter						
(head) - -	4	4 hd	31 hd	\$163.04	\$336.67	142
Shoats						
(head) - -						
(pound) - -	11	4	1373 #	71.99	99.70	61
Chickens						
Eggs - - -	7	51 hd	152 dz	49.19	35.52	48
Broilers - -	3	100		23.43	39.27	35
Turkeys - -						
Beef						
(head) - -	2	4.5hd		242.65	85.30	89
(pound) - -						
Sheep						
(head) - -	2	11	7 hd	126.55	244.30	84.5
(pound) - -	2	31	2671#	229.48	487.07	37
Dairy milk - -	2	2 hd	9068#	239.31	134.11	265.5
Spinach - -						
Dairy b. fat	1	1 hd		2.00	39.25	6
Rabbits - -	1	2	11 hd	14.84	32.61	53.5
Strawberries						
Potatoes - -	26	5 a	744 sks	58.13	220.94	80
Lettuce - -	7	1 1/7a	421 cr	323.33	166.21	104
Garden peas	3	2 3/8a	5235#	1069.34	226.17	79
Canning peas						
Wheat - - -	1	9 a	300 bu	124.52	235.35	101.5
Oats - - - -						
Barley - - -						
Beans - - - -						
Vegetables -						
Alfalfa - - -						
Cabbage - - -						
Field peas - -						
Farm mgt. - -						
Sugar beets						
Bees - - - -						
Sweet clover	1	25 a	3000#	126.00	257.50	218
Native hay - -						
Celery - - - -						
Plants - - - -						
Corn - - - - -						
Carrots - - - -						

MASTER CHART OF RAW DATA (continued)

1928-29

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -	2	2.5	17.5	\$153.32	\$40.88	21
Shoats						
(head) - -						
(pound) -	14	3 hd	1785#	80.35	95.02	66
Chickens						
Eggs - - -	7	46 hd	149.5dz	43.46	21.96	82
Broilers -	1	80 hd	70 hd	17.00	63.00	55
Turkeys - -	2	2.5	244#	13.48	41.07	68.5
Beef						
(head) - -	1	7 hd		-40.00	727.13	85
(pound) - -	6	58 hd	8369#	196.71	787.75	68
Sheep						
(head) - -	1	48	17 hd	144.50	354.00	50
(pound) - -	5	19 hd	4351#	93.23	81.77	90
Dairy milk -	3	3 1/3	15,151#	501.75	324.02	245
Spinach - -						
Dairy b. fat	2	2 hd	234.5#	47.00	82.00	90
Rabbits - -						
Strawberries						
Potatoes - -	17	4 a	477 sks	460.42	325.34	90
Lettuce - -	4	4 a	644.5 cr	158.41	371.56	192.5
Garden peas	7	3 a	7526#	92.13	146.48	71
Canning peas						
Wheat - - -						
Oats - - - -	1	2.5 a	227 bu.	126.92	21.89	28
Barley - - -						
Beans - - -						
Vegetables -						
Alfalfa - -	1	6 a	15 T.	102.00	134.00	26
Cabbage - -						
Field peas -						
Farm mgt. -						
Sugar beets						
Bees - - - -						
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)

1929-30

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter						
(head) - -						
Shoats						
(head) - -						
(pounds) -	47	5.5 hd	1414#	\$ 50.33	\$157.91	36
Chickens						
Eggs - - -	2	47	1709.5dz	36.92	99.95	30
Broilers -	2	120 hd	61#,94hd	32.39	30.70	52
Turkeys - -						
Beef						
(head) - -						
(pounds) -	3	1 2/3	423#	26.57	98.92	60
Sheep						
(head) - -	2	34 hd	41	262.53	172.13	102
(pounds) -						
Dairy milk -	1	1	5527#	62.77	217.00	205
Spinach - -						
Dairy b. fat	1	1	97.5#	20.79	134.48	55
Rabbits - -	1	5 hd	14 hd	13.00	31.50	57.5
Strawberries						
Potatoes - -	30	6 a	659.5sks	296.30	343.28	70
Lettuce - -	4	2 1/3	80 cr.	616.15	47.17	42
Garden peas	4	1 a	1354#	17.71	32.98	65.5
Canning peas	2	2.5 a	16.5 bu.	50.70	14.40	28
Wheat - - -						
Oats - - - -	3	11 a	173 bu.	59.90	157.27	18
Barley - - -						
Beans - - -						
Vegetables -	2	3/8 a		10.79	10.57	66
Alfalfa - -						
Cabbage - -						
Field peas -	1	3		6.18	7.78	9
Farm mgt. -						
Sugar beets	6	1 a	23,454#	-.05	37.91	89
Bees - - - -						
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)
1930-31

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -						
Shoats (head) - -	12	4 hd		\$60.84	\$62.42	50 1/3
(pounds) -	30	1 1/2	817#	18.08	46.41	42
Chickens						
Eggs - - -						
Broilers -						
Turkeys - -						
Beef						
(head) - -	4	2 hd	2 hd	9.94	64.46	50
(pounds) -	4	4 1/2	3469 1/2#	-38.45	224.76	39 1/2
Sheep						
(head) - -						
(pounds) -	13	10.7	237#	-9.42	74.62	25
Dairy milk -	2	1.5		-19.59	70.28	41
Spinach - -						
Dairy b. fat						
Rabbits						
Strawberries						
Potatoes - -	39	3 a	161.7	5.13	102.82	44
Lettuce - -	3	1 a	161 cr	120.81	52.38	117
Garden peas	2	3 a	3376#	12.93	116.52	56
Canning peas	2	2.5a	49 bu	141.94	17.87	13
Wheat - - -						
Oats - - - -						
Barley - - -						
Beans - - -	1	1.5a	2/3 bu	-18.69	27.92	51
Vegetables -						
Alfalfa - -						
Cabbage - -						
Field peas -						
Farm mgt. -						
Sugar beets	1	1 a	14,000#	17.20	24.30	25
Bees - - - -						
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)

1931-32

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter			(14)			
(head) - -	8	6.5 hd	(1 proj.	\$28.14	\$49.43	56
Shoats - -			(1984#			
(head) - -	2	16	(16 hd	28.95	79.29	29
(pounds) -	24	1.8 hd	1372#	14.78	58.39	51.5
Chickens						
Eggs - - -	5	144 hd	(146 dz			
Broilers -	3	83 hd	32 pul.	29.88	80.02	107.5
Turkeys - -	1	5 hd	68 hd	9.25	20.43	46
Beef			5 hd	-2.60	42.55	55
(head) - -						
(pounds) -	5	3.4hd	1378#	3.29	92.34	26.5
Sheep						
(head) - -	4	11 hd	3 hd	-3.25	18.39	49
(pounds) -	3	10 hd	571#	3.48	52.74	43
Dairy milk -	1	6 hd	12,223	-38.22	227.06	276
Spinach - -						
Dairy b. fat	2	1 hd		15.00	75.35	47.5
Rabbits - -	1	6	55 hd	18.53	19.00	49.5
Strawberries	1		31.25 gal.	35.90	1.70	11.5
Potatoes - -	48	3.5 a	281 sks	1.90	81.12	60.5
Lettuce - -	4	1.1 a	101.5 cr	14.79	42.76	57
Garden peas	5	2.1 a	3446#	47.77	73.25	88
Canning peas						
Wheat - - -						
Oats - - - -	1	5	9600#	.42	37.11	27.5
Barley - - -	2	7.5 a	21,080#	68.49	93.21	16
Beans - - -						
Vegetables -	4	.36 a	776#	16.73	15.84	48
Alfalfa - -						
Cabbage - -						
Field peas -						
Farm mgt. -						
Sugar beets						
Bees - - - -	1	3 st		20.30	11.10	32
Sweet clover						
Native hay -	2	80	17.5 T	90.25	38.00	120
Celery - - -						
Plants - - -						
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)
1932-33

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -	2	1.5 hd	9.5 hd	\$17.67	\$19.95	4.5
Shoats						
(head) - -						
(pounds) -	26	3 hd	5077.5#	39.57	26.51	48
Chickens						
Eggs - - -	1	16 hd	197.5dz	13.09	18.50	88
Broilers -	5	60 hd	49	4.55	20.76	17
Turkeys - -						
Beef						
(head) - -	6	2 1/3	2 1/3	43.88	31.94	15
(pounds) -	2	5 hd	3550#	111.92	48.13	14
Sheep						
(head) - -						
(pounds) -	5	105	9568#	71.84	509.16	25
Dairy milk -						
Spinach - -						
Dairy b. fat	3	2 1/3	(58.22# 2 hfrs	21.29	11.82	19
Rabbits - -	1	16	136 hd	47.30	25.01	158
Strawberries	1	.25 a	74.25 gal	59.40	4.10	27
Potatoes - -	50	4.1 a	401 sks	217.61	131.81	56
Lettuce - -	3	1 2/3	305 a	343.23	42.68	66
Garden peas	2	3 a	3653#	48.07	61.22	54
Canning peas						
Wheat - - -						
Oats - - - -						
Barley - - -						
Beans - - - -						
Vegetables -	3	.25 a		22.46	10.28	
Alfalfa - -						
Cabbage - -						
Field peas -						
Farm mgt. -						
Sugar beets						
Bees - - - -	1	20 st	1920#	75.20	29.00	98
Sweet clover						
Native hay -						
Celery - - -	1	800 plts	82 dz	37.34	8.98	12
Plants - - -						
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)

1933-34

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -	1	1	15 hd	\$29.50	\$37.40	31
Shoats (head) - - (pounds) -	19	1.6 hd	1473#	33.14	51.46	41
Chickens						
Eggs - - -	2	30 hd	129 dz	8.72	27.20	52
Broilers - -						
Turkeys - -						
Beef						
(head) - -	2	2.5hd	2.5 hd	102.95	11.40	29
(pounds) -	3	1 1/3	667#	10.20	48.70	15
Sheep						
(head) - -						
(pounds) -	6	19 hd	1197#	56.74	119.39	47 1/3
Dairy milk -	3	2.5 hd	4725#	64.44	90.18	220
Spinach - -						
Dairy b. fat	1	3 hd	388.29#	217.10	154.25	125
Rabbits - -	1	8 hd	78 hd	38.40	22.00	60
Strawberries						
Potatoes - -	65	2.8 a	167.5sks	60.06	98.27	41
Lettuce - -	5	1.5 a	133 cr	8.59	78.83	88.5
Garden peas	6	2.3 a	2672#	75.87	66.52	96
Canning peas						
Wheat - - -	1	25 a	283 1/3b	202.00	39.00	20
Oats - - - -						
Barley - - -	1	1 a	4860#	19.90	62.90	48
Beans - - - -						
Vegetables -	4	.25 a		40.78	18.19	86
Alfalfa - -						
Cabbage - -						
Field peas -						
Farm mgt. -						
Sugar beets						
Bees - - - -	1	30 st	3200#	94.57	202.18	171
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)

1934-35

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -	1	1 hd	5 hd	\$52.55	\$30.15	38
Shoats						
(head) - -						
(pounds) -	13	2 3/13 hd	1048#	69.58	51.77	31
Chickens						
Eggs - - -	5	47 hd	262 dz	29.09	47.10	63
Broilers -	2	50 hd	45 hd	6.85	20.43	53
Turkeys - -	1	2 hd	144#	10.67	5.25	10
Beef						
(head) - -	4	2.5 hd	2.5 hd	87.66	27.49	14.5
(pounds) -	4	3.5 hd	1572#	37.69	138.84	76.5
Sheep						
(head) - -						
(pounds) -	5	23 hd	2484#	49.47	230.26	146
Dairy milk -	6	1 hd	9457#	82.77	114.57	173
Spinach - -						
Dairy b. fat						
Rabbits - -	1	12 hd	282#	13.75	47.25	65
Strawberries	1	1/2 a	65 gal	41.40	28.50	49
Potatoes - -	74	1 1/8A	244 sks	73.64	95.68	87.7
Lettuce - -	4	1.1 a	145.5 cr	36.96	39.16	60
Garden peas	5	1.6 a	8937#	66.84	87.09	111
Canning peas						
Wheat - - -	2	4.5 a	90.5 bu	42.27	33.65	45.5
Oats - - -	1	8 a	33,500#	180.88	110.92	45
Barley - - -						
Beans - - -	2	1.6 a	1551.5#	2.01	65.99	119
Vegetables -						
Alfalfa - -						
Cabbage - -	2	1 a	6800#	11.25	49.85	123.5
Field peas -						
Farm mgt. -						
Sugar beets						
Bees - - -						
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)
1935-36

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -	2	1 hd	8.5 hd	\$ 6.37	\$54.35	42.5
Sheeps						
(head) - -						
(pounds) -	18	4.25 hd	1113#	73.69	55.41	53
Chickens						
Eggs - - -	3	55 hd	419.5dz	59.60	62.60	83
Broilers -	9	104 hd	79 hd	30.65	38.52	70
Turkeys - -						
Beef						
(head) - -						
(pounds) -	2	1 hd	748.5#	104.59	28.05	41
Sheep						
(head) - -						
(pounds) -	8	6.5	598#	36.56	53.71	36
Dairy milk -	3	1 hd	2328#	94.87	82.00	112
Spinach - -	1	2 a	4900#	52.98	84.67	101
Dairy b. fat						
Rabbits - -						
Strawberries	2	.1 a	27.5gal	20.25	24.07	48
Potatoes - -	67	2.8 a	324.5sks	398.40	130.90	60.5
Lettuce - -	1	2 a	157 cr	81.75	53.05	69.5
Garden peas	3	2 2/3 a	2781#	30.74	52.80	49
Canning peas						
Wheat --- -	4	6 a	159.5bu	71.24	55.16	16
Oats - - - -	1	20 a	52,000#	368.01	374.69	98
Barley - - -	2	30.75	3605#	21.83	185.76	213
Beans - - - -	2	.87 a		-27.88	35.18	24
Vegetables -						
Alfalfa - -						
Cabbage - -						
Field peas -						
Farm mgt. -						
Sugar beets						
Bees - - - -						
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -	1	1/8 a	6390 pl	37.40	31.85	78.5
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)
1936-37

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -	4	1.5 hd	3 hd	\$30.88	\$36.98	76
Sheeps						
(head) - -						7
(pounds) -	17	3 hd	1495#	97.90	68.69	53 ⁷ / ₁₇
Chickens						
Eggs - - -	7	34 3/7 hd	149 3/7	28.22	35.82	70
Broilers -	9	89 5/9 hd	73 hd	14.31	43.44	79
Turkeys - -						
Beef						
(head) - -						
(pounds) -	3	1 hd	1231#	29.28	73.49	65 ¹ / ₃
Sheep						
(head) - -	1	66 hd	63 hd	437.17	206.71	20
(pounds) -	7	13 hd	1399#	113.36	134.57	95
Dairy milk -	1	1 hd	3145#	135.24	27.09	96 ² / ₃
Spinach - -						
Dairy b. fat	2	1.5 hd	421.5#	64.65	74.57	338
Rabbits - -						
Strawberries						
Potatoes - -	66	3.6 a	498sks	93.38	159.50	53
Lettuce - -	3	2 a	109 2/3 cr	34.22	37.85	58
Garden peas	3	1.2 a	4072#	33.38	52.08	59
Canning peas						
Wheat - - -						
Oats - - - -						
Barley - - -						
Beans - - -	1	2/3 a	277#	8.93	19.47	51
Vegetables -						
Alfalfa - -	1	20 a	16 T	82.63	63.87	130
Cabbage - -						
Field peas -						
Farm mgt. -						
Sugar beets						
Bees - - - -	1	4 st	136#	8.56	26.85	70
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - - -						
Carrots - -						

MASTER CHART OF RAW DATA (continued)
1937-38

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -						
Shoats (head) - -						
(pounds) -	15	2 hd	1100.5#	\$25.61	\$59.71	61
Chickens						
Eggs - - -	3	150 hd	62 hens	74.21	107.01	44
Broilers -	8	67.5hd	{ 237 hd 252#	27.39	37.63	44 3/8
Turkeys - -						
Beef						
(head) - -	3	4 2/3hd	4 2/3 hd	35.08	37.33	21 2/3
(pounds) -	6	2 hd	647#	14.51	107.18	87
Sheep						
(head) - -	7	30 4/7	32 hd	119.97	162.79	83
(pounds) -	8	12 hd	1219#	48.39	61.09	55
Dairy milk -	2	2 hd	4796#	69.96	64.02	116.5
Spinach - -						
Dairy b. fat	1	1 hd	110#	27.50	24.50	90
Rabbits - -						
Strawberries						
Potatoes - -	53	3 1/3 a	241sks	114.45	130.78	64
Lettuce - -	6	2 2/3 a	344 cr	190.19	65.62	53
Garden peas	4	1.4 a	5698	95.24	88.23	55
Canning peas						
Wheat - - -						
Oats - - - -						
Barley - - -						
Beans - - - -						
Vegetables -	1	.5 a		.80	24.40	56
Alfalfa - - -						
Cabbage - - -						
Field peas -						
Farm mgt. - -						
Sugar beets						
Bees - - - -	1	6 st	840#	25.80	24.00	80
Sweet clover						
Native hay -						
Celery - - - -						
Plants - - - -						
Corn - - - -	1	2 a	4T.fodder	17.91	16.34	15
Carrots - - -	1	.75 a	538 bun.	46.31	48.02	40

MASTER CHART OF RAW DATA (continued)
1938-39

Item	No.	Scope	Pro- duction	Total income	Total cost	Pupil labor
Swine						
Sow & litter (head) - -	10	1.3hd	6.1 hd	\$10.07	\$38.89	38.5
Shoats						
(head) - -						
(pounds) -	17	6 hd	1077#	32.59	59.62	52
Chickens						
Eggs - - -	4	64 hd	60 dz	49.02	94.42	166
Broilers -	12	112.5	267#	21.46	27.99	30 1/3
Turkeys - -						
Beef						
(head) - -						
(pounds) -	15	3 hd	1936#	48.16	139.61	32
Sheep						
(head) - -	1	6 hd	6 hd	4.50	7.80	10
(pounds) -	18	19 5/6	1644#	61.64	143.57	40.5
Dairy milk -	4	4.25hd	9750#	39.64	42.44	41
Spinach - -						
Dairy b. fat	1	3 hd	3 hd	22.80	25.50	22
Rabbits - -						
Strawberries	1	.25 a	6 gal	7.70	15.00	10
Potatoes - -	36	3 a	325 sks	178.73	144.41	44
Lettuce - -	13	3	223 cr	85.04	92.22	99
Garden peas	4	3 a	4818#	71.39	88.69	54.5
Canning peas						
Wheat - - -						
Oats - - -						
Barley - - -	2	13.5	2000#	127.45	128.05	30
Beans - - -						
Vegetables -	4	.5 a	1215#	11.85	24.54	64
Alfalfa - -						
Cabbage - -						
Field peas -	1	6 a	3600#	24.35	67.90	15
Farm mgt. -						
Sugar beets						
Bees - - - -						
Sweet clover						
Native hay -						
Celery - - -						
Plants - - -						
Corn - - - -						
Carrots - -						

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