THESIS

on

THE ORGANIZATION AND SUPERVISION OF AGRICULTURE IN THE HIGH SCHOOLS OF OREGON

Submitted to the

OREGON AGRICULTURAL COLLEGE

In Partial Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

by

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INTRODUCTION

Agricultural instruction of a secondary grade has been given in this country since 1888. Similar instruction has been given in public high schools for the past fifteen years. Vocational Training in agriculture for students of high school age did not become general until the Smith-Hughes Vocational Education Act was passed by the Federal Government in 1917. The purpose of the Act is to encourage vocational training in agriculture, industrial arts and home-making. The Federal Government thereby pledged itself to reimburse each of the State governments up to a definite limit, which runs on a rising sliding scale to the year 1926, after which it remains stationary until 1930. In order that a State may take advantage of such assistance from the Federal Government it is necessary for the State Legislature to accept the terms of the Act and subscribe to the methods and standards which are set up in the Federal Act. The State must also pledge itself to supply one dollar from State or local sources for each dollar that the Federal Government gives to the State. In a like manner the State must submit to the federal authorities its plan for the organization and administration of the Smith-Hughes Act, that it may be approved by them.

Oregon's original "Plan for the Organization and Administration of the Smith-Hughes Act," adopted December 18, 1917, was published early in 1918 by State Superintendent of Public Instruction J. A. Churchill. Revised plans for the fiscal year beginning July 1, 1919, were made and sub-
mitted. Another revision was made in 1920. Oregon did not establish the first departments of Smith-Hughes agriculture in the high schools until 1919. Growth has been regular over the eight-year period.

The vocational agricultural program is organized and administered by the State Supervisor of Agricultural Education under the advisement of the State Board of Vocational Education, both authorities created by the Federal Act. Mr. E. H. Elliott is the present Supervisor as well as the Director of all vocational education in the State that comes under the Smith-Hughes Act.

It is apparent from what has been said that vocational training in agriculture as directed by the Act of 1917 is yet in the formative stage in this State as in others. The methods of the program as proposed by the Act were at the outset almost radical. The technique is gradually being worked out, and standard methods of procedure adopted by the States. It was suggested to the writer that he make a study of the system in Oregon from the State Supervisor's point of view.

The aim of the thesis is to determine as far as it is possible what the status of our program in Oregon is, where the weak spots appear to be, and to establish suggested methods of procedure.

It was decided to select the following five major responsibilities of the State Supervisor and to proceed to an analysis of the State system through an examination of the facts and principles bearing upon these responsibilities.
These responsibilities were selected in preference to others and additional ones because they appeared to include the most important duties of the work of organization and supervision.

The tentative conclusions drawn in the course of writing this paper are established on information that the writer secured through personal visitation of nineteen agricultural departments in the high schools, reports of the State Superintendent of Education, the State Director of Vocational Education, personal contact with the State Supervisor of Agricultural Education and the Teacher Training department at the Oregon Agricultural College and numerous annual reports of the Federal Board of Vocational Education.

The comparative method has been used throughout the paper, although to a lesser degree in some phases owing to the difficulty of obtaining the information upon other States.

It is hoped that this study will be of some value as a reference on conditions of Smith-Hughes agriculture in Oregon, as well as an analytical study of the problems of building a program for the State.
OUTLINE OF THESIS

THE ORGANIZATION AND SUPERVISION OF VOCATIONAL AGRICULTURE IN THE HIGH SCHOOLS OF OREGON

Aim

To work out a State program of Organisation and Supervision for Vocational Agriculture in the High Schools of Oregon.

Method

1. A thorough study of Agricultural conditions of the State will be made as a background. This will be made from census returns, Farm Management Surveys, Community Surveys, Extension Service Publications and Experimental Station Publications.

2. A similar study will be made of the Educational conditions of the State, as found in State Education reports, census returns and The Oregon School Law as well as The State Program for Vocational Education, published by the State Board of Vocational Education.

3. These studies will be followed by an analysis of the following major responsibilities of the State Supervisor of Agricultural Education:
   (a) Promotion of public interest in Vocational Education.
   (b) Selection, placement and promotion of teachers of Agriculture in the State.
   (c) Improvement of Teachers in Service
(d) Assistance in the establishment of new departments.

(e) Establishment of standards of achievement in the State as an Administrative unit.

4. The thesis will then proceed to select typical problems of organization and supervision in the State with the object of formulating a plan of procedure, based on the above analysis.

5. Finally an attempt will be made to briefly formulate a program of organization and supervision for the State.
AGRICULTURE IN OREGON

It shall be the purpose of the first pages of this thesis to mention briefly the outstanding features of the agriculture of the State, as a basis upon which to build the major portion of the study.

History of Agriculture in Oregon.

Farming as an occupation in this State is approximately one hundred years old. We read that it was in 1828 that the first farm was established at Fort Vancouver. It was a beginning that consisted merely of a few acres of corn, potatoes and peas, together with a very small herd of cattle. It was not until 1837, however, that a more vigorous effort was made to undertake worth while development. In that year 600 cattle and forty horses were brought in from California. A new impetus was given to the industry, and many settlers were attracted from the east.

Nursery stock was first brought into the State in 1847. The first fruit crop was taken from the trees in 1851.

Settlers came in thousands between the years 1850 and 1860. The greatest influx of settlers in the last century was in the seventies, when between eighty and ninety thousand new settlers came into Oregon. The following table will more adequately describe the development of agriculture than words:

Maris, Paul V., An Agricultural Program for Oregon.
Table 1. Showing the Development of Agriculture in Oregon over a Period of Seventy Years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total population</th>
<th>No. Of Farms</th>
<th>Acres Improved</th>
<th>Value all farm property</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>13,294</td>
<td>1,164</td>
<td>132,857</td>
<td>4,906,782</td>
</tr>
<tr>
<td>1860</td>
<td>52,465</td>
<td>7,587</td>
<td>896,414</td>
<td>22,099,161</td>
</tr>
<tr>
<td>1870</td>
<td>90,923</td>
<td>16,217</td>
<td>1,116,290</td>
<td>30,475,181</td>
</tr>
<tr>
<td>1880</td>
<td>174,768</td>
<td>22,530</td>
<td>2,198,645</td>
<td>76,975,140</td>
</tr>
<tr>
<td>1890</td>
<td>317,704</td>
<td>32,857</td>
<td>3,516,000</td>
<td>143,024,800</td>
</tr>
<tr>
<td>1900</td>
<td>415,338</td>
<td>32,857</td>
<td>3,528,308</td>
<td>172,761,287</td>
</tr>
<tr>
<td>1910</td>
<td>672,766</td>
<td>60,208</td>
<td>4,274,803</td>
<td>528,243,782</td>
</tr>
<tr>
<td>1920</td>
<td>763,389</td>
<td>60,208</td>
<td>4,913,851</td>
<td>818,559,751</td>
</tr>
</tbody>
</table>

Agriculture in Oregon Today

There are in the State today 13,542,318 acres in farms. This is 22.1 per cent of the total land area of the State.

The last United States Census reports that only 8.2 per cent of the land area of the State is improved land, that is land that is regularly cultivated or mowed, land in pasture which has been cleared or tilled and land lying fallow. However, such a classification would not be a true representation of conditions, since no consideration is taken of the vast acreages of grazing land in the State that supports large numbers of cattle and sheep. When we consider such grazing lands, we find that there is at present not more than twenty-five per cent of the total land area of the State which does not contribute anything to the agriculture of Oregon. The following table will give a clear picture of the nature of the farming occupations that are carried on:
Table 2. Showing the kind and value of each Principal Agricultural Crop in the State, as determined by the Farmer's Income.

<table>
<thead>
<tr>
<th>Product</th>
<th>Income</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals</td>
<td>$40,648,000</td>
<td>31.3</td>
</tr>
<tr>
<td>Livestock and meats</td>
<td>29,793,000</td>
<td>22.9</td>
</tr>
<tr>
<td>Dairy products</td>
<td>15,917,000</td>
<td>12.3</td>
</tr>
<tr>
<td>Fruits and nuts</td>
<td>15,380,000</td>
<td>11.8</td>
</tr>
<tr>
<td>Hay and forage</td>
<td>8,721,000</td>
<td>6.7</td>
</tr>
<tr>
<td>Wool and mohair</td>
<td>6,810,000</td>
<td>5.2</td>
</tr>
<tr>
<td>Vegetables (including potatoes)</td>
<td>5,100,000</td>
<td>3.9</td>
</tr>
<tr>
<td>Poultry products</td>
<td>4,474,000</td>
<td>3.4</td>
</tr>
<tr>
<td>Other crops</td>
<td>3,032,000</td>
<td>2.3</td>
</tr>
</tbody>
</table>

The Physical Divisions of the State for Agriculture

Perhaps there is no State in the Union that presents such a range of physical variations in relation to agriculture as Oregon does. A glance at a physical map of the State will readily reveal a vast area, as large as the States of Illinois and Indiana together, which is corrugated with several mountain ranges and great stretches of hilly country. It is smoothed in other places into wide plains or desert wildernesses of sage brush and sand. Lakes and rivers abound. There are several gradations of humid, arid
and semi-arid climates. It is these physical variations that makes it possible to roughly divide the State into six agri-
cultural divisions, according to the nature of the farming carried on as a result of physical limitations.

The Agricultural Divisions

A glance at the map on the following page will readily show the divisions into which the State is usually divided agriculturally. The Blue Mountain counties of Baker, Union, and Wallowa, are grouped with the central and southeastern counties consisting of Grant, Wheeler, Deschutes, Crook, Harney, Klamath, Lake, and Malheur. The Columbia Basin counties are grouped accordingly. In a similar manner the other counties of the State have been grouped according to the general type of farming prevailing.

The Blue Mountain group derive their agricultural income largely from the sale of livestock, wool, and hay and forage. The Columbia Basin counties are notably the wheat and barley growing counties of the State, although livestock and wool are important in all of them but Jefferson. There is also quite a degree of specialization. The Coast counties are the most highly specialized of the groups excepting Hood River, the income being Derived largely from the sale of dairy products and dairy animals sold for beef, although some of the mountain ranges are devoted to animals of the beef breeds as well as to sheep and goats. The Southern Oregon group of counties is quite diversified, showing fruit as the major source of income with almost an equal
percentage coming respectively from the sale of cereals, livestock and meats, and dairy products, while the income from poultry products is of more importance than with any previously considered group. The Willamette Valley counties also stand out as a group deriving its agricultural income from various sources. Livestock and meat, dairy products, fruit and nuts, are of about equal importance. The vegetable and potato income is more important than with any other group, while poultry products constitute an important minor item. Hood River is conspicuously a fruit county, deriving 89.4 per cent of its income from its trees and small fruits.

**Outstanding Facts about Oregon Agriculture**

1. Considering the ultimate possibilities, Oregon Agriculture is still undeveloped.

2. In 1919 the State had a population of 783,000; there were in round numbers fifty thousand farms and five million acres of improved farm land, and all farm property was valued at eight hundred and eighteen million dollars.

3. Agriculture is the basic industry of Oregon.

4. In comparison with its opportunities and natural resources, the State has lagged behind in agricultural development and growth of population.

5. Staples will continue to constitute the major portion of our agricultural income.

6. Dairying is gradually becoming the basic enterprise.
Problems in Oregon Agriculture

1. Organizing production with a view to efficient marketing in our great diversified farming sections.

2. Determining which crops shall best adapt themselves to physical and economic conditions of the newly developed regions.

3. Placing our products on the markets in a form and at a price that will encourage consumption.

4. Developing the dry and cut-over regions of the State.

5. Training the future generation of farmers.

Relation of the Agriculture of the State to Vocational Training in Agriculture

It is apparent from what has gone before that Oregon agriculture has come to be an enormously productive industry from a very insignificant beginning of one hundred years ago. It is also apparent the advance has not been so rapid during the past decade. We are reminded that it is no longer possible for the newcomer to settle upon land that is almost ready to yield its abundance, but rather that comparatively large sums of money must first be invested. The average value of total farm property per farm in the State is $16,000. There is likewise more competition to be met than formerly when the products of the land are put upon the market. Oregon produces a surplus of all farm products but pork over what is needed in the State. This means that the products must be produced as cheaply as possible and set upon the distant market in competition with products of a like nature from
all over the country. It all points to the inference that the personnel of the 50,000 present farms and the thousands of farms to be, must be trained to use their capital to the best advantage in order that the rural population may thrive well and the State stand up to its competition. Vocational training in Agriculture in the high schools would seem to be the best answer for the problems enumerated above and others suggested elsewhere.
EDUCATIONAL CONDITIONS IN OREGON

Since a program of vocational education is in process of being fitted into, and developed in co-ordination with the present public school system in the State, it is well that we take stock of the present public school system as it exists in Oregon. It will serve the present purpose to mention briefly the favorable and unfavorable facts concerning the system, and to show what rank this State holds in educational status with that of the remaining States of the Union and those of the Western Division.

Favorable Indications

1. Oregon has the highest per cent of its school population in average daily attendance of all the States of the Union.

2. Likewise the State has the highest per cent of the total school population attending higher educational institutions.

3. Only one State in the Union has a higher per cent of the school population attending high school.

4. Only two states had a higher percentage of population eighteen years of age, who were graduates of high school in 1918.

5. Only two states had a higher percentage of the total school population in attendance at school.

Unfavorable Indications

1. Oregon does not spend as much per pupil in attendance
at school as any of the other ten States of the Western Division.

2. This State does not spend as much for school buildings equipment and supplies as any of the other States of the Western Division.

3. Teachers' salaries are lowest but two of all the States of the Western Division.

4. There are only ten States in the Union which have a lower degree of enrollment of children 4-6 years of age in public schools.

5. There are only eleven States in the Union which have a shorter school year than Oregon.

6. This State has the highest index number for its State school system of all the States of the Western Division. It is nineteen, meaning that there are eighteen higher ranking places, which it is possible for the State to reach.

Summary

Oregon is making good use of all the school money that it obtains for the support of its public schools. The greatest defect in the entire system in the State is the financial program. The facts show that in all financial comparisons with the other States of the Western Division, the result is unfavorable for Oregon. The State is not doing enough to support the local schools, and too much of the burden of support is falling upon the local communities. Such a condition of affairs manifests itself in inequalities of burden
The development and progress of Vocational Agriculture in our high schools will largely depend upon the extent to which this newest phase of our educational program is promoted. We are reminded that the Vocational Education Act was not passed until 1917, and the first Agricultural department did not make its appearance in our high school system until 1919. It was then an entirely new departure for the school system. Its aims and methods are still only vague conceptions in the minds of some, and quite unknown to the majority of the population. School authorities, and the public in general are not going to ask for the installation of new departments, and established departments will undoubtedly have difficult sledding, unless all concerned are made aware of their aims, methods and results, in so far as this information can be adequately presented. Furthermore Section III, 7, (b) (5) of Bulletin number 4 of Oregon State Board for Vocational Education states that this shall be one of the duties of the state Supervisor. Indeed, the spirit of the entire Federal Vocational program is promotional. The law states that it is "An Act to provide for the promotion of Vocational education."

Definition

The following definition of promotional work is that
taken from the records of "The Sixth Annual Regional Conference" at Fort Collins, Colorado, June 4-9, 1923, as formulated by the conference. "Promotion is the acquainting of the public with the aims, methods, and value of secondary vocational agricultural education, securing support of the work from persons of influence, and recruiting the right type of student for the work."

The Annual Regional Conference on Vocational Agriculture at Chicago, Illinois, May 8-11, 1922, thinks that promotional work should be considered from four viewpoints: First, National; second, State; third, County; and fourth, the Local Community. To quote them further, they said, "It will be difficult for the community to make progress unless the Federal Government, state and county assist in creating the proper sentiment. The Federal Government, through the Federal Board for Vocational Education, can assist in promotional and community service work through the securing of publicity in journals and magazines which have a nation-wide circulation. The Federal Board can also assist in this work through the publishing of a regular monthly news-letter to Supervisors and Teacher-trainers; and it is the urgent recommendation of this committee that such a news-letter be published and distributed by the Federal Board, if it is within their power and means to do so."

It would be unwise, however, to proceed blindly to saddle the people of the State with a comparatively expen-
sive educational machine before we had assured ourselves of a definitely felt need for this type of vocational training. And we should also be reasonably sure that we may secure returns commensurate with our expenditures. It would seem that an answer to each of the following questions is necessary before valid conclusions may be drawn.

1. Does the importance of agriculture in Oregon warrant the additional expenditure for training prospective young farmers?

2. What are the possibilities of economical development of the Smith-Hughes Vocational Agricultural program?

If these questions can be answered in a positive sense, then it is logical to turn our attention to the following considerations:

1. Do the efforts of Oregon compare favorably with those of other representative States of the Western Division?

2. By what means has the State Supervisor been promoting the program as far as we have gone?

3. What is the attitude of the Agricultural Press of the State, as well as the Pomona Oranges, and other Agricultural Organizations?

4. What methods have been used in other States.

5. What should be the nature of our Promotional Pro-
gram in Oregon?
DOES THE IMPORTANCE OF AGRICULTURE IN OREGON WARRANT THE ADDITIONAL EXPENDITURE FOR TRAINING PROSPECTIVE YOUNG FARMERS?

In order to answer this question, it will be necessary to compare the status of agriculture with that of other principal industries of the State. We should know approximately the number of possible prospective young farmers that we may draw on in the State.

The following table will throw some light upon the subject.

<table>
<thead>
<tr>
<th>Status of Two Leading Lines of Endeavor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Agriculture</td>
</tr>
<tr>
<td>Manufacturing</td>
</tr>
</tbody>
</table>

Note: Census figures for 1920. Manufacturing includes everything under the heading "Manufacturing and mechanical industries". Agriculture includes everything under that head excepting "Fisherman and oystermen", "Lumbermen, raftmen and woodchoppers", "Owners and managers of log and timber camps."

It is apparent from the above table that Agriculture leads by an immense margin in investment, while it is not
much more than one half as important from the point of view of cash value of products. The third column makes it apparent that the workers in the State are about equally divided between Agriculture and the Manufacturing and Mechanical Industries.

**Comparison of Agriculture with Some of the Principal Industries by Value of Products.**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Value (in dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRICULTURAL PRODUCTS</td>
<td>$209,459,266.</td>
</tr>
<tr>
<td>Lumber and Timber Products</td>
<td>85,348,000.</td>
</tr>
<tr>
<td>Flour-mill and Gristmill products</td>
<td>42,550,000.</td>
</tr>
<tr>
<td>Foundry and Machine-shop products</td>
<td>21,136,000.</td>
</tr>
<tr>
<td>Slaughtering and Meat Packing</td>
<td>15,868,000.</td>
</tr>
<tr>
<td>Shipbuilding, wooden, including boats</td>
<td>13,778,000.</td>
</tr>
<tr>
<td>Canning and Preserving Fruits and Vegetables</td>
<td>12,266,000.</td>
</tr>
<tr>
<td>Bread and Other Bakery Products</td>
<td>9,031,000.</td>
</tr>
<tr>
<td>Butter</td>
<td>8,728,000.</td>
</tr>
<tr>
<td>Canning and Preserving Fish</td>
<td>6,531,000.</td>
</tr>
</tbody>
</table>

Total of the above other than Agriculture $225,236,000.

From this table it is apparent that, in so far as the status of an industry can be measured in comparison with that of other industries by the value of its annual production of products, agriculture approximates in importance the first seven leading industries in the State. It is also
noticeable that five of the industries of the above group obtain their raw products from the farm. There is a reliable evidence to lead to the conclusion that the economical welfare of Oregon is overwhelmingly dependent upon Agriculture as the basic industry.

Referring back to the first pages of this paper, it will readily be seen that the growth of Oregon agriculture over the past seventy years and the further development that possibilities suggest, lead us to believe a program for training farmers for the future will not go wanting for students or opportunities to give it ultimate practical effect.
WHAT ARE THE POSSIBILITIES OF ECONOMICAL DEVELOPMENT OF THE SMITH-HUGHES VOCATIONAL AGRICULTURE?

Although the status of agriculture in the State is high, it does not necessarily mean that we are therefore in a position to proceed at once to put into effect an extensive program of high school training in vocational agriculture. The rapidity with which we shall be able to extend this program will depend upon several very important factors. The limitations of the Federal Vocational Education Act is perhaps the first logical consideration. Section 10 of the Act states, "that such education shall be of less than college grade and be designed to meet the needs of persons over fourteen years of age, who have entered upon or who are preparing to enter upon the work of the farm--" and further, "that the state or local community, or both, shall provide the necessary plant and equipment determined upon by the board with the approval of the Federal Board for Vocational Education, as the minimum requirement for such education in schools and classes in the state."

The first limitation stated resolves itself into the necessity of having sufficient numbers of prospective young farmers over fourteen years of age in the State to fill our classes. That this question might be answered, the information in the table on the following page was secured from the data of the last census.
Table 3. Number of Males, 10-17 and 18-19 years of age, engaged in Farm Work according to the fourteenth Census Figures.

<table>
<thead>
<tr>
<th></th>
<th>10-17</th>
<th>18-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy Farm laborers</td>
<td>151</td>
<td>111</td>
</tr>
<tr>
<td>Dairy Farmers</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>Farm foremen</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Farm laborers, home farm</td>
<td>888</td>
<td>597</td>
</tr>
<tr>
<td>Farm laborers, working out</td>
<td>862</td>
<td>1336</td>
</tr>
<tr>
<td>Farmers, general farms</td>
<td></td>
<td>132</td>
</tr>
<tr>
<td>Fruit growers</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Garden laborers</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>Gardeners</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Orchard and nurserys l's feeders</td>
<td>124</td>
<td>80</td>
</tr>
<tr>
<td>Stock herders, drovers</td>
<td>142</td>
<td>170</td>
</tr>
<tr>
<td>Stock raisers</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Others</td>
<td>15</td>
<td>27</td>
</tr>
<tr>
<td>Totals</td>
<td>2207</td>
<td>2515</td>
</tr>
<tr>
<td>Grand total</td>
<td></td>
<td>4722</td>
</tr>
</tbody>
</table>

The above table can be taken only as a fairly good indication of that group of youths in the State, whom it should be possible to reach with our program. The number who are below the minimum age limit of fourteen in this group will necessarily be small, and therefore rather insignificant in
the estimate. It must be remembered that the above group includes only those males who were actually engaged in work. It takes no account of others within this age limit, who were not engaged in actual work. According to the census returns for 1920 there were 17,493 males between the ages of 15 and 19, inclusive, in the rural population group. It must be kept in mind, however, that this will include all in this group who live in towns and villages which have a population of less than 2500. Large numbers of those, however, living in the small centers, are rural minded, and will eventually seek to make a living in the agricultural occupations.

Perhaps one of the best indications of the possible number of prospective farmers that may be reached by the vocational agricultural program is that of the number of farmers now operating farms in the State. There were in 1920 50,206 farmers in Oregon. This number is approximately 5000 greater than the same for 1910, and 15,000 greater than that for the year 1900. Rural economists say that the productive managerial life of a farmer is 20 years, which means that one-twentieth of the farms of Oregon will, generally speaking, go under the management of men who have not farmed before. On such a basis of calculation Oregon needs 2500 new farmers every year, judging from the figures of the last census returns. It was also noted in the same census returns that there were then 357,884 acres not yet irrigated, but which were capable of irrigation, as well as 98,609 acres of irrigated land.
that was not then settled. According to Paul V. Maris in his "Agricultural Program for Oregon," only 37.1% of all land included in farms in the last census is improved land. In the light of view then of the number of farmers in the State in 1920, the large acreage of land that it is possible to reclaim by irrigation, and the fact that the percentage of farm land that is unimproved is 62.9, one is inclined to infer that the number of farmers will gradually keep increasing, and therefore also the number of possible students for the Vocational agricultural departments. In so far as limitation of students is concerned, it is certainly possible for us to double the number that we had for 1924 (760), and at the same time secure thoroughly rural minded boys. This too is referring only to the all-day type of vocational agricultural classes. It would be possible to add a large number to this group if we proceeded to develop the part-time or short-course classes, a form of vocational agriculture that comes under the Act, but which has not been developed in Oregon. While Oregon has done nothing in the way of developing part-time, evening or short-unit courses, some other states have been reaching large numbers of prospective and engaged farmers by this means. Illinois has 1192 such students, or one quarter the total number of high school students in the all-day classes. Minnesota had 1225 students in evening classes, a total that was larger than that of the all-day high school classes. Missouri has made a great deal of the opportunities in this line of work. Last year there were 2956 evening-class students in that State,
Ohio too, had 2300 such students last year, almost as many as the State had in its all-day classes. North Carolina has done more than any of the states in developing the short-unit courses, having had a total of 828 short-unit students last year. There are a greater number of states adopting the evening type of class than part-time or short-unit classes. There is a large field of opportunity for Oregon in some one or all types of this method of vocational instruction. More promotional work along these lines would be advantageous.

The second limitation of the Federal Act states that the State, the local community or both, shall provide the necessary plant and equipment, determined upon by the State Board, with the approval of the Federal Board. On first consideration, this might not appear to be sufficiently worthy of serious attention as a problematical factor in expanding the program. A glance at the data on high school physical accommodations, a personal visit to 19 of the 28 departments, and a conference with the State Supervisor have convinced the writer that this difficulty is often a very serious one. In the first place, the number of very small high schools in the State is large. The policy of the present State Supervisor does not favor the establishment of a new department in any high school which has an enrollment of less than 75 students. That eliminates 70% of all the standard high schools of the State. Fifty-five
percent of the standard high schools in Oregon have an enrollment of less than fifty students. There does not seem to be the surplus accommodation available for a new department in the small schools that is generally found in the larger establishments. A well equipped agricultural classroom should be expected to fulfill the following requirements, as set forth in the State plans:

(a) A room equipped primarily for instruction in agriculture.
(b) Sufficient equipment for practice in improved methods of testing milk, soil, and seeds; pruning, spraying and propagation of plants; incubation of eggs; butter-making, etc.
(c) Suitable room and equipment for properly storing apparatus and caring for materials collected in the community, such as grains, grasses, fruits, vegetables, small implements, feeds, etc.
(d) A stereopticon, slides, charts, etc., bulletins and farm papers, the initial cost to be not less than $20.
(e) Fairly complete equipment for a group of 15 to 20 pupils will cost from $350 to $500. A minimum of $150 must be expended at the outset for strictly agricultural equipment.

Such accommodation as that suggested above cannot be secured very readily in many schools. It means that the choice is practically limited to the first floor or the basement, which of course is recommended and desirable. At the present time there are some departments, which are handicapped for want of more adequate accommodations and a
more desirable location in the school building. The departments at Cottage Grove, Rainier and Knappa, for instance, are all handicapped in this way. Medford, Forest Grove, and Gresham are cramped in their space accommodations. There are a few applications for departments on the Supervisor's shelf now, pending building improvements or new school buildings. The problem will not be simplified any either with the constant growth of the high school population or the increase in the number of Smith-Hughes Home Economics and Trade and Industrial classes. Many departments will not be established until some of the small districts combine to form Union Districts, and some others of the larger schools provide themselves with more adequate buildings. The State Supervisor at the present time is very much interested in the union of several of these small high schools in order that larger groups of students may be assembled at one place. Such combinations would make it possible to establish more departments, and offer the vocational training services to increasing numbers. The per capita cost of such education would be altogether too high, if departments were established in the small high schools, with enrollments less than 60 students. It would seem to be very important that the promotional program include in its outline of work the awakening of more interest in union high schools. In conclusion, it is thought that the matter of building accommodation is not a serious limitation to expansion, but that it
is a retarding factor, which has to be dealt with each time a new department is contemplated.

There is a third factor that is of more or less importance, depending on the location of the high school. That is the nature of the agriculture carried on in the community. Of course, it is essential that a department must be located in a community that is predominantly agricultural. Such communities are not hard to find in the State, in large numbers. However, it often happens that such a community is too far removed from any high school of sufficient size to maintain an agricultural department. In other cases it is possible for an agricultural department to be located in the high school of a large town, where it will fail to thrive for want of a more rural-like setting and the intelligent cooperative interest of the town or city school authorities. The large number of small high schools in this State makes that an ever-present problem to be reckoned with. Unless it is properly dealt with, it sometimes happens that departments of established in towns, where agriculture is of comparatively little importance, and where farm boys are conspicuous for their absence. There are some towns that are able and willing to establish these departments in an endeavor to improve their educational status, or secure the assistance of outside financial support, or both. The writer found three departments, of the nineteen which he visited, that were suffering for the want of a proper agricultural environment. At Seaside, there
is a high school with an enrollment of 134 students, and the agriculture class was made up of a preponderance of town boys with no agricultural background. Only 12% of these classes were boys from the farm. It was said too, that there were very few farm boys in the high school. At Knappa, the situation had the same color, in that it is not an agricultural community as much as it is a fishing and logging community. However, good work was being done among a good type of Scandinavian pioneering people.

The department at Medford was found to be in an unhealthy condition, judging from the excess of town boys over country boys. Eighty-eight percent of the students belonged to the town. There are 479 students in the Medford high school. When we consider that Medford is the heart of a rich agricultural valley, we do not feel satisfied with the very small number of agricultural boys in the agricultural classes. It is possible that a town of its size, which is more than 5000 is too much inclined to urban interests for the best interests of a Vocational Agriculture Department.

The agricultural importance of Cottage Grove, as a suitable location for an agricultural department, can be questioned. These departments have been mentioned to remind us of the importance of the agricultural environment in its relation to possible high school locations for agricultural departments. More detailed treatment of the factors to be considered in establishing a new department will be given later.
There is a fourth factor which we would do well to probe before launching upon an extension of expenditures of State and local money. It might well be worth our while to inquire somewhat into the ability of the State and the local governments to pay the cost of such education. In 1924, the average expenditure by the local authorities for vocational agriculture departments for each department was $1231, and the average expenditure per department by the State was $341. The total amount of expenditures by State and local authorities was $44,263. The important figure is the first one, for it is the custom in Oregon for the local communities to carry the major portion of their public school finance burdens. Will it be asking too much of the communities, where departments are being contemplated, to bear this financial burden? Only an investigation of the state of the public finances of each of the several counties would supply an answer to this question. This will be attempted in that portion of this paper which deals with the establishment of new departments.

As to the State government being able to afford its small share of the costs for vocational agricultural education, there is little doubt. In another study that the writer made concerning the state of the public school finances of Oregon, he found that while Oregon was not putting forth as much effort as the other States around it, nevertheless, it is well able to afford additional money for edu-
cational purposes. According to Professor James H. Gilbert in the Oregon Voter, this State is not overburdened with taxes, when a comparison is made with some forty other states of the Union. The yearly income per person gainfully employed in 1919 was $871, and this figure measures fifth among the eleven states of the Western Division and eighteenth in the Union. It was found, however, in the above mentioned study that Oregon public school finances are not in a very healthy condition, when compared with the other western states. The weakness that was most apparent was that of lack of sufficient state support. Until other means than the general property tax for collecting school funds are adopted, it would not seem to be advisable to depend too much on the appropriations of the State Legislature, although to date, vocational education has been faring better in this respect than general education, considering its lesser magnitude. Further discussion of the state support problem is less to the point here than it will be at a later point in the paper.

Then we may draw the following conclusions regarding the possibilities of economical development of Smith-Hughes Vocational Agriculture in Oregon:

1. There would be no difficulty whatsoever for the vocational agricultural education system to find and absorb twice the number of students, with the proper qualifications, that it now has in the system.

2. High school building accommodations are a retarding
factor in the expansion program; but this factor will tend to
grow less in importance as new schools replace old ones, and
small high school districts combine to form union districts.

3. The very small number of enrolled students in the
high schools of strictly agricultural communities, and the
urban interests of the large towns are also retarding factors
in the expansion program. Union high schools in the small
rural centers or in the open country would seem to be the
gate to an agricultural department for a large number of these
communities in the State.

4. The cost burden, for comparatively small high schools
in the State, will be rather heavy, since the local authori-
ties are compelled to pay the major portion of the cost of
support. The support of the State Government cannot be de-
pended upon as long as the present method of supplying money
through appropriations is resorted to, rather than some def-
inite system of collecting the school funds.

It is the opinion of Mr. E. E. Elliott, Director of Vo-
cational Education and Supervisor of Agricultural Education,
that the saturation point for number of departments in the
State at the present time would be 68. This number he thinks
will increase with the increase in the area of newly develop-
ed regions and the union of numerous high schools with other
high schools in their locality. The point of saturation, as
expressed by Professor H. E. Gibson, Department of Agriculture
Education, O. A. C., approximates this number. For the pres-
ent then it is necessary for us to promote the State and local interest in the work to the point of establishing 39 additional departments.
DO THE EFFORTS OF OREGON COMPARE FAVORABLY WITH THOSE OF OTHER REPRESENTATIVE STATES OF THE WESTERN DIVISION?

After making a study of this phase of the subject, there appeared to be three fairly reliable ways of measuring objectively the efforts of this State in comparison with those of other states. The growth of the number of departments, the growth of the number of students, and the growth of State and local expenditures for the program appear to be the best scale for objective measurement and comparison. The total value of all farm property in the State, as given by the last census, is used as an indicator of the agricultural status of the State. The states of Idaho, Utah, Arizona, Nevada, Washington, and California were chosen for purposes of comparison. These states seemed to represent a fairly good cross-section of the Western Division of States of the Union, including the state ranking highest agriculturally and educationally, as well as the lowest in these respects. The State of Wisconsin was also selected for the purposes of comparison, as a representative of the Middle West, and as a State that has been up to the front in matters pertaining to agricultural education. A number of graphs have been prepared to picture more comprehensively the relative standing of the various States, and Oregon's rank among them.

Diagram 1 on the following page is a graph representing the status of agriculture in the States of the group.
Diagram 1. Graphic comparison of the status of agriculture in the states of the group, as measured by the total value of all agricultural property—census returns for 1930.
as measured by the total value of all farm property. It is the writer's intention of using this as a check on the other items that are being compared. Of course, it is not to be assumed that value of agricultural property is an infallible means of measuring the status of agriculture and the need of agricultural education in a State, but it is believed that it is the best available means of ranking the States in the group in order of their agricultural importance. At this point a comparison of the growth of departments over the period of time between the years 1918 and 1924 will be interesting. Following is a table showing the number of departments in each of the States for each of the years:

**Number of Agricultural Departments, Federally Aided**

<table>
<thead>
<tr>
<th>State</th>
<th>1918</th>
<th>1919</th>
<th>1920</th>
<th>1921</th>
<th>1922</th>
<th>1923</th>
<th>1924</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calif.</td>
<td>10</td>
<td>22</td>
<td>32</td>
<td>39</td>
<td>50</td>
<td>57</td>
<td>61</td>
</tr>
<tr>
<td>Wis.</td>
<td>8</td>
<td>15</td>
<td>26</td>
<td>31</td>
<td>24</td>
<td>43</td>
<td>46</td>
</tr>
<tr>
<td>Wash.</td>
<td>5</td>
<td>12</td>
<td>19</td>
<td>19</td>
<td>22</td>
<td>24</td>
<td>28</td>
</tr>
<tr>
<td>Ore.</td>
<td>0</td>
<td>5</td>
<td>7</td>
<td>16</td>
<td>23</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>Utah</td>
<td>15</td>
<td>24</td>
<td>26</td>
<td>22</td>
<td>15</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td>Idaho</td>
<td>4</td>
<td>7</td>
<td>17</td>
<td>14</td>
<td>24</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>Ariz.</td>
<td>4</td>
<td>7</td>
<td>17</td>
<td>31</td>
<td>24</td>
<td>26</td>
<td>22</td>
</tr>
<tr>
<td>Nevada</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: All the numbers represented in the last column but that of Oregon cannot be considered absolutely accurate, since the only available data had to be secured by counting
Growth of Departments

Diagram 1 on page 36 shows Oregon's agricultural status in the group of States. If Oregon ranks fourth in agriculture standing, it would be reasonable to expect that at least an equally high standing would be maintained in comparison of the development of the Smith-Hughes Agriculture, in so far as this can be measured by numbers of departments. It is satisfactory to find by reference to diagram 2 that such is the case. While Oregon did not establish the first department as early as any of the other states in the group, nevertheless the growth of the number of departments from year to year since 1918 has been more regular than that of any of the other States excepting California and Wisconsin. It is particularly pleasing to note that this State has not suffered in any one year from mushroom development, only to fall far behind the following year as apparently has been the case in Arizona, Idaho and Utah. It would seem to point to the conclusion that, in so far as we can measure development by means of number of departments, Oregon's efforts in the past have been as satisfactory as those of any of the States in the group, and more satisfactory than those of five of them. We must not overlook the fact, however, that the number of departments in 1924 showed no increase over the 1923 number, and in 1926 this number stands at 28, only
Diagram 1: Graphical comparison of the growth of departments in seven states of the Western Division and Wisconsin.

No. 266C
two more than we had in 1923. It is apparent that our departments are being established with fairly conservative care, when comparisons are made with other states.

**Growth of the Number of Students**

It is possible for a state to increase rapidly its number of departments, but it is also possible that the number of students enrolled does not increase proportionately as we have a right to expect. If such is the case, it would indicate that departments were not operating at their full capacity. In other words, the state would have the machinery for operating, but no raw material upon which to work. Such would be unsatisfactory conditions of affairs, of course, indicating either over-development or carelessness in the placing of the departments. Or it might indicate that it was necessary to establish the departments in small high schools where it was more difficult to obtain a number of students equal to the capacity of the department. Diagram 3 on page 39a shows that, in this comparison, Oregon falls back to sixth place in the group. From what the writer learned of the nineteen departments which he visited and a study of the high school system of the State, he is led to believe that this deficiency is due to the following causes:

(a) Placing of at least three departments where they should not have been placed, as well as some others that have a doubtful location. These have been mentioned on pages...
29 and 30.

(b) The large number of very small high schools in the State. Seventy-five percent of the high schools of Oregon have an enrollment of less than seventy-five students. Too much emphasis cannot be put on this cause however, because there are less than 100 students in the high school of only five high schools of the total number having agricultural departments.

(c) Comparatively large number of departments that have only two-year courses instead of the maximum of four-year courses.

(d) Not sufficient promotional work in the various communities where the departments are established and in the State as a whole. Indications are that promotional work in the high school communities needs to be invigorated.

When we compare the regularity of growth of the number of departments however, as was done on diagram 2 page 35a, it is apparent that we have good reason to be satisfied. This State has not suffered from peaks and depressions as Idaho, Arizona, and Utah have. It is much more desirable that we grow conservatively rather than irregularly. It will be observed that the most rapid period of development in this respect was during the period 1920 to 1922. This corresponds directly with the period of most rapid growth of departments. The increase in numbers since 1922 has been relatively slow, as has the increase in the number of departments. This correlation would
also indicate that we should endeavor to increase the numbers of students in some departments, perhaps.

**Expenditures for Vocational Agriculture**

In this comparison, it was found necessary to drop Wisconsin from the list, because all the figures are not available for that State. However, it is known that it is very liberal in both state and local support of vocational agriculture; more so than Oregon.

When we compare the remaining states, we find that Oregon takes fifth rank in the graph showing the total expenditure of state and local money per dollar of federal money, and the same rank for expenditure of local money per dollar of state money. This is apparent in table 5 on page 43. The average was taken in each comparison for a seven-year period. Without considering Wisconsin,—although it is known that that State will rank above Oregon,—we see that Oregon drops below her proper place in this comparison, if we can depend on the agricultural status check, where her ranking was fourth.

Reference to table 5 on the following pages points to the following conclusions:

1. State appropriations cannot be depended on. They have been falling off in recent years.

2. Federal reimbursements are now only approximately one fourth of state and local expenditures.
Diagram 4. Total expenditure of state and local money per dollar of Federal money for vocational agriculture education.

Diagram 4a. Expenditure of local money per dollar of state money.
3. Local funds have increased rapidly, but irregularly, since the adoption of the Smith-Hughes Act.

4. Local expenditures are now more than three and one-half times State expenditures.

5. Local support will be compelled to maintain and increase its efforts, because the limit of federal reimbursement has almost been reached.

6. We shall have to increase our promotional work in departments already established, if we want to maintain them.

7. We shall have to promote the vocational work among farmers in communities where it is not established more vigorously than was necessary in the past, since they will be obliged to buy the service with money, largely from their own pockets.

8. We must promote more interest in union high schools, and work for their establishment.

Summary

We are led to the following conclusions from the indications apparent in the study:

(a) The increase in the number of departments in this State compares favorably that of the other States of the group, but has fallen off very much in the last three years.

(b) Oregon does not compare so favorably in the growth
of the number of students. The sixth place falls to Oregon here.

(c) This State is comparatively low in ranking, when comparison of total State and local money expenditures is made.

(d) The graph on page 46 shows that the growth of students, departments, and expenditures has been fairly even and regular, but that expenditures have jumped much higher than the number of students and departments from 1923 to 1924.

Indications are that more vigorous promotional work would manifest itself in more departments, and thus we shall keep on growing; larger numbers of students, and therefore departments will be operating at full capacity; and increase in State and local support, in order that we may maintain departments already established, and be able to open new ones.
Diagram 7. Graph showing the relative growth of the total number of students, total number of departments and total expenditures for vocational agriculture education in Oregon.

Key: Total expenditure
Total students
Total departments
Table I: Oregon Financial Statement for Vocational Agriculture over a Period of 9 Years.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1917-18</td>
<td>$5,000</td>
<td>$250</td>
<td>$250</td>
<td>$5,500</td>
</tr>
<tr>
<td>1918-19</td>
<td>5,558</td>
<td>3,416</td>
<td>8,606</td>
<td>16,017</td>
</tr>
<tr>
<td>1919-20</td>
<td>7,411</td>
<td>7,411</td>
<td>25,495</td>
<td>34,758</td>
</tr>
<tr>
<td>1920-21</td>
<td>9,263</td>
<td>9,263</td>
<td>69,935</td>
<td>22,900</td>
</tr>
<tr>
<td>1921-22</td>
<td>11,450</td>
<td>11,450</td>
<td>13,358</td>
<td>48,941</td>
</tr>
<tr>
<td>1922-23</td>
<td>13,358</td>
<td>15,266</td>
<td>44,263</td>
<td>59,529</td>
</tr>
<tr>
<td>1923-24</td>
<td>19,083</td>
<td>19,083</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1924-25</td>
<td>22,900</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1925-26</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thereafter to 1930</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note: * Instability of State appropriations causes this drop in the total expenditures for Vocational Agriculture.
<table>
<thead>
<tr>
<th>Year</th>
<th>State</th>
<th>Federal</th>
<th>Total</th>
<th>State</th>
<th>Local</th>
<th>State and Local</th>
<th>Local expenditure per dollar of State</th>
<th>Local expenditure per dollar of Federal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1924</td>
<td>Idaho</td>
<td>$121,171</td>
<td>14,024</td>
<td>1,955</td>
<td>12,068</td>
<td>1.15</td>
<td>6.67</td>
<td></td>
</tr>
<tr>
<td>1923</td>
<td></td>
<td>10,950</td>
<td>40,240</td>
<td>8,347</td>
<td>51,392</td>
<td>3.77</td>
<td>3.92</td>
<td></td>
</tr>
<tr>
<td>1922</td>
<td></td>
<td>9,129</td>
<td>32,415</td>
<td>9,275</td>
<td>23,141</td>
<td>3.55</td>
<td>2.49</td>
<td></td>
</tr>
<tr>
<td>1921</td>
<td></td>
<td>6,477</td>
<td>36,843</td>
<td>14,150</td>
<td>22,693</td>
<td>5.65</td>
<td>1.60</td>
<td></td>
</tr>
<tr>
<td>1920</td>
<td></td>
<td>5,181</td>
<td>18,552</td>
<td>6,357</td>
<td>12,215</td>
<td>3.56</td>
<td>1.90</td>
<td></td>
</tr>
<tr>
<td>1919</td>
<td></td>
<td>4,985</td>
<td>4,985</td>
<td>125</td>
<td>4,860</td>
<td>1.00</td>
<td>37.90</td>
<td></td>
</tr>
<tr>
<td>1918</td>
<td></td>
<td>3,225</td>
<td>5,225</td>
<td>212</td>
<td>5,010</td>
<td>1.90</td>
<td>14.19</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average 2.77</td>
<td>9.79</td>
<td></td>
</tr>
<tr>
<td>1924</td>
<td>Utah</td>
<td>10,000</td>
<td>23,924</td>
<td>23,984</td>
<td>23,984</td>
<td>2.89</td>
<td>total</td>
<td></td>
</tr>
<tr>
<td>1923</td>
<td></td>
<td>7,960</td>
<td>32,860</td>
<td>32,860</td>
<td>32,860</td>
<td>4.12</td>
<td>total</td>
<td></td>
</tr>
<tr>
<td>1922</td>
<td></td>
<td>6,923</td>
<td>32,920</td>
<td>32,920</td>
<td>32,920</td>
<td>4.82</td>
<td>total</td>
<td></td>
</tr>
<tr>
<td>1921</td>
<td></td>
<td>5,077</td>
<td>47,928</td>
<td>2,500</td>
<td>46,428</td>
<td>9.44</td>
<td>10.17</td>
<td></td>
</tr>
<tr>
<td>1920</td>
<td></td>
<td>5,000</td>
<td>27,142</td>
<td>27,142</td>
<td>27,142</td>
<td>5.42</td>
<td>total</td>
<td></td>
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By what means has the state supervisor been promoting the program as far as we have gone?

To date, the instrumentalities by which promotional work has been conducted, have been of a very informal sort. Mr. E. E. Elliott reports that he has depended largely upon his efforts as a speaker at the meetings of various organizations of citizens, and upon the publicity work of the News Item, the official publication of the Oregon State Board of Vocational Education. Following is a list of the various types of organizations that he seeks to address.

Business Organizations.
- Kiwanis clubs.
- Rotary clubs.
- Lions clubs.
- Chambers of Commerce.

Pomona Granges.

School Teachers' Organizations.

He reports that he delivered approximately sixteen special addresses during the year 1924. A number of these were given to Pomona Granges, two or three to School Masters' clubs, one to a community crowd at the occasion of the opening of a building to be devoted to agricultural education, and the others to scattered business organizations.
The News Item has a circulation of 1000. It is free to anyone who may request it, and is published once a month. Following is an abbreviated list of its readers:

Every secretary of chamber of commerce where there is an agricultural department.

Every member of the various school boards where there are departments.

Eight of the highest officers of the Orange in the State.

All city superintendents.

The reading room of 125 libraries in Oregon.

Eighty interested and influential people in the State.

Seventy-seven newspapers.

Eighteen professors of the Oregon Agricultural College.

Seven professors of the University of Oregon.

The foregoing list will show that influential people and organizations are being reached by the official publication. It is just possible, however, that this official publication may go the way that so many other such publications go,--on the shelf. It is proper to observe that farmers, other than those who may be on the various school boards, are not being reached by the official publication. It is pertinent at this point to inquire into the desirability of reaching certain specific groups of citizens. Which is the most important group to reach? The State Supervisor ranks the various groups to be reached in the following order:
Superintendents and principals.
School Boards.
High school student bodies.
Farmers.
Leaders in the communities.

This list of citizens represents that group which it is most desirable to reach, when the establishment of a new department is being contemplated. It is, however, of very great importance that this same group be educated concerning the vocational work, if it is our desire to attract the interest of school authorities and the farmers in their communities throughout the State as a whole. Most authorities seem to think, however, that in general, promotion work in a state, the farmer is the most important man to be canvassed. Perhaps no state has done more in promotional work than Illinois, and there are some who think that its success has almost embarrassed the vocational authorities. The point that we are interested in, however, is that they have succeeded in educating the farmer to the aims and opportunities in this type of education to the point where the demand for such departments has been as high at all times as the interest of the authorities was in establishing new departments. In 1923, Illinois had 151 departments, a total that was exceeded by only one state in the Union, Ohio. It will be in order at this point to investigate the means by which the promotional program has been carried out in Illinois.
Methods of Promotion in other States

Illinois

According to J. E. Hill, the State Supervisor of Agricultural Education, the purpose of promotional work in that State has been to arouse more interest among the farmers in the departments which have already been established. It is hoped that this increase in their interest will also indirectly help to increase the number of the departments. The following is a quotation from a letter received from Mr. Hill:

"1. Since this is the year when appropriations are made for all state departments it became necessary for us to secure the backing of the agriculture organizations if we were to receive our reimbursement. Such a canvass shows that all the farmers' organizations in Illinois and editors of farm papers in Illinois are sold to the plan of vocational agriculture. The officials of the American Farm Bureau Federation became interested because we have a definite time on their broadcasting program. We have had speakers on the various phases of vocational agriculture to speak from Station KYW, Chicago, once or twice each month since last summer. We have also had speakers to appear on the Illinois Agriculture Association programs at their request. This broadcasting has been a means of interesting agricultural organizations as well as the individual farmer. Indications are at the present time that we will have 20 or 25 new da-
partments applying for recognition next year. This is the maximum number which we can accept.

2. Our program of promotional work does not require additional expense. The broadcasting is without expense and the arrangements which we have made whereby national farm papers will receive an article from ten different teachers each month for publication costs us nothing but a little time and effort. It has become customary for our agriculture departments to hold father and son banquets sometime during the year. At these banquets the agriculture boys invite in their fathers and friends from the country. The promotional part of the program is taken care of by inviting local legislators to attend this banquet and get first hand information concerning the work in vocational agriculture. These banquets have done much to interest influential people in vocational agriculture.

3. We have not tried to interest administrators through our promotional work. Our efforts have been directed to the farmers. Most of the Boards of Education of our community high schools are composed of farmers. If they are interested the administrator of the school will be willing to establish a department.

4. We have not used bulletins for promotional work.

5. Project talk and community service is the best selling talk.

6. In no case have we definitely urged local boards of
education to establish departments. The initiative for establishing that department must come from the local board of education. We are willing and glad to furnish any information which we can to local boards of education, but the final decision in all cases rests with them."

It is evident from this information that Illinois has not won its large number of departments without effort. Two principal methods followed are that of broadcasting by radio at frequent intervals, and that of using the press. Apparently a great deal of interest is also obtained by means of the father and son banquets. This would be especially effective in creating community interest and in getting the ear of the legislators. It is noteworthy that, unlike this State, the authorities in Illinois do not put forth any direct effort to interest school superintendents, but rather go after the farmers, maintaining that they in turn will insist on fulfilling their desire for a department.

California

Perhaps the most effective agency for promotional work in California is the press. It has been learned that each agricultural department is made responsible for a certain definite amount of press material to be sent to a Sacramento daily paper. This material is the work of the agriculture students themselves, rather than the instructors. Every week this paper carries one or two columns of material on
on vocational agriculture. In many cases much of this material is copied by the local press, especially if it happens to be the work of some of the local students. California has gradually increased the number of departments to 61 in 1924, ranking among the upper third in the Union. It is very likely that we could adopt some of the methods used in other states, such as these I have cited, to our advantage.

What should be the Nature of the Promotional Program in Oregon?

From all the information at hand it is apparent that we are in need of a more vigorous promotional program for vocational agriculture in this State. The agencies that are being used are desirable so far as they go, but it does not seem that they are reaching the agriculturally interested citizens of the State. No publication with agricultural interests will reach as many farmers in Oregon as frequently and as regularly as the various farm papers. For that reason it is desirable that we utilize this medium of publicity a great deal more than has been done in the past.

It does not appear that this method of securing interest and publicity has been utilized very much. The writer went carefully over every issue of the Oregon Farmer for the calendar year 1924 in search of articles, editorials or paragraphs pertaining to vocational agriculture.
was able to find altogether only sixteen inches, all editorials, approximately four inches to an editorial. There were no pictures. On the other hand, he measured 358 inches of material, and 24 pictures in the same paper for the same period on Boys' and Girls' Club Work. In 1923, when the latest figures were available, Ohio had the largest number of departments in the Union. It was rather significant to find in the Ohio Farmer for 1924, 120 inches of press material on vocational agriculture together with 3 pictures. The editors of 12 farm papers and the agricultural sections of three dailies in this State received individual letters, asking them whether they would be willing to publish short articles and paragraphs by agricultural teachers and others on the progress of their work, and whether they would be willing to cooperate with us in furthering the interests of farmers and school authorities in the work.

A sixty per cent return was secured on the letters written to the farm papers in the State. Without one exception, all were willing to cooperate with the proper authorities in furthering the vocational agricultural education program. They are all willing to publish material in their papers pertinent to the subject. Some were anxious to have this material at once. Following is a list of the papers which replied, and on the following page is a very typical reply letter that was received from the Oregon Farmer:
(a) Western Breeders Journal.
(b) Oregon Grange Bulletin.
(c) The Pacific Homestead.
(d) Oregon Growers Cooperative Association.
(e) Western Farmer.
(f) Angora Journal.
(g) The Eugene Guard.
(h) The Oregon Farmer.

As in Illinois, it is very desirable that we have the backing of the various farm organizations of the State. Six leading state-wide organizations were canvassed with individual letters, asking them for their attitude towards the work in an indirect way, and inviting their suggestions for cooperation. Similar letters were sent to fifteen Pomona Granges.

*Replying for "The Oregon Grower" which has been discontinued.

Dear Mr. Laughlin:

Replying to your recent letter regarding our cooperation in popularizing the Smith-Hughes work in agriculture, I can say that we would be only too glad to have articles of the kind you mention, in reasonable number, for publication.

I know that this work is an important branch of agricultural education, and that in such measure as it is ne-
neglected, by The Oregon Farmer, our publication is not properly balanced; yet for some reason we never have given it any great amount of attention. Possibly this is because it is not as spectacular as club work, or possibly because we were "sold" on club work first; but however that may be, I have a sincere desire to use more interesting matter regarding it, and I do not doubt that interesting matter is obtainable.

The only suggestion that occurs to me, concerning matter that you may submit, it is that you be brief. We are crowded for space, always, and we rarely carry an article of 3000 words. One of 500 to 1500 words is far more likely to be published, and of course we would welcome still shorter ones—brief items. From time to time a picture accompanying a story helps "put it over".

Hoping that we may work together to our mutual advantage, I am

Very truly yours,

George N. Angell—THE OREGON FARMER

There was not very much of a response from the Pomona Granges or the farm organizations of the State. It is therefore impossible to say just how we stand with these organizations. The likelihood is that they are not aware of the vocational agricultural education program in the State.
The only Pomona Granges replying were those of Clackamas and Multnomah counties. The latter reply was not from the present Master, and did not indicate the standing of their Grange. The reply from Clackamas county however, indicated that the Grange of that county was very much interested in hearing all about the program, that they may be in a better position to lend it their support.

The Agricultural Section of the Oregon Bankers' Association and the Oregon Pure Bred Live Stock Association were the only two farm organizations from which replies were received. Both indicated that they were interested but ignorant of our work.

The replies received from the Press, the Granges and the Farm Organizations only go to show that we have interested followers in our program if we will only tell them about our work.

The study points also to the necessity of our various agricultural instructors doing more in a promotional way in their own communities, in order to maintain a lively interest in their local work, increase the number of students in some departments, and draw the attention of other communities to their work in all cases.

Promotional work in Smith-Hughes Vocational Agriculture should be greatly invigorated if we are to maintain the departments that we have already established or increase the number of departments to 63, the present maximum for the State.
Table 6. Number of Agricultural Departments Federally Aided.

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<td>15</td>
<td>24</td>
<td>26</td>
<td>22</td>
<td>15</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td>Virg.</td>
<td>18</td>
<td>36</td>
<td>47</td>
<td>52</td>
<td>61</td>
<td>66</td>
<td>115</td>
</tr>
<tr>
<td>Wis.</td>
<td>8</td>
<td>13</td>
<td>25</td>
<td>31</td>
<td>34</td>
<td>43</td>
<td>46</td>
</tr>
<tr>
<td>Ore.</td>
<td>--</td>
<td>5</td>
<td>7</td>
<td>16</td>
<td>23</td>
<td>26</td>
<td>26</td>
</tr>
</tbody>
</table>

Note: The numbers for 1924 are not absolutely accurate, since it was necessary to make a count of them on a map.
Definitions

Selection will mean the act of choosing such teacher or group of teachers from a larger group as will qualify for positions in vocational agricultural departments in Oregon.

Placement will mean the act of placing a teacher, so selected in charge of such department as will best lend itself to his peculiar experience, training and characteristics.

Promotion will mean the advancement of a teacher to another position, that carries with it more responsibility and opportunity of service and recognition, or the advancement to a higher salary.

Selection of Teachers

The selection of agricultural teachers in this State is a responsibility that divides itself between the State Supervisor and the Teacher Training Department at the Oregon Agricultural College. The responsibility rests largely with the latter department, but the final approval rests with the State Supervisor.

It is reasonable to expect that complete agreement should exist between the two selective agencies. Such agreement does not, however, exist to the fullest extent. The State Supervisor lays more stress on the ability of a prospective teacher to function as a social agent in the com-
munity, than does the Teacher-Trainee. The latter considers
the ability of a prospective teacher to turn his technical
knowledge and practical experience into practicable functions
more than does the State Supervisor. The result of such dis-
agreement would appear to work itself out in compromise.

In considering the question of selection, and the re-
sponsibility of the State Supervisor, five questions suggest
themselves. An answer to these questions should enable him
to proceed with more clarity of purpose and understanding
of the situation. Following are the questions:

1. What are the general qualifications, set up by the
State that must be met?

2. What additional and more specific qualifications
are desirable for this State?

3. What is the prospective demand for teachers in this
State for this year and following years?

4. At what time and from what source is it best to
draw the supply of teachers?

5. What competition does this State have to meet from
other States in selecting its teachers of agriculture?

1. What are the general qualifications, set up by the
State that must be met?

(a) Must be graduates of a four years' course in a
standard agricultural college.

(b) The major work in the course must be general agri-
culture and shall include: (1) Farm mechanics; (2) animal
husbandry; (3) soils and crops; (4) horticulture; (5) farm management.

(c) Not less than 15 semester hours in education, including: (1) educational psychology; (2) principles of education; (3) vocational education; (4) secondary education in agriculture; (5) practice teaching.

(d) Not less than two years of practical farm experience.

(e) Teachers of related subjects, such as farm shop and science and mathematics applied to agriculture, must hold regular state certificates as high school teachers.

(f) Teachers of related subjects must meet the approval of the State Board of Vocational Education, as to their practical training and ability in relating their work to agriculture. The State Board reserves to recommend a man lacking the above requirements, provided the local board will allow the teacher time for professional improvement under the State Board.

It will be seen from this, then, that the State requirements are definite. In so far as the State is concerned, the group from which teachers are to be selected is limited to college graduates with at least two years of practical experience in farming.

2. What additional qualifications for this State?

We have seen that the State requirements are definite. It is obvious, however, that there are not in this any
specific and detailed qualifications that will limit the group to a greater degree. It is of interest at this point to mention the fact that this State has never employed a Smith-Hughes vocational agricultural teacher that did not fulfill the above mentioned State requirements.

The logical approach to such a question as that stated above would be to determine what should constitute sufficient training for the agricultural instructor. The staff of the Agricultural Service of the Federal Board for Vocational Education maintains that we should make a general analysis of the job of the agricultural instructor. Following is the summary of the most important responsibilities of the agricultural teacher in this State as determined by E. D. Doxey in a survey that he made in 1922.

1. Organization of courses.
2. Organization of classes.
3. Teaching vocational agriculture to both full-time and part-time classes.
4. Securing the cooperation and assistance of others.
5. Directing and supervising practical work.
6. Directing and assisting community activities.
7. Directing and assisting school activities.
8. Formulating a year's program.

It will be seen that the agricultural teacher must have a good deal of executive organizing ability, and ability to think constructively, as well as to be able to function
as a teacher. In order to obtain the right men for the positions, it is obvious that they should measure carefully against the above mentioned scale.

The Staff of the Agricultural Service of the Federal Board for Vocational Education considers the following major job requirements of the agricultural teacher as important:

1. Ability to select and organize functioning training content.

2. Ability to sell his training to the community.

3. Ability to render community service.

4. Ability to teach organized content under organized working conditions.

5. Ability to teach unorganized content under unorganized working conditions.

6. Ability to secure and maintain leadership in the civic and general educational field.

7. A command of the functioning principles in chemistry, physics, biology, geology, meteorology, economics, sociology, and selling psychology.

8. Doing ability in typical farm jobs.

9. Command of functioning technical content.

10. Familiarity with, and ability to adjust himself to, public school system.

These qualifications are in agreement with the general principles of the Smith-Hughes Vocational Educational Act, and it may be said that the majority of leaders in the field
of vocational agricultural education subscribe to them. They would therefore be applicable to Oregon.

There are four of these qualifications however, which would appear to be particularly pertinent in this State at this time. They are those which are mentioned under numbers 2, 4, 6, and 10. It is not suggested that the others are of lesser importance, but rather that the latter mentioned qualifications are in need of more emphasis at the present time. It will be noted that each of this smaller group of qualifications has one characteristic in common. The degree to which each separate aptitude is present, as well as the extent of the total degree of all four aptitudes present, will determine very largely the strength of the individual departments, as well as the increase of the number of departments. Each of this group of four qualifications ought to manifest itself in the extension of public interest in vocational agricultural education in the State. The writer is not overlooking the greater possibilities that are apparent too in the opportunity so rendered for each department to be of wider service to the community where it is. Too little community service has been rendered to date.

It is timely at this point to suggest ways and means by which such abilities may be judged, when deciding upon the qualifications of the prospective teachers. So far, objective tests have not been developed sufficiently to enable a selective agency to use them as a measure of these abilities.
It is not too much to expect that there shall be such tests in the near future. There is no reason, however, why a test of intelligence should not be used in the selective process to help determine the fitness of candidates for this position as it is being used for similar purposes in other educational fields. In the meantime, lacking such objective measurements, it will be necessary to determine the qualifications of the candidates by means of judgement, based on adequate facts.

The ability of a man to select and organize functioning training content should be indicated in the way he is able to do this for the classes which he teaches during his training period, as well as from similar responses to similar classes of problems.

It will be less easy to determine subjectively his ability to sell his training to the community. Perhaps the most reliable indication that is available is the man's personality and character. A teacher with a pleasing personality, who is industrious and interested in his work should have a better chance to sell his services to those around him than one who, though highly trained technically, is handicapped with personal traits that are objectionable. Objective measurements may be used to some extent here as well, if a check is made to determine to what extent the individual in question has been able to make himself serviceable to the college group while on the campus.
Perhaps the best way for the one who is selecting the teachers to determine the ability of the candidate to render community service is by checking on his apparent, aptitudes with regard to methods of instruction. This ought to be visible in his work as a practice-teacher. If he is inclined to a liking for field methods of instruction and community projects, such constructive thinking should be a good indication of his attitude towards working for community benefi ts in a specific way.

The teaching abilities will have to prove their latent possibilities, when the teacher is in training.

The indications of ability to secure and maintain leadership in the civic and general educational field should be apparent in his performance results as a student-teacher, intelligence tests and personal traits.

The best means that we have of measuring a man's knowledge of the technical subjects are the grades that he has made in them.

The doing ability in typical farm jobs must be largely determined from his teaching activities while in training for a teacher and in learning activities of the farm shop, dairy, horticulture, farm crops courses and from previous farm experience.

It is rather difficult to determine a man's capacity to adjust himself to a public school system. His capacity to make himself agreeable and to cooperate with others in an
organization will be a measure of such capacity, as we shall best be able to determine it. These traits may be readily determined from his college record.

There are some additional qualifications, which candidates for teaching positions in agricultural departments are expected to meet in this State, and which are very desirable from every point of view. They are briefly noted as follows:

1. A strong, desirable character. The wisdom of such qualification is apparent when we are reminded that there is no type of teaching that involves such close personal and friendly relations with students as that of teaching agriculture.

2. Married teachers. It is obvious that such teachers will be more stable, and ought to exercise more influence in the community.

To summarize, it might be said that the care with which the agricultural teacher is chosen will in the end determine the success or failure of the work in the State. There is nothing that can take the place of the personnel in any organization.

3. What is the prospective demand for teachers in the State for this year and for following years?

The only way to obtain a reliable answer to such a question is to examine the record of tenure of teachers.
now in the service, and the total number of teachers who
have been in the service in this State. The data that fol-
low will be helpful.

There are now 29 teachers in the service. There have
been 48 teachers in the service since 1918.

Of the 29 teachers now in the service under State and
Federal aid and approval, in Oregon, the following table
shows the period of service in the same kind of work in the
State:

In the first year of service.............5........17.24%
In the second year of service.............5........17.24%
In the third year of service.............5........17.24%
In the fourth year of service.............4........13.82%
In the fifth year of service.............10........34.48%
Total........................................29........100.00%
In the service for two or more years......24... 82.75%

* In a rural school survey that was made in the State of
New York, it was found that the percentage of vocational ag-
ricultural teachers who remained two or more years in the
service was 68.4. It is apparent that the period of tenure
in the service in the State is considerably higher, than,
then that of New York.

Another interesting comparison is found when we com-
pare the number of teachers who left the service after spe-
cific periods of service. The table follows:
First year of service......................12
Second year of service...................... 2
Third year of service........................ 5
Total who have left the service............. 19

This clearly shows the unstable period of an agricultural teacher in Oregon. It does not correlate at all with the results of the New York survey. It was found there that there was a greater tendency for the teachers to leave the service in the State after the second year of service, although almost as many left after the first year of service as after the second.

Of the 48 teachers employed in the service in this State since, the establishment of the first department in 1919, the record is as follows:

<table>
<thead>
<tr>
<th></th>
<th>1919</th>
<th>'20</th>
<th>'21</th>
<th>'22</th>
<th>'23</th>
<th>'24</th>
<th>'25</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>First time in service</td>
<td>5</td>
<td>5</td>
<td>14</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>48</td>
</tr>
<tr>
<td>Left service in Oregon</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>At present in service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>28</td>
</tr>
</tbody>
</table>

Rural school survey of New York State by Helen Emma Gates.

The above table shows clearly that Oregon has good reason to expect from 2 to 5 teachers to leave the service in the State every year, and five new teachers to be required every year. We may logically expect the State to require the services of five new teachers next year. It is expected that as the number of departments increases, the number of new teachers coming into the service each year will increase slowly. However, at the present tendency of the rate of in-
crease of departments, it is not expected that the State would require the services of more than 10 new teachers each year before 1930.

1. **At what time, and from what source is it best to draw the supply of teachers?**

   This question involves two considerations. When should the State select its teachers who are to go on the job the following year, and when should it select its prospective teachers for following years?

   The answer to the first consideration is obvious. The teachers for the coming year should, of course, be selected when they are in their senior year in college, if newly graduated students are wanted, rather than experienced men from other States.

   Just when the teachers for following years should be selected is a question that is being answered by the various States according to the opinions of the various authorities in charge. It is of interest to note, however, that a committee of the Seventh Annual North Atlantic Regional Conference in 1924, on a study to determine the methods by which suitable groups of teachers may be secured, recommended that we should go as far back as the high school for prospective teachers. This Committee is of the opinion that we should lead the best material in secondary agricultural departments into the teaching field. The same committee reports that the
Teacher-Training department should attract strong men from the other agricultural courses into the work in time to get sufficient training to be able to qualify for the work.

6. What competition does this State have to meet from other States in selecting its teachers of agriculture?

The most formidable competition that Oregon has, is from the State of California. Arizona, Kansas, and Idaho are much less worthy competitors in this respect. The outstanding drawing card that California has is that of salaries. Oregon will not be able to compete with the State to the south in this respect so long as the method of school support in this State rests so largely with the local community. No definite data are available to show the comparison between the salaries of agricultural teachers in the various Western States, but the following will give some indication of the ranking of the States in the Western Division in general school salaries.
Table 7. Average Annual Salary of Teachers, 1919-20.

<table>
<thead>
<tr>
<th>State</th>
<th>Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkansas</td>
<td>$1279</td>
</tr>
<tr>
<td>California</td>
<td>1272</td>
</tr>
<tr>
<td>Washington</td>
<td>1229</td>
</tr>
<tr>
<td>Nevada</td>
<td>1163</td>
</tr>
<tr>
<td>Utah</td>
<td>992</td>
</tr>
<tr>
<td>Montana</td>
<td>988</td>
</tr>
<tr>
<td>Idaho</td>
<td>932</td>
</tr>
<tr>
<td>Colorado</td>
<td>929</td>
</tr>
<tr>
<td>Oregon</td>
<td>870</td>
</tr>
<tr>
<td>Wyoming</td>
<td>669</td>
</tr>
<tr>
<td>New Mexico</td>
<td>503</td>
</tr>
</tbody>
</table>

It will be seen from the above table that Oregon ranks ninth in the matter of salaries of all school teachers. It is well known that the salaries for agricultural teachers in California are far above those of Oregon. Such competition is difficult to meet.
Placement of Teachers

The placing of a teacher of agriculture in the State system involves the same painstaking processes that the selection of the group of agricultural teachers for the State involves. In the latter case, it is a problem only of larger groups, and more general consideration. The placement of the individuals of the group so selected will necessarily sift more carefully this small group, in order that the individuals in it may be rated in accordance with the various positions that are to be filled in the system.

The problem of placing a teacher in that department of the State system, where he will be best able to meet the maximum number of problematical situations arising, would seem to be one of the utmost importance, yet the writer has not been able to secure any literature on the subject, that would serve as a guide to the study of this question in this State. In view of this fact it will be necessary for him to suggest criteria that may help to clarify our thinking on this point.

We have already seen that we may expect to have at least five new teachers coming into the service next year, and a slowly increasing number in following years as the number of departments are increased. The following table will give us some indication of the number of teachers who change position in the service every year.
Table 7. Number of Agricultural Teachers who changed Position in the Service in Oregon, from 1920 to 1924.

<table>
<thead>
<tr>
<th>1920</th>
<th>1921</th>
<th>1922</th>
<th>1923</th>
<th>1924</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

From the above table it is apparent that we may expect two changes in position within the service this coming year, and an increasing number with the increase of the number of departments.

The scope of the placement problem, then, resolves itself into the placement of approximately 7 teachers each year in positions in the service that they have not held previously in that location. The importance of exercising the greatest care in this matter is obvious. Careless placement work will mean many shifts at the best, and perhaps the complete failure of a department or the elimination of a good teacher from the service at the worst. Generally speaking, the longer the tenure of a teacher in one department, the greater the service he will be able to render to the community which is his environment. It is very satisfactory to notice that the period of tenure in one position in this State is high when compared with the same for the State of New York for instance. Two changes a year is a very creditable showing in a system where there are 29 teachers. Such a condition of affairs should not, however, blind our comprehension to the
possible fact that there may be men now in the service who could be making a greater success of their job in some other locality in the State. This leads us to the assumption that it is a practical impossibility to place a man in a department that is best adapted for just that type of man. It is possible for us so to fit a man to a department that the department will have a much greater chance of succeeding than it would if a certain other individual had been situated there.

So far as it is possible, the prospective teacher for a specific location in the State should be able to fulfill the following qualifications:

1. Have training and experience in the type of agriculture that exists in that community. This qualification seems to merit more than ordinary attention in this State, since there is a greater diversity of types of farming in this State than one ordinarily finds in a State with uniform topographical and soil conditions, such as some of the states of the Middle West. As is indicated in the first part of this thesis, we have here farm regions that vary with the predominant crop that is raised. Following will illustrate:

(a) Small fruit districts, e.g. Newberg.
(b) Tree fruit districts, e.g. Hood River Valley.
(c) Truck crop districts, e.g. Multnomah County.
(d) Cereal crop districts, e.g. Milwaukie.
(e) Hay and Forage crop districts, e.g. Union.
(f) Livestock districts, e.g. throughout State.
(g) Where there is no dominant crop or breed interest.
The type of agriculture varies through the State, too, in the physical aspects. If a teacher of agriculture is unfamiliar with certain conditions that are to be met in some of these sections, he will not be in a position to render the best service to the community. Following are the various types of physical conditions that are to be met in Oregon:

(a) Humid farming areas.
(b) Dry farming areas.
(c) Irrigated areas.
(d) Newly-cleared-land areas. (pioneer conditions)
(e) Rich river-bottom areas.
(f) Wet land areas.

When there is such diversity of crops and physical conditions in the State, it would seem to be very important that all possible care be taken so to place the men in the State where they will be able to render the maximum service in so far as their ability to meet situations as they arise in each of the various types of communities is concerned.

2. He should be a man who will be readily adaptable to the type of people who live in the community. This will not be such a problem here as it is in some of the eastern states where there are more foreign colonies. Yet there are in Oregon certain community types that are quite different from others in the State. For instance, there is the educated community such as that contiguous to Parkdale in Hood River County, where 25% of the residents have a college education.
and 56% have been to high school. Another example might be cited, and that is the community at Mount Angel, which is 96% Catholic. These examples should be sufficient to remind us that the social characteristics of a prospective teacher would seem to play an important part in placing that teacher where he will be most likely to succeed.

3. He should be able to cope with the particular problem that is uppermost in the department under consideration. The problem may be one of relations with the Superintendent or Principal, such as that at Cottage Grove or Gresham. It may be a problem of securing a better representation of farm boys in the agricultural classes, such as that at Medford. Perhaps the Supervisor has chosen to start a short-unit or evening class at a certain department in the State. It might be a problem of initiating the work in a new department, that has not the support of the community at large, or that is surrounded by a very skeptical class of residents.

Each of the above mentioned problems will tend to be successfully solved, when the men are chosen for their particular aptitude along each of these lines.

It will be rather difficult for the Supervisor or the Teacher-Trainer to determine the capacity of the various teachers, newly selected for the State. There are some adjustments and abilities to cope with situations mentioned above whose latent possibilities can only be conjectured. However, the Supervisor will be in a much better position
than any one else to determine the fitness of those in the service to measure up to certain qualifications that seem to be necessary in another community, for which he is in search of a teacher. It is this greater knowledge that the supervisor has of his teachers who have been in the service for some time, that leads the writer to the conclusion that changes in position are not always an indication of undesirable conditions. In certain cases a change may mean the success of a new department and a new lease of life for an old department. This is no reason, however, that we should not exercise the greatest possible care when a man is being placed for the first time in the service. But as long as the ideal cannot be attained, it is desirable that teachers be shifted in the field to other locations where they may be able to render greater service. Placement of teachers is a responsibility of the State Supervisor that equals in importance his responsibility in supervising the proper selection of teachers for the system.
Promotion of Teachers

Perhaps we have come to one of the weak points of the vocational agricultural training system in Oregon. There is not much to be said relative to the matter of promotion of teachers in the service, for there is no formal promotion scale in this State. The opportunities for advancement in the service are very rare, and non-existent other than in the matter of increasing salaries, which rapidly come to their maximum. It is true that there is the opportunity of advancement to principalship of the high school, either as an agricultural teacher or teacher of some other subjects, but because of the smallness of most of the high schools, there is no great incentive to teachers of agriculture to strive after the principalship of such schools. There are four agricultural teachers in the State who are also principals of their respective high school which is a very creditable showing.

For the teachers of agriculture in the high schools of Oregon to aspire to more responsible positions in the agricultural education service, it is necessary for them to leave the State. Some of the more responsible positions that are to be found outside the State and still within the field of rural education are the following:

(a) Assistants in Teacher-Training Departments.
(b) Teachers in Junior colleges.
(c) County Superintendents. (not as in Oregon)
(d) District Supervisor of vocational agricultural education.

(e) Itinerant Teacher-Trainee.

(f) Head of vocational agriculture department in a large high school.
Table 9. Showing the numbers of Salaries Advanced and the amounts of each between the years 1920 and 1924.

<table>
<thead>
<tr>
<th>Amount</th>
<th>1920</th>
<th>1921</th>
<th>1922</th>
<th>1923</th>
<th>1924</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 50</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>160</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>200</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>300</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>400</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

- **Total number**: 2 6 4 7 11
- **No increase**: 6 13 14 13
- **Left service**: 5 2 5 3 2

**Total Teachers**: 7 16 23 24 26

**Average increase**: $400 $193 $125 $243 $171

**Per cent of total receiving increase**: 28.5 37.5 17.3 29.1 42.3

It is apparent from the above data that:

1. The amount of the salary increase varies very considerably.

2. With the exception of one year, the per cent of teachers receiving the increase has been gradually growing.
3. That a teacher has 1 chance in 3.2 for getting an increase, if the experience of teachers of the five year period is taken as a basis, and 1 chance in 2.8 if he is to base it on the experience of the last two years.

One department unaccounted for.

There is room in this State for the adoption and use of a salary schedule. If such was worked out and adopted, a greater incentive for improvement of the work of the teachers in the vocational agricultural service would reflect itself the efficiency standards of the various departments in the service. A basis of increase in salary might be based on training, achievement, length of service and professional improvement. It is of interest that Arkansas proposes to establish ten half-time schools near the State University and let men, who would care to work for advanced degrees teach in these schools. In this way ten men can take graduate work at one time.

Tennessee has worked out a salary schedule that begins at $1800 and rises to $2700.

It was agreed by all States of the Southern Region in their conference last year that salaries were not high enough to hold the most competent men.

If Oregon hopes to attract the most desirable men into the service and retain them, it will be necessary for the authorities here to adopt some kind of desirable salary
schedule. Before such a schedule can be made practical, it will be necessary to obtain greater and more reliable State financial support.
No Teacher-Training Department can turn out a finished product. The best prospective teachers that it will produce will be in need of assistance when they are adapting themselves to their new situation in the field during the first year of service. In following years, he will always be able to improve his service to the community through the assistance of well-directed, sympathetic, outside agencies. Following are the reasons that go to support these statements:

1. Vocational agricultural instruction to high school students is in its infancy.

2. Teachers vary in degree of training, experience, and adaptability to new situations.

3. Teachers vary in their ability to measure their own efforts and results.

4. Each community has distinct problematical situations for which it is impossible for a Teacher-Training Department to prepare the prospective teacher.

5. The teacher of agriculture has a job that is dynamic rather than static. Services rendered satisfactorily to-day, will be unnecessary to-morrow.

The constancy of the problem of training of teachers in service is apparent from the number of times one meets with dissertations upon the subject in the literature pertaining to the field of vocational agricultural education. Six of the reports of regional conferences of the past four years
have contained in them rather lengthy discussions and reports of special committees on this phase of the work. Without further introduction, the writer will proceed to a review of the work that is being done throughout the entire country on improvement of teachers in service.

Sherman Dickinson, Instructor in Agricultural Education, University of Wisconsin, made a study of the aims and methods of this work over the country in 1923. A summary of the results of his study will prove helpful to us in Oregon in determining the responsibility of the State Supervisor in setting up a program in this State. Following the summary, and comparison of recommendations suggested, with program in this State, an attempt will be made briefly to analyze the problem that the Supervisor has in our own State.

The purpose of Mr. Dickinson's study was "to discover as nearly as possible the situation in the various States in regard to the practices followed in continuing the training of agricultural teachers after they have entered service." From this he proceeds to compare his data obtained with that of a similar study made by Dr. Storm in 1918, and to indicate the trend that the methods have been taking in the four-year period. His findings are based on reports received from forty-two States of the Union.

Dickinson, Sherman, Training in Service for Teachers of Agri., etc. Bulletin of the University of Minnesota, College of Education.
The methods which were found in common use are listed as follows:

(a) Visitation
(b) Teachers' meetings
(c) Training courses
(d) Extension or correspondence courses
(e) Bulletins or similar publications.

**Training in Service Through Visitation**

1. Practically all replies emphasized its importance and rank it first in value.

2. In thirty-seven states the Teacher-Training Department has a share in the work of visitation.

3. In fourteen states there is one member of the training staff whose principal and special duty is training in service.

4. In practically all of the States, the functions of the itinerant teacher are the same. He is to visit teachers who are in need of help and attempt to improve their work through conference, advice, and demonstration.

5. Very little agreement is found as to the authority of the itinerant trainer in regard to improving those teachers who he finds in need of assistance.

6. The composite answer to the question "How long are visits?", expressed in a composite reply would be, "as long as necessary within reason."

7. Following is a list of the problems attacked:
(a) Improvement in teaching technique
(b) Planning course of study
(c) Organization and management
(d) Projects
(e) Supervised practice
(f) Community relations and study.

8. In all of the States replying, the State Board for Vocational Education carries on training in service through a State Supervisor of agricultural education.

9. In only five of the States did any other member of the staff of the State Board have any part in the training in service of agricultural teachers.

10. In practically all of the States, the type of training given agricultural teachers by the local school superintendents was reported as casual and ineffective.

Training of Teachers Through Meetings of Agricultural Teachers

1. All States use this method.

2. Forty States have general state meetings of agricultural teachers.

3. The purpose of the meetings in most cases was to discuss special problems, to effect general improvement and to simply give "training."

4. Thirty-three States held sectional meetings. Twenty States reported that sectional meetings were held but once a year.

5. In twenty-one States the State Supervisor was actively
in charge of the sectional meetings.

**Training in Service Through Intensive Training Course**

1. Twenty-five States offer such courses.

2. Most States agree that the best time for these courses is in the summer.

3. Such courses were nearly always held at the State College.

4. The purpose of these courses was "improvement in method and subject-matter."

**Training in Service Through Extension Courses**

1. Twenty-six States do nothing whatever in this field.

2. Fifteen States offer one or more such courses.

3. The courses offered were without exception all within the field of vocational agricultural education, and dealt with general subject-matter, pertinent to the teachers field of service.

**Training in Service Through Departmental Publications**

1. Thirteen States issue some sort of publication, which has training in service as its main function.

2. Twenty States publish a bulletin or mimeographed sheets with the aim of training in service co-ordinate with or subordinate to some other aim. These are issued monthly with two exceptions.

The writer of this booklet summarizes the work of improve-
ment of teachers in service as follows:

1. All states have recognized the need of continuing the training of these teachers and are attempting to do so.

2. In most states the teacher-training institution and the state supervisor for agriculture share the responsibility for this training.

3. Visitation is the most common method of training in service, but is closely followed by special meetings as a method.

4. Other important means of training in service are intensive training courses and monthly publications.

5. Nearly one-third of the States employ a special man in the teacher-training institution for training agricultural teachers in service.

6. Little use is made of extension or correspondence courses.

7. Supervision by the local school officers is usually not efficient.

8. Making attendance compulsory at special meetings of agricultural teachers does not always result in a larger attendance.

9. Publications of bulletins and letters is a common method of training in service.

10. There are three mimeographed publications for training in service to every one printed.
Tendencie in The Training in Service of Teachers of Agriculture

(As summarized by Dickinson)

1. There has been a great increase in the amount of training given to teachers of agriculture in service.

2. The work of training in service is coming to be a co-operative arrangement between the teacher-training institution and the state board for vocational education.

3. There is a larger number of special itinerant teacher trainers.

4. Visitation is still the most general method of training in service.

5. Local or sectional conferences are growing in number and importance.

6. Intensive training courses of a few days' duration are becoming common.

7. There appears to be no tendency to place more reliance upon reading and correspondence courses.

8. The majority of States use periodical bulletins or mimeograph sheets as a method of training in service.
## Table 10. A Comparison of the Number of States Holding Various Kinds of Conferences for Training in Service for the Years 1918-19 and 1922-23.

<table>
<thead>
<tr>
<th>Kinds of Conferences</th>
<th>Frequency 1918-19</th>
<th>Frequency 1922-23</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General</td>
<td>Local</td>
</tr>
<tr>
<td>Annual</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Semiannual</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Quarterly</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Occasional</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Indefinite</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Three or four a year</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Five or six a year</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>No training</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>No reply</td>
<td>8</td>
<td>..</td>
</tr>
</tbody>
</table>

Perhaps the most valuable part of this unique study is the tentative program, based on the study, which is proposed. It is mentioned by the investigator that it is not a new program, but is the result of a study of tendencies and conditions. Some States have worked out a program similar to it. It is pointed out that the following program embodies the most progressive ideas of leaders in agricultural education.

1. The work of training in service of agricultural
teachers should be carried on co-operatively by the teacher-training institution and the state board of vocational education.

2. Rather than employ a man whose sole duty consists in training in service, the teacher-training institution should definitely assign to this work members of the teacher-training staff, alternating these assignments as seems best.

3. Additions to the staff should be selected with ability for training in service as one of the principal qualifications.

4. The principal means of training used by the itinerant teacher should be visitation. Visits should cover a period of several days and should be repeated as often as is feasible.

5. The State Supervisor for agriculture should devote a large part of his time to training in service.

6. The State plans should make it possible for the teacher of agriculture to leave his work for short periods of time to secure additional professional training.

7. All persons visiting a teacher for the purpose of training in service should make a careful and complete report in writing. A copy of this report should be in the files of the State Supervisor. A report embodying pertinent material should be sent to the local superintendent and to the agricultural teacher.

8. Sectional meetings should be provided for—not less than two a year, with small groups and for periods of two to three days. The State Supervisor should be in charge, assisted by the itinerant teacher trainer or other members of the
teacher-training staff. A part of every conference may well consist of demonstration teaching by a member of the group.

9. An intensive training course held once a year should be a part of the training program. It should be held at some time during the summer and for a period of one or two weeks. It is logical that this course should be located at the teacher-training department making the staff responsible for its success. Its principal purpose should be the solution of problems which have proved to be the most important during the year. All teachers should be urged to attend. Attendance should be required of teachers lacking training and of any others who would be especially benefited.

10. Some opportunity for correspondence should be provided. A course known as Special Problems should be offered to correlate directly with the teacher's work.

11. Bulletins should be issued by the teacher-training department for the purpose of training in service.

12. The State Supervisor or state board for vocational education should issue mimeographed or printed bulletins frequently for official notices, news of vocational agriculture, promotion, course outlines, and such other material as would not be published by the teacher-training department.

13. All other possible means should be used in assisting teachers in service to grow professionally and to improve their work. Circular and individual letters should be used. The maintenance of a slide, chart, and film service by the teacher-training department is also of much assistance.
How Oregon's Program Measures Up With The Above

1. A written co-operative agreement exists between the State Supervisor and the teacher-training department.

2. No member of the teacher-training staff is definitely assigned to this work. There is but one member of such department who gives his full time to the department. Time is not available for him to get into the field on teacher-training work, but for a limited extent. Not more than eight such visits were made in the last completed school year.

3. Additions have been made to the staff on a three-fourths basis for the practice-teaching work of the local high school, and one fellowship student on one-fourth time.

4. Visitation is the principal means that the member of the teacher-training department uses.

5. The State Supervisor cannot devote much of his time to training teachers in service, because he also has the duties of the State Director of Vocational Education to fulfill. He aims to visit each department three times during the year for inspection and improvement work, but he is not able to attain this objective. Teachers of agriculture report that they do not see him as often as they would like. His visits are necessarily of too short duration.

6. Teachers of agriculture are not able to attend special courses for professional improvement, only in exceptional cases, and no special course is available in the summer when they do attend.
7. Detailed reports of itinerant teachers are always made to the State Supervisor.

8. There are no regular sectional meetings in the State, but irregular meetings have been held at Portland and Medford.

9. Intensive training courses are held. It is the one or two week conference held at the Oregon Agricultural College during the summer.

10. Regular correspondence courses have been given.

11. Bulletins have been issued by the teacher-training department for purposes of training teachers.

12. The State Board of Vocational Education issues "The News Item" once a month, which gives a resume of important news items in the field, and as well as announcements which publish indirect professional improvement literature.

13. No chart service is maintained by the central authorities. There is a regular State Library Service and an irregular film service. Other means of improvement are the "school on wheels" moving from one department to the other in the Willamette Valley and remaining for two days during the summer conference, and visitation on the part of the teacher-trainer in the spring while conducting the Rural Survey class of the college, when some eight departments are visited in Western Oregon.

It will make the situation in this State stand out more clearly if we check the items and the extent of their agreement with the suggested program, as follows:
Table 11. Showing the extent to which the various items of the above program agree with the program as it exists in Oregon now.

<table>
<thead>
<tr>
<th>Item</th>
<th>Absolute Agreement</th>
<th>Partial</th>
<th>No Agreement</th>
</tr>
</thead>
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<td>11</td>
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<tr>
<td>12</td>
<td>..................</td>
<td>..........</td>
<td>..............</td>
</tr>
<tr>
<td>13</td>
<td>..................</td>
<td>..........</td>
<td>..............</td>
</tr>
<tr>
<td>Totals</td>
<td>................</td>
<td>........</td>
<td>..............</td>
</tr>
</tbody>
</table>

It will be seen that if our program in this State is to be measured against such a program as that above referred to, we are not more than sixty-nine per cent perfect, twenty-three per cent partially perfect and eight per cent below perfect.

It is logical at this point to attempt to make suggestions for improving the State's program where it is weak in those items noted above, as well as suggest means of improving other
items. At the same time it will be pertinent to mention difficulties which stand in the way of a more vital program.

Item 2. Employment of a Full-time Assistant in the Teacher-Training Department.

Owing to the comparatively small number of schools which have agricultural departments in the State at present, it does not seem advisable to employ a full-time assistant on such a basis that would permit of one member being absent on itinerant teacher training work all of the time. Such a standard of service is being approached however in another way. For the present year, two graduate students have together given enough of their time to the department to equal that of a full-time member of the department. Next year one of the same men will be on a full-time basis approximately. However, the major portion of his time will be devoted to the vocational agricultural department at the Corvallis high schools, where the student teachers do their practice teaching. This man however, will be expected to do itinerant teacher work from time to time throughout the year, as will the head of the department.

Item 3. Selecting a man who is an efficient Itinerant Teacher.

The State Supervisor and the Head of the department keep this in mind as one of the principal qualifications when selecting such a man. It would seem however, that an ex-high school principal now in agriculture, with successful experience would be better adapted for this responsible
position, although he would probably have to be brought from another State.

**Item 5. State Supervisor as Teacher-Trainer.**

For the present, lacking sufficient funds, it does not seem possible for the State Supervisor to utilize any more of his time in teacher-training.

**Item 6. Short Professional Training Courses.**

It is suggested that some arrangement be made with high school principals and superintendent, whereby instructors in agriculture would be able to get away for two weeks or a month in the winter season for a special professional course at the Oregon Agricultural College.

**Item 6. Sectional Meetings.**

The only sectional meetings that have been held are those at Portland, for the teachers of the Willamette Valley and at Medford, for Southern Oregon. The former is a regular one, held at the time of the Pacific International Livestock Exposition, but the latter is an irregular meeting. The table on page shows that sectional meetings are becoming more and more popular throughout the entire country. It seems possible to expect that Oregon should be able to hold more than the two mentioned above. There are several small groups of departments conveniently located in Eastern Oregon which would lend themselves well to such meetings. The departments on the lower Columbia could be helped considerably by a sectional meeting from time to time.

Perhaps it is necessary, in conclusion of this phase of
the thesis, to say that it is assumed altogether that the recommended program used in the preceding pages is the best guiding principle for Oregon. However, we are reminded that one of the best guides to practice in such a large field of activity is trends and frequencies of practice. A high degree of frequency is not necessarily an indication of right practice. Frequency of practice is, however, one of the best guides to be had, provided it is supported by rational thought. If, in addition to this, we find that this practice has resulted in something of value or successful attainment, then it would seem that it might be accepted, tentatively at least, as the correct practice.
Theodore H. Eaton, in his book, "Vocational Education in Farming Occupations," has set up a criterion for the organization of vocational agriculture in a State, which to date are generally regarded as fundamentally sound. In his opinion, the following steps in State organization should be made in the order which follows:

1. Divide the State into agricultural regions of relative specialization in agricultural pursuits. This may be done by consulting geologic, topographic, soil, climatic and farm management surveys. Census returns of occupations, farms, acreages, and products would also be quite usable.

2. Determine the types of farming that are carried on within the limits of each region, as well as the indications of their efficient survival and progress. Farm management surveys and census returns, as well as historical data should be valuable for this purpose.

3. Determine the relative importance of demands and openings for participants in the regional occupations and the relative accessibility of such occupations to newcomers. Original surveys would have to be depended on largely in this investigation.

4. Establish a system of selective prevocational educational education in the public elementary schools. Extension teaching returns, existing vocational schools, records of employment agencies should help in this study.
5. Make an analysis of the static and dynamic requirements of vocations for which learners seek preparation. Perhaps the only available data, if any, that will help us in such an analysis are those of farm management surveys of small groups of farms.

6. Determine and allocate the agencies for vocational training in agriculture. The major consideration here is that of getting teachers qualified for the specific instruction into contact with the greatest number in every group demanding a specific type of vocational training. Another very important consideration, Eaton thinks, is that of making the contact under environmental conditions favorable to the most effective teaching. His opinion on this matter is in agreement with that of other leaders in the field. He believes that this can best be done when we establish the departments in country high schools that are surrounded with a dominant agricultural environment.

The purpose of this phase of the thesis is to consider the factors that determine whether or not a prospective high school and its community is such that an agricultural department in the high school will be a distinct advantage to the community now and in the future. It is a study that falls within the field mentioned in No. 6 above.

It has been pointed out in a former phase of the thesis which had to do with promotional work, that this State is capable of expanding its organization for vocational agriculture to twice its present status. It is apparent then
the care which we take in establishing the departments of the future will largely determine the ultimate effectiveness of vocational agricultural training in Oregon.

We have seen that the growth of the work, as measured by the growth of departments has been steady, conservative and regular. This State has not suffered, like some of the other states, from over-development without ample care in establishment of departments. Nevertheless, there have been mistakes made in this respect. Three departments have been discontinued since the inception of this type of training in the State. While the State Supervisor states that in practically all the cases, it was the antipathy of the Superintendent or the Principal or both, yet perhaps, if a thorough analysis were made of each case, other failure factors might reveal themselves. Departments have been discontinued at Alsea, in Benton county, Prairie City, in Grant county, Elgin, in Union county.

There are some other departments that have been established in places, that are to say the least, doubtful experiments. Among these might be mentioned Seaside and Medford. As a matter of fact, only several years of operation will finally determine whether a department is a success in a specific location. The trial and error method of establishing departments should of course not be tolerated.
ments to continue indefinitely doing an important service for the community.

**Location of Departments Already Established**

At the outset it seems that it would be well for us to note the important facts concerning the location of the present departments, as well as the location of present prospective departments. Below is a list of the present departments, including two, Molalla and North Powder, that will be established next year. Then follows a list of the contemplated departments together with a State map showing the location of all.
Table 17. Location of departments of vocational agriculture, now operating, showing size of student bodies and total number of teachers in the school.

<table>
<thead>
<tr>
<th>County</th>
<th>Town</th>
<th>No. in high school</th>
<th>No. of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baker</td>
<td>Halfway</td>
<td>91</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Richland</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>Benton</td>
<td>Corvallis</td>
<td>643</td>
<td>25</td>
</tr>
<tr>
<td>Clackamas</td>
<td>Molalla</td>
<td>150</td>
<td>5</td>
</tr>
<tr>
<td>Clatsop</td>
<td>Knappa</td>
<td>66</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Seaside</td>
<td>134</td>
<td>8</td>
</tr>
<tr>
<td>Columbia</td>
<td>Rainier</td>
<td>192</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Scappoose</td>
<td>93</td>
<td>5</td>
</tr>
<tr>
<td>Crook</td>
<td>Prineville</td>
<td>129</td>
<td>9</td>
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<tr>
<td>Deschutes</td>
<td>Redmond</td>
<td>150</td>
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<td>Douglas</td>
<td>Roseburg</td>
<td>431</td>
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<td>Jackson</td>
<td>Medford</td>
<td>479</td>
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</tr>
<tr>
<td>Josephine</td>
<td>Grants Pass</td>
<td>330</td>
<td>14</td>
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<td>Klamath</td>
<td>Malin</td>
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<td>Lane</td>
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<td>Linn</td>
<td>Lebanon</td>
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<td>Malheur</td>
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<td>Marion</td>
<td>Woodburn</td>
<td>311</td>
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<td>Multnomah</td>
<td>Gresham</td>
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<td>Polk</td>
<td>Independence</td>
<td>135</td>
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<td>Umatilla</td>
<td>Milton</td>
<td>276</td>
<td>15</td>
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<tr>
<td>Union</td>
<td>Imbler</td>
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<tr>
<td></td>
<td>Union</td>
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<td></td>
<td>North Powder</td>
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<td></td>
<td>Enterprise</td>
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<td>Wasco</td>
<td>Forest Grove</td>
<td>290</td>
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<tr>
<td>Washington</td>
<td>McMinnville</td>
<td>299</td>
<td>19</td>
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<tr>
<td>Yamhill</td>
<td>Newberg</td>
<td>350</td>
<td>19</td>
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</table>
Table 13. Location of prospective departments of vocational agriculture.

<table>
<thead>
<tr>
<th>County</th>
<th>Town</th>
<th>No. in high school</th>
<th>No. of teachers</th>
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<tbody>
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<td>Baker</td>
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<td>Benton</td>
<td>Alsea</td>
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<td>Columbia</td>
<td>Clatskanie</td>
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<td></td>
<td>Coquille</td>
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<td>Douglas</td>
<td>Myrtle Point</td>
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<td>Myrtle Creek</td>
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<td>Oakland</td>
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<td>Sutherlin</td>
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<td>Gilliam</td>
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<td>Grant</td>
<td>Prairie City</td>
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<td>Parkdale</td>
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<td>Ashland</td>
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<td></td>
<td>Central Point</td>
<td>83</td>
<td>5</td>
</tr>
<tr>
<td>Jefferson</td>
<td>Madras</td>
<td>55</td>
<td>4</td>
</tr>
<tr>
<td>Lane</td>
<td>Junction City</td>
<td>77</td>
<td>4</td>
</tr>
<tr>
<td>Linn</td>
<td>Brownsville</td>
<td>92</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Harrisburg</td>
<td>77</td>
<td>4</td>
</tr>
<tr>
<td>Lane</td>
<td>Creswell</td>
<td>48</td>
<td>4</td>
</tr>
<tr>
<td>Lake</td>
<td>Lakeside</td>
<td>106</td>
<td>4</td>
</tr>
<tr>
<td>Malheur</td>
<td>Nyssa</td>
<td>51</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Vale</td>
<td>97</td>
<td>5</td>
</tr>
<tr>
<td>Marion</td>
<td>Stayton</td>
<td>117</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Silverton</td>
<td>335</td>
<td>13</td>
</tr>
<tr>
<td>Morrow</td>
<td>Hapner</td>
<td>137</td>
<td>6</td>
</tr>
<tr>
<td>Polk</td>
<td>Dallas</td>
<td>185</td>
<td>20</td>
</tr>
<tr>
<td>Sherman</td>
<td>Wasco</td>
<td>68</td>
<td>5</td>
</tr>
<tr>
<td>Tillamook</td>
<td>Cleverdale</td>
<td>41</td>
<td>3</td>
</tr>
<tr>
<td>Umatilla</td>
<td>Helix</td>
<td>41</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Hermiston</td>
<td>141</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Stanfield</td>
<td>58</td>
<td>4</td>
</tr>
<tr>
<td>Washington</td>
<td>Banks</td>
<td>63</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Hillsboro</td>
<td>380</td>
<td>12</td>
</tr>
<tr>
<td>Yamhill</td>
<td>Amity</td>
<td>81</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Dayton</td>
<td>81</td>
<td>4</td>
</tr>
</tbody>
</table>
PRESENT AND PROSPECTIVE DEPARTMENTS OF AGRICULTURE.

Key - Present Departments

Prospective Departments

Map of Oregon showing the present and prospective departments of agriculture.
From a study of the foregoing tables and the map it will be observed that the State Supervisor has kept in mind certain significant factors when locating these departments. The following indications of policy are apparent:

1. The departments are distributed fairly well over the entire State. Twenty-three of the thirty-six counties of the State have one or more agricultural departments.

2. There are indications of a grouping policy. There are several small groups of departments in the east, down the Columbia basin and in the Willamette Valley.

3. Departments have been put into the larger high schools of the system. There are only three departments in schools that have an enrollment of less than seventy-five students. But these schools have as many teachers as schools with a larger enrollment. In no case is there a department in a school that has less than four teachers.

4. There is a limit to the size of the high school in which the departments have been insailed. There are only three departments that are in high schools with an enrollment of more than 350.

The Supervisor was questioned concerning his policy in establishing new departments. He declared that the following qualifications were expected of an aspiring school.

(a) Enrollment in the high school of at least seventy-five and not more than 350. This was not of course to be rigidly adhered to in all cases.

(b) Four teachers, if possible, and not less than three.
(c) At least eighteen agricultural students at the start.

(d) An agricultural community.

It is apparent that many of the prospective schools do not have the minimum number of students in the high school, but it is possible that this enrollment will be larger when the department is finally established. We are reminded too that it is the policy of the Supervisor now to work towards the establishment of departments in some of these schools, by grouping them and putting two or more in charge of one teacher. He is also intending to establish departments in others as soon as they consolidate with nearby small rural high schools.

An attempt will now be made to determine a definite detailed policy, to be pursued in the establishment of new departments.

In order that a local school may receive aid from the Federal Government for the purpose of establishing departments of vocational agriculture, it must meet the following minimum requirements:

1. All departments must be under public supervision and control.

2. In the work of a department of agriculture provision must be made for at least six months of directed or supervised practice in agriculture.

3. Pupils should be trained for farming with special emphasis on those types of farming which are dominant in the community.
4. The accommodations for the department in the high school must be adequate to insure the accomplishment of reasonable standards of work, and to carry out the purposes for which the course was established.

5. The agricultural library should contain such books, bulletins, and periodicals as are necessary for efficient study and instruction in the subjects to be taught.

6. Provision must be made in each department of agriculture for supplying the minimum equipment designated by the Federal Board of Vocational Agriculture.

7. A department of agriculture must have an enrollment of at least twelve pupils throughout the year.

8. Provision must be made for such expenses of travel of the teacher of agriculture as are necessary to supervise properly the project activities of the pupils registered in the agricultural course.

9. The time of the teacher of agriculture must be devoted exclusively to the teaching of vocational pupils, except in special cases, and then only after consultation with and the approval of the Supervisor of Agricultural Education and the Director of Vocational Education for the State.

10. A department of agriculture is required to maintain an organization and courses of study which meet the approval of the State Supervisor of Agricultural Education.

These requirements indicate to some extent the conditions under which such a department operates. As to types of schools, three are recognized: (1) all day or depart-
ment, (2) part-time or dull season classes, (3) evening
classes. To date in this State we have been concerned only
with the all-day or department school. Two, three and four
year courses are given in the departments. By far the larg-
est percentage of courses in the State are two-year courses.

Factors of Local Import Which Determine the Advisability of
Establishing an Agricultural Department in any High School.

The writer deemed it advisable to look for some guiding
principles for establishing new departments in some of the
older eastern states, which adopted agricultural programs
for their high school students at an earlier date than 1917,
when the Federal Vocational Educational Act was passed. He
believed that perhaps he would find in some of these states
certain definite policies being practised, that were the out-
come of more years of experience in the work and study of the
problems involved. After a considerable amount of corres-
pondence, a thesis of Cornell University, New York, was ob-
tained. It was one written in 1922 by Hubert Miller Gardner,
now State Supervisor of Agricultural Education in New Mexico.
In his thesis, the writer made a searching investigation of
the data he obtained in the community of Dryden, N.Y., to
determine the feasibility of establishing a department in
Dryden high school. In a study of the plans for vocational
agriculture in New York it shows that the principles herein-
set forth are, generally speaking, being followed by New York

Gardner, Hubert M., Should a Department of Vocational Agri-
culture be Established in the High School at Dryden, N.Y.
State. Investigation shows them also to be in agreement with the general principles of Smith-Hughes Vocational Agricultural Education, as set forth by such leaders in the field as Snedden, Eaton, Stimson and Works.

It is thought that guiding principles from an old agricultural State such as New York, which, together with a few other eastern States, have been in the field of agricultural education longer than any in the Union, ought to be of value to Oregon, one of the newer western States. It is not assumed, however, that the policies in practice in New York will fit in all respects a State whose agricultural problems and school system differ in many respects from that of the eastern State. It is believed, however, that the general principles are fundamentally sound, and therefore may be depended upon, provided we are sufficiently careful in adapting them to our conditions. On this basis, a rather detailed examination will be made of the factors used at Dryden, N.Y. to determine the adaptability of that community to the successful operation of a department.

Following are the questions that Gardner thinks should be answered in order to arrive at a satisfactory solution:

1. Is the agriculture such as indicates that the vocational needs can be met?

2. Is there promise of an adequate supply of pupils?

3. Can the financial resources of the community meet, without undue burden, the added obligations entailed?

4. Do the physical and social resources appear to be
favorable?

5. Is there a demand for this work?

6. What modifications, necessary to the establishment of this department, can be made?

Each of the foregoing factors will be taken up in order, and an attempt will be made to determine their significance for this State. In each case too there will be included a brief description of the means adopted to gather the information and arrive at a conclusion relative to the factor in question.

1. Is the agriculture such as indicates that the vocational needs can be met?

In other words, the question is asked whether the dominant occupation of the community is agriculture, and if so, is it of such a nature as to be adaptable to the methods of training, practised in vocational agricultural departments. Different communities may have widely divergent interests financially, vocationally, socially, and in many other ways: In Oregon we have communities, whose dominant interest lies in the lumbering industry in all its stages, other communities whose chief interest is mining, still others that might be called fishing communities, and above all, many hundreds of communities that owe their existence to the farming occupations. It is true that there are many communities in the State whose dominant interest would be difficult to determine. In some of these cases the interest
of the community might be equally divided between two occupations. Such examples may be found down the lower Columbia, where there are fishing-farming communities as well as farming-logging communities.

That industry that will compete most often perhaps with the farming occupations in Oregon communities is lumbering. There are pioneer agricultural districts where the owners of cut-off farms are farmers and loggers. Unless a careful study of such a community as this were made, it would be possible to attach too much importance to the status of agriculture, only to find later that there was not sufficient interest in farming yet in that community to maintain a department, or sufficient agricultural background for the practice of methods adopted by such departments.

Another type of problem in this State that will enter here is that of the high school district, where the high school is located in a large town. There is every possibility that the dominant interest surrounding the high school in a town of more than 3000 thousand population be other than agriculture, notwithstanding the presence of a rich contiguous agricultural environment. However, this problem shrinks in importance when we note that of all the towns and villages where departments are being contemplated, there is only one, Ashland, that has a population of more than 3000. It would seem to be very important in this one case, however, to assure ourselves of the dominant interest in that one location.
The only reliable method of determining the dominant interest in any one community is that of making a comprehensive survey of all the occupations in the community, at which individuals are working for a living. A tabulation of the data obtained would clearly indicate the dominant occupation of the high school district. We are safe in saying that if this showed that 75 per cent of the workers were engaged in agricultural occupations, it would be apparent that farming, as an occupation, had no close competitor.

At this point the investigator should endeavor to determine whether or not the type of agriculture is such as will lend itself readily to vocational training. To make such an investigation reliable, data should be obtained on the soil, crops raised, yield of these crops as compared with larger contiguous areas, kinds and amounts of livestock kept on the average farm, size of labor income, and the extent to which farms are owned by operators. The amount of such data will vary with the community in the State. Of course, there will be some communities in Eastern Oregon that will be largely wheat growing communities, and where there would be little need of troubling oneself in attempting systematically to determine the number and kind of livestock that are kept. On the other hand there will undoubtedly be communities whose type of agriculture will be misleading at first observation. This would be most likely in a mixed farming community such as is found in Benton County.

From a study that Professor Warren of Cornell made in
New York, we are reminded of the importance and significance of the size of farms in a community in its relation to vocational agriculture. In a study of 674 farms, concerning the relation of size of farm to the number of boys leaving the farm, it was found that as the size of farms decreased, so did the likelihood of boys remaining on the farms. The figures furnished by Warren show that sixteen per cent had left home from the larger farms, as compared with seventy-nine per cent from the smaller farms. He adds, "About half of those who left the farm have gone to the cities or villages. The others are farming or working as farm hands for neighbors." This would indicate, that in so far as vocational needs are concerned a community that has a larger percentage of farms that are over one hundred acres than under that number, would be a more desirable location for a department than another community where the percentage of such farms was low. The census returns show that the average size of farms in Oregon varies from forty-three acres in Hood River County to more than 1300 acres in Wheeler County. There are other important factors that would have to be considered in this respect, however. It is possible that a forty-three acre farm in Hood River could maintain as many boys as a 1000 acre farm in Wheeler. When it would be highly desirable, however, to take consideration of this factor would be when there were two communities that were very similar in all respects other than in the size of the farms. From what we have learned from Warren it is obvious that, generally speaking, the
community with the large farms would offer more favorable conditions for the operation of a department than the one with the small farms. The table following will make this point clearer perhaps.

Table 14, Relation of Size of Farm to Boys Leaving the Farm, 674 Farms, Jefferson County, New York. (After Warren)

<table>
<thead>
<tr>
<th>Acres Farmed</th>
<th>Number of Families</th>
<th>Per Cent of Sons</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At Home</td>
<td>On Other Farms</td>
<td>Not Farmers</td>
</tr>
<tr>
<td>30 or less....</td>
<td>25</td>
<td>21%</td>
<td>33%</td>
</tr>
<tr>
<td>31-50..........</td>
<td>29</td>
<td>52</td>
<td>22</td>
</tr>
<tr>
<td>51-100.........</td>
<td>171</td>
<td>75</td>
<td>8</td>
</tr>
<tr>
<td>101-150........</td>
<td>187</td>
<td>78</td>
<td>10</td>
</tr>
<tr>
<td>151-200........</td>
<td>136</td>
<td>72</td>
<td>10</td>
</tr>
<tr>
<td>Over 200.......</td>
<td>126</td>
<td>84</td>
<td>6</td>
</tr>
</tbody>
</table>

Another factor that is important when considering the adaptability of agriculture to a department is that of the ownership of land in the community. It is obvious that the farm population of a community, that has a high percentage of owners on the land, will be very much more stable than if the majority of farmers were renters. If there are enough farm boys for a department at the time of the survey, there
is every likelihood that the number to-morrow will vary but little from the present number in either direction. The change, if any, will be a very gradual one, rather than an abrupt one, as is often caused by a change in population due to the moving of renters. There is a more desirable environment for the future students of the vocational agricultural department in a community that is owned and farmed largely by the owners themselves. There are some communities in various parts of the State that are largely made up of renters. There are many other very stable communities that contain a majority of old stable families, and a high percentage of owners. The latter would be a more desirable location for a department in most cases.

From an analysis, such as the foregoing, sufficient information should be obtained, to enable the investigator to determine whether or not the agriculture of the community will adapt itself to the successful operation of a department.

2. Is There Promise of an Adequate Supply of Pupils?

As has been mentioned before in this paper, an adequate supply of a desirable type of students is absolutely necessary to the successful operation of a department. This State sets that number of students at eighteen. More, of course, may be added, but this is the minimum.

It is possible, of course, for a department to be established with eighteen agricultural students, regardless of their interests and the assurance of a future supply of
students. Such procedure, however, would be detrimental to the cause of vocational agriculture in that community, and to the best welfare of the pupils. Seaside is an example of such a department. There, most of the students are town boys, for there are very few farm boys in the community.

There are three distinct problems that must be considered, when investigating adequacy of pupil supply. (1) What are the qualifications necessary for the enrollment in the class in agriculture? (2) Are there a sufficient number of this type of students to meet the requirements who we have reason to believe would enroll? (3) Are there indications that the future supply of pupils will remain adequate?

There are three sound and fundamental qualifications, recognized by all leaders in the field, that students should be required to meet before enrollment in one of these agricultural classes. The student's chief interest should be in agriculture. He should live in an environment that is truly agricultural, and at least have access to farmland and such agricultural equipment as is necessary for carrying on effectively his home project work. The prospective student should be planning on farming after high school graduation, or attending an agricultural college.

The qualifications above mentioned are of particular importance in this State. In several of the departments, we have a large percentage of village and town boys, and a low percentage of farm boys. It is apparent in some of these departments that the chief interest of many of the boys is not
agriculture. There are too many students in these departments who have no intention of farming or studying agriculture at an agricultural college at the completion of their work. Following is a list of departments, showing the proportion of students who lived in the town, when the survey was made in the fall of 1924.

<table>
<thead>
<tr>
<th>Department</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seaside</td>
<td>88%</td>
</tr>
<tr>
<td>Medford</td>
<td>61%</td>
</tr>
<tr>
<td>Cottage Grove</td>
<td>45%</td>
</tr>
<tr>
<td>Roseburg</td>
<td>20%</td>
</tr>
<tr>
<td>Grants Pass</td>
<td>10%</td>
</tr>
</tbody>
</table>

The writer is aware that there is a difference of opinion concerning the desirability of village boys in agricultural classes. He is also aware that some of the very best boys that we have in our classes in this State are residents of the town. The high point vocational agriculture boy, in the contest between all such boys in the State judging contest last year, was a village boy. However, it is the general tendencies that interest most when considering the welfare of the entire group. Village boys too often have not sufficient agricultural background to benefit from the course; and studies elsewhere seem to indicate that the village boy cannot be depended upon to follow the vocation of agriculture.

Harry S. Gabriel, in 1920, made a study of four communities, Green, Newark Valley, Interlaken, and Moravia. He has secured significant data on the village boy question. He

Gabriel, H.S. A Study of the Extent to Which Knowledge and Skill, Acquired in Secondary Vocational Agricultural Function.
found that pupils from the village who study agriculture tend to follow some occupation other than farming later. Of the 185 boys who had left school since 1915 and who had studied agriculture, sixty-six were from the village and 125 were from the farm. At the time of this study none of the former village boys were doing farm work; two were doing work allied to farming, and only one was attending an agricultural college. It does not seem to be a wise policy to conduct vocational courses in farming occupations for these boys, at such high expense, when no practical use is made of it later for the benefit of the boys themselves and Oregon.

The number of village boys who have taken the vocational agricultural work in the four communities studied by Gabriel was found to vary directly with the size of the village in which the school was located. In each case the proportion of village boys was high. The following table will make it clearer.
Table 15. Occupations followed by Village and Farm Boys who Studied Agriculture in High School. (After Gabriel)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Green</th>
<th>Newark Valley</th>
<th>Interlaken</th>
<th>Moravia</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vil. Farm</td>
<td>Vil. Farm</td>
<td>Vil. Farm</td>
<td>Vil. Farm</td>
<td>Vil. Farm</td>
</tr>
<tr>
<td>Farmer</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Shop Occup.</td>
<td>14</td>
<td>13</td>
<td>12</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Allied Farming</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agri. Coll.</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>College</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Army</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Teaching</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Deceased Unaccounted for</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

If the figures of the above table are at all representative, it is very apparent that village boys do not follow agriculture as a vocation after they have finished high school, and therefore do not profit in proportion to the cost of their instruction. Therefore, it is maintained that in building up a new department of vocational agriculture, discretion should be used in the matter of selection, and only these boys should be enrolled who fulfill the requirements herein set up. If, however, after a sufficient number of well qualified boys have been enrolled, there are others who desire to take the work, then those boys may be considered, provided that facilities are not overcrowded.
Having arrived at a satisfactory answer to the foregoing question, we are now face to face with the second consideration. The investigator should be some means determine whether there are sufficient pupils who can meet the requirements and who are willing to enroll in the new course. There seems to be only one reliable way of answering this question, and that is to canvass the students of the high school. After careful study upon the subject, the writer submits the following schedule to be used personally by the investigator. The principal purpose of the schedule will be to determine the qualifications of present high school students for a course in vocational agriculture, and whether there are enough students interested to make the establishment of a department worth while.
Table 16. Schedule for Collection of Data Concerning the Supply of Students for a Department of Agriculture in the high school.

<table>
<thead>
<tr>
<th>Name</th>
<th>Sex</th>
<th>Age</th>
</tr>
</thead>
</table>

Grade in high school.

Do you live in the village or on a farm?

Does your father own a farm; if so how many acres?

Does your father rent a farm, or part of farm, if so how many acres?

Do you work on a farm in the summer vacation?

Did you ever own livestock of your own? What?

Number?

Did you ever own and manage a crop? What?

How much?

Would you like to enter college after graduation?

Are you intending to do so?

What course do you want to take in college?

Would you rather work in towns and cities than in the country?

Would you like to be on a farm of your own some day?

Are you planning to do so?

If not, what are your plans?

Are you likely to take over the home farm some day?

Are you likely to rent a farm some day?

Would you be interested in receiving instruction in vocational agriculture, if it were offered at your high school?
It is important also that a survey be made of the community to determine the number of boys, who are now working on the farms, and may be interested in a new course such as this at the high school. It is highly probable that there are a number of these boys who would be in high school if it were possible for them to study along other lines than those that are merely preparation for Liberal Arts Colleges.

Future Supply of Pupils

Having assured ourselves of a present sufficient supply of agricultural students now in the high school, it is pertinent that we should inquire into the possibilities of an adequate future supply. It is very important, in considering the permanency and welfare of the department that we know whether there is an on-coming group of students.

The readiest way of securing this information, or at least reliable indications of the supply, would be to make a survey of the district grade schools that are in the high school district, and also any other outside grade schools that may for some reason be in the habit of sending students to this particular high school. The official records of the County Superintendent should be of inestimable value for the purposes of this survey. Information other than the number of students in each grade, their sex and age, would not be necessary. It is obvious then, that the investigator can readily determine the probable number of farm boys that will be enrolling at the high school the following year, and for
one or two years after that. He will also be aware of the supply that may be drawn on by means of canvassing and other recruiting methods. If the majority of farms of the high school district are operated by their owners, one may depend fairly well upon the stability of the present number of farm boys.

3. Can the Financial Resources of the Community Meet Without Undue Burden, the added Obligation Entailed?

The matter of financing a department of agriculture in the high school is of peculiar importance in Oregon. As has been previously pointed out in that part of this thesis which dealt with promotional work, the larger proportion of the financial burden was to be borne by the local community. It would seem, therefore, that a rather thorough investigation of the ability of the community to support education in general and the additional department should be made. It is equally important that some knowledge of the effort that the community is making, as compared with other communities, be secured. Comparisons made with the County or the State as a whole, where it was possible to make comparisons, would be enlightening.

If the high school happens to be only one of three or four in the entire County, or a County High School, then the ability and effort of the County to support education would indicate fairly well their future policy towards financial support of agricultural departments. In a previous study that the writer made of the Public School Finance System of
the State, he compared the effort being expended by the various counties, judged on the basis of wealth behind the school child, as compared with the expenditure per child enrolled in the various counties. Of course, it is not assumed that this method of measuring effort of a political unit is absolutely reliable, but it is a very reliable indication and a good leader for further study of the question. The table on the next page is self-explanatory.
Table 17. Ability of the counties of Oregon to support education, as measured by their wealth, and the effort that each is making, as measured by expenditure per child enrolled.

<table>
<thead>
<tr>
<th>County</th>
<th>Assessed val. per child enumerated</th>
<th>Expenditure per child enrolled</th>
<th>Rank of Cty. for effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sherman</td>
<td>$19,669</td>
<td>$126.00</td>
<td>4</td>
</tr>
<tr>
<td>Gilliam</td>
<td>16,997</td>
<td>118.00</td>
<td>8</td>
</tr>
<tr>
<td>Harney</td>
<td>13,626</td>
<td>117.00</td>
<td>9</td>
</tr>
<tr>
<td>Lake</td>
<td>12,726</td>
<td>147.00</td>
<td>1</td>
</tr>
<tr>
<td>Tillamook</td>
<td>10,506</td>
<td>113.00</td>
<td>11</td>
</tr>
<tr>
<td>Morrow</td>
<td>9,375</td>
<td>146.00</td>
<td>2</td>
</tr>
<tr>
<td>Wheeler</td>
<td>9,251</td>
<td>93.00</td>
<td>19</td>
</tr>
<tr>
<td>Umatilla</td>
<td>9,170</td>
<td>120.00</td>
<td>6</td>
</tr>
<tr>
<td>Clatsop</td>
<td>8,274</td>
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<td>Douglas</td>
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<tr>
<td>Grant</td>
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<td>76.00</td>
<td>23</td>
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<tr>
<td>Crook</td>
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<tr>
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<tr>
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<td>Linn</td>
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<td>Coos</td>
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<td>Yamhill</td>
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<td>Lane</td>
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<td>Polk</td>
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<td>3,513</td>
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<td>Benton</td>
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<tr>
<td>Clackamas</td>
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</tr>
<tr>
<td>Union</td>
<td>6,213</td>
<td>64.00</td>
<td>29</td>
</tr>
</tbody>
</table>

State...... 5,545.00.............. 66.20.

per child 7-20 years of age.
It would be well for us to keep in mind the method by which the high schools of Oregon are financed. This will be quite necessary if we hope to investigate the financial standing of the high school district, since it belongs to the same system. On the following page is a diagrammatic representation of the financial organization of the high school system of Oregon. There are certain outstanding points that will here be noted:

1. There is no State support for high schools.

2. The general property tax is the only means of support, whether it be district, union district or county.

3. The county high school fund cannot exceed at any one collection a total that is more than five per cent of value of all taxable property of the county.

4. The superiority or inferiority of the high school is largely the concern of the county of the district or of both, rather than that of the State.

From this, then, it will be apparent why it is necessary to gauge fairly well the ability and the effort of a high school district or county to bear the burden of high school education.
After some indicative factors such as mentioned above have been ascertained concerning the county and the community, it will be necessary for the investigator to look into the financial records of the school. He should be particularly interested in the operating cost for the school and for each pupil, the bonded indebtedness, and the method by which the debts are being liquidated. He would be interested in knowing whether the school has a good financial history, and whether there have been serious financial difficulties.

It will be necessary for the State Supervisor to determine the amount of the initial expenditure when the department is established. When the salary and the traveling expenses of the teacher have been decided upon, it will be possible to arrive at the total expense of the department for the first year. The following years' expenses can readily be estimated from this amount. The Supervisor will then be in a position to determine the total expenditure that will be expected of the local authorities over and above State and federal reimbursement for the initial year, and the probable amount for future years. Following is a table showing the proportion of each department's expense that is borne by the local department, the State and the Federal Government.
Table 18. Shows Source of Funds necessary to Meet Expenditures at Twenty-five Departments in the State. Miscellaneous Expenditures are not uncounted for.

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cottage Grove</td>
<td>$500.00</td>
<td>$500.00</td>
<td>$1,000.00</td>
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<tr>
<td>Dufur</td>
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<tr>
<td>Enterprise</td>
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<td>540.00</td>
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<td>Forest Grove</td>
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<tr>
<td>Gresham</td>
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<td>980.54</td>
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<tr>
<td>Halfway</td>
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<tr>
<td>Imbler</td>
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<td>500.00</td>
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<td>Independence</td>
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<td>1,200.00</td>
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<tr>
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<td></td>
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<tr>
<td>McMinnville</td>
<td>1,008.33</td>
<td></td>
<td></td>
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<tr>
<td>Malin</td>
<td>300.00</td>
<td>300.00</td>
<td>1,500.00</td>
</tr>
<tr>
<td>Medford</td>
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<tr>
<td>Milton-Freewater</td>
<td>575.00</td>
<td>575.00</td>
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<td>Newberg</td>
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<tr>
<td>Ontario</td>
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<td>375.00</td>
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<td>Prineville</td>
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<td>Redmond</td>
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<td>925.00</td>
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<tr>
<td>Wallowa</td>
<td>475.00</td>
<td>475.00</td>
<td>950.00</td>
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<tr>
<td>Woodburn</td>
<td>775.00</td>
<td>725.00</td>
<td>1,500.00</td>
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<tr>
<td>Average Local Expenditure</td>
<td></td>
<td></td>
<td>$1,064.54</td>
</tr>
</tbody>
</table>

It will be seen from the above table that the financial problem with regard to establishment of a new department resolves itself into the question as to whether a local department is able to maintain a financial support amounting to approximately $1000 per annum together with certain small miscellaneous expenses. At the present the Investigator should assure himself that a local department is able to meet an annual expense of a minimum of $1200.
4. Do the Physical and Social Resources Appear to be Favorable?

While this factor may not appear at first to be worthy of very much consideration, yet the physical and social environment very often determine the success or failure of a department. The factor of transportation facilities in the high school district is rather an important consideration in this work. A consideration of the social characteristics of the people of the community is perhaps more important in this type of education than any other.

Physical

The nature of the physical features of the high school districts of Oregon is an important factor to consider, in that the State as a whole is mountainous. A great many of the very best farming communities are comparatively isolated in small valleys. There are other districts that will represent a number of such small valleys, somewhat separated from each other by mountain ridges. Some of these valleys are mere fingers, very narrow, running back into the mountains for long distances. Considering these facts, it would seem to be important that we determine accurately the relative accessibility of the farms in a high school district and area adjoining the high school.

Another factor that must also be taken into account, is the distance to neighboring high schools that may compete for the students of any portion of the area contiguous to the high school. Generally speaking, the larger the area that
the high school may draw on for students, the greater the likelihood of a vigorous and strong department of agriculture.

**Transportation Facilities**

If the farm boy is to study the vocation of his father, the school offering such instruction must be accessible. Appreciating this fact, we can realize the value of good roads and railroads as an aid in bringing farm boys to the school. There are many of the small, rather inaccessible valleys, mentioned above, that are comparatively inaccessible at certain times of the year. The fact that the vocational class in agriculture is expected to do a very considerable part of its work in the field, and that the Instructor is expected to keep in close touch with the projects of the boys in his class, makes it imperative that a high total mileage of travel be undertaken in the course of the year. For these reasons, the Supervisor should assure himself that the minimum amount of travel be possible without too much difficulty.

Of course, the more railroad facilities there are in the community, the better it will be for the department. As a matter of fact, with good railroad facilities, it would be very often possible to establish a department that could offer its services readily to a much larger area than otherwise. The electric and bus lines of the Willamette Valley, and the bus lines in other parts of Oregon will often be of great service to an agricultural department, by making it more easily available to a larger group.
Social

The number and nature of social institutions in a community may, and generally are, responsible for the attitudes in the community. Social institutions may become forces of considerable power in a community through the influence of its members. Because the social instinct in every human creature is one of the most fundamental ones, the community which lacks facilities for the adequate expression of the instinct is likely to present pathological conditions. The extent to which a community is organized in a social way is a very good indication of its standing in the scale of general efficiency.

Schools

Because the school is perhaps the most general of community institutions in the country, and because every small community insists on having one, it would seem to be very desirable to determine their condition of efficiency and the extent to which the community takes pride in them. These small district schools will be fairly good indicators of the community's attitude towards education and the intangible values of life. A brief mention of the educational status of two typical rural communities in Oregon will illustrate. The data below referred to was secured by Professor Page of the Oregon Agricultural College in a survey that he made of these communities.

Parkdale, in the upper Hood River Valley, is a splendid example of a rural community that holds its educational
institutions on a high plane. Twenty-six per cent of the population of this small community has had some college education, and fifty per cent have had some high school education.

Rolley, another rural community, at the foot of the Cascades in Linn County has a population on the other hand, which can show only a four per cent college education, and twenty-two per cent high school education.

It is also interesting to note that the average number of volumes in the home library in the Parkdale community was 265, while it was only twenty-four in the Rolley community.

This information is sufficient to show that a community's attitude toward its educational institutions varies to a very great extent. Such variation must be considered when the Supervisor is contemplating the establishment of a new department.

5. Is There a Demand for Vocational Agriculture?

Whether or not there is a demand for this type of work will largely depend on the extent of the promotional work that has been done in the State and the community itself, as has been discussed in a former part of this thesis. Promotional work in this connection does not near the spreading of sensational propaganda concerning the opportunities and advantages of the work, but rather a simple telling of the work that is being done elsewhere in the State, in order that the people of the prospective community may become acquainted with the aim, methods and advantages to be gained. There is
no doubt at present but that the great majority of agricultural communities in Oregon are yet unaware of the vocational agricultural program. If a more vigorous program of promotion is undertaken, however, there will tend to be a fairly clear understanding of the work throughout the farm communities, that will in the future prove to be a desirable starting point for more intensive educational work towards the establishment of a department.

After the people of the community have a clear understanding of the nature of the work, a canvass of the leaders, the School Superintendent and the Principal, the presidents of organizations and a representative body of farmers, as well as a "cross-section" of farm boys, one ought to be able to determine whether or not the community is sufficiently interested in the program to accept, and support with their interest, such a department.

6. What Modifications necessary to the Establishing of the Department can be Made?

This is a factor that indirectly determines the ultimate success of failure of the department. When order is injected into an organization that is already operating, it is only reasonable to expect that reorganization will have to occur to some extent. When an additional department is placed in the high school, and a department that does not function by the adoption of the same methods of the usual department, it is to be expected that some care will have to be taken, and considerable time spent, in reorganizing the curriculum and
the schedule to include the agricultural department. The fact that the agricultural classes have adopted the ninety-minute period makes it rather difficult for some school organizations to adapt themselves to the new condition. And the fact that the agricultural student is urged and expected to take such subjects as English, civics, history and science, it is necessary that the time schedule be so arranged that he may be able to include these with his agriculture.

Some Superintendents are rather averse to having existing organizations broken up, especially when it entails the adoption in the one department of a ninety-minute period. It is then imperative that the Supervisor and the new agricultural Instructor take this matter up very carefully and tactfully with the Superintendent and Principal. It is possible to win the disapproval or the approbation of the school heads at the very start through this matter of curriculum organization.

7. There is likewise the matter of building modification to be investigated. It is necessary to obtain a room or rooms in the high school or building adjoining that will meet the State requirements. All the possible locations and modifications should be carefully considered at the outset, for it is generally more difficult to obtain more larger adequate facilities, once the department has become established. If this matter is carefully planned at the outset with an eye to future improvements, it will do that much more to help the department on the way to success.
It may seem from the foregoing six factors that have been analysed, that such a thorough investigation would entail too much work, more than money and energy would allow. It is suggested, however, that if a sufficiently vigorous and carefully planned program of promotional work is undertaken through the press for the State, and a follow-up type of promotional work in a satisfactory appearing community, it should not be a difficult matter to secure the assistance of the local authorities. Make it their responsibility, and it will be more satisfactory to the community. It is suggested here that a committee of representative citizens be appointed by the State Supervisor with the advise of the School Superintendent or community leader, to investigate as many of the foregoing determining factors as the Supervisor may deem advisable. It is not suggested, however, that the Supervisor pass his responsibility to this committee, but rather that he use them as help-mates, even though they may ultimately assume the major portion of the work involved. It should always rest with the Supervisor to determine the adaptability of the community to a department of vocational agriculture.
ESTABLISHMENT OF STANDARDS OF ACHIEVEMENT IN THE STATE AS AN ADMINISTRATIVE UNIT

To eliminate any possibility of misunderstanding concerning the meaning of the above title, it will be explained. In short, it is the measuring stick, by which the achievements of the program of work for the State is to be measured. The program will determine what work is to be done, while the standards of achievement will attempt to measure how efficiently that program has been carried out in the State. Without some means of determining results, we would be pushing forward blindly. Standards of achievement should be determined for the State, that we may measure the effect of our program.

As has been mentioned several times previously in this thesis, the whole program of vocational agriculture in the country as a whole, and in Oregon as a State, is a development that is so recent, nothing but the most general standards have been determined for the various States. State Regional and Federal reports indicate, however, that standards are slowly evolving for the regions and the States. Just as all highly developed institutions of the twentieth century have developed directly as standards of measuring their effect upon society reached to higher degrees of refinement, so vocational education in agriculture may be expected to render increasing service to society in the same proportion as standards of measuring its effect upon society are determined, tested and refined.
Federal Standards

Since the whole program of vocational education in agriculture is the product of a Federal Act of Congress, and is encouraged by large sums of federal funds, it is only natural that the Federal authorities would set certain standards of achievement for State and local administrative units, before such federal allotments of money may be had. Following are the principal standards, that have been set up by the Federal Board of Vocational Education:

1. All Schools, departments and classes must be under public supervision and control.

2. The controlling purpose of all instruction receiving federal aid shall be to fit for useful employment.

3. All instruction shall be of less than college grade.

4. All persons receiving instruction shall be over fourteen years of age.

5. Every dollar of federal funds must be matched by a dollar of state or local money, or both.

6. Money is to be expended only for reimbursement of:
   (a) Salaries of teachers, supervisors and directors of agriculture.

7. Six months of supervised practice in agriculture to be undertaken by all vocational students.

Kinds of Schools

(a) All day or department.

(b) Part-time or dull season classes.

(c) Evening classes.
Plant and Equipment

(a) A room equipped primarily for instruction in agriculture.

(b) Sufficient equipment for practice in improved methods of testing milk, soil and seeds; etc.

(c) Suitable store room.

(d) A stereopticon, slides, charts, etc., bulletins and farm papers, the initial cost to be not less than $20.

(e) Fairly complete equipment for a group of fifteen to twenty pupils will cost from $350 to $500. A minimum of $150 must be expended at the outset for strictly agricultural equipment.

Minimum for Maintenance

(a) A minimum salary of $1800 for a teacher of agriculture employed for twelve months.

(b) Funds for transportation of teacher in supervision of practical work of students.

(c) An annual maintenance fund of not less than $5.00 per pupil, to be available to the teacher at all times for incidental expenses.
Courses of Study

(a) Two, three or four year course for all-day schools or departments. Not less than 50 per cent of the student's time shall be devoted to agriculture, including practical work. At least one continuous 90-minute period must be devoted to agriculture each day. For two classes, one each.

(b) Part-time and evening classes. Courses for these classes may vary from one week to one year in length. They are intended for mature students engaged in farm work and are to be adapted to the needs and interests of individual students as well as to the community. At least 50 per cent of the student's time will be given to agricultural training.

Methods of Instruction

Although time shall be given to instruction in the principles of agriculture in the class room, emphasis shall be placed upon practical training in the laboratory and upon the farm. Class room and laboratory instruction shall have a direct relation to productive farm work, keeping in mind that the courses are for the training of farmers rather than for the training of scientists.

Qualifications of Teachers

Must be graduates of a four year course in agriculture, with at least two years of practical farm experience.

It is apparent from the above that the federal authorities have set very definite standards that must be reached before a State may qualify for federal support.
out, however, that the States have a margin of interpretation upon which to work. Following are the principal general standards of achievement that are set by Oregon:

The major work in the course must be general agriculture and shall include: (1) Farm mechanics; (2) animal husbandry; (3) soils and crops; (4) horticulture; (5) farm management.

Not less than fifteen semester hours in education, including: (1) educational psychology; (2) principles of education; (3) vocational education; (4) secondary education in agriculture; (5) practice teaching.

**Qualifications of Supervisors**

(a) Qualifications.—A minimum qualification at least equal to the minimum qualification of a teacher. The State board will consider additional training and experience in education essential. At least two years' experience in teaching agriculture will be required.

**Plans for at Least Six Months' Supervised Practical Work**

(a) Home Projects.—Each student must spend time equal at least to 360 hours of practical school work upon one or more definite productive projects. The major portion of such project work must correlate with the instruction in agriculture at the school.

(b) Home Practice.—In connection with each course definite exercises involving skill and the application of principles considered in the class room will be required of each student.
It might seem at first sight that the State standards are sufficiently definite and detailed. Careful examination, however, will reveal the fact that they are only definite so far as they go, but no detailed standards are there set forth. The following questions will more clearly indicate the necessity of more detailed standards that need to be worked out:

1. Shall the course be of one, two, three or four years' duration?

2. What is the optimum size of class in an all day department?

3. What should be the exact standards of achievements in a dairy project, an apple project, etc., that the learner should reveal, in order that he shall have been sufficiently trained in that line of farm work?

4. What degree of skill should the learner have in machine repair, in machine operation, in concrete construction, etc?

5. What standards of managerial ability should the student attain to, in order that he be considered sufficiently trained?

6. What standards of scientific knowledge should the student attain to?

7. What standards of classroom instruction should be set up?

These questions will be sufficient to suggest the nature
of the problem that the State Supervisor has before him, in setting up standards of achievement for the State.

The Unit of Measurement

When the standard has been determined, it is necessary to determine a unit of measurement, in order to measure the progress of a department in reaching for the standards. Following is a list of a few of the efficiency factors, whose standards, once determined, may lend themselves to measurement in the way indicated:

1. Enrollment—ratio of enrollment to the number of farmers needed in the school area.

2. Teaching efficiency—
   (a) Projects—percentage that are completed.
       (1) Financial returns from same.
       (b) Interest and personal influence—attendance.
       (c) Skill and professional attitude—experience and tenure.

3. Community activities of the Teacher—
   (a) Part-time and evening classes.
   (b) Pre-vocational work.
   (c) Fairs, contests and exhibitions.
   (d) Additional community work.

4. Results of vocational agriculture in the high school—
   (a) Improvement of agriculture in the community.
   (b) Percentage of agricultural students farming.
   (c) Percentage of agricultural students in allied occupations.
(d) Percentage of boys out of school reached.
(e) Extent to which community has benefited from special crop or animal improvement programs.

While it is very necessary that the State Supervisor have a plan for his yearly work, and objective means of measuring the percentage of achievement towards the fulfillment of the program, it shall also be necessary that he insist upon a program, similar in nature, for each agricultural teacher; and standards of achievement too, in order that the teacher may be able to measure his own results and thereby continue his work intelligently. It will therefore, be necessary for the State Supervisor to assist the individual instructor to set standards of achievement adaptable to the specific needs of his own community. It is needless to say that certain phases of the agricultural program of instruction will be stressed more in one community than in another, and it will be necessary for the teacher in that community to attend more particularly to the standards of achievement in those phases of his work; while his fellow-teacher attends to the phases stressed in his particular community. Nor will the same standards have the same values in the same phases of the instruction from one community to another, owing to such variables as human capacities, local needs and the State of agricultural development.

To summarize, the State Supervisor must have a very definite annual program of work, which must be carried out
in each of the various departments with the necessary changes in details to meet the local needs. Likewise, it is equally as important, that he set for the State definite general standards of achievement, to measure progress in the State as a unit. In a like manner, it shall be necessary for him to assist the individual teacher to determine local standards of achievement, that he in turn may determine the local progress.
An Improvement Problem

1. **Adapting the Projects to Agriculture in Oregon.**

The participation by all pupils in supervised agricultural practice is not only essential but the most important factor in the whole program. Upon it, the practical nature of the instruction depends. Through it, the students are trained in the skills and managerial abilities necessary to the successful practice of the art of farming. An improved home project is necessary to the completion of each year's work in agriculture.

**Some Features of a Good Project**

Most of the leaders in the field of vocational agriculture subscribe to the following requirements of a desirable project:

(a) In most cases it should be typical of the dominant agricultural interests of the community.

(b) It should involve typical skills and a study of managerial situations of the agriculture of the community.

(c) It should demand the maximum learning activities.

(d) It should correlate with the particular course that the student is pursuing in the department.

An interested student of the program will soon learn by a little investigation that all of these requirements are not being met in Oregon. He will also find that this State
is no exception in this respect. However, from the State's point of view for the present, and that of the student in the future, it would seem well that we endeavor as far as possible to fulfill the requirements of "(a)" above. In the majority of cases we should attempt to train the young generation of farmers to produce those products, for which this State seems to be adapted, or rapidly tending to become well adapted. The best objective means that we have at our disposal for determining such adaption is that of the relative quantity or value of the farm products now being produced. Therefore, it is well that we take a check on the adaptability of the projects to the agriculture of the State, that undesirable indications may reveal themselves if present.

The writer personally collected data from seven departments concerning the nature of the pupil's projects. Similar data on seven other departments have been secured from the Teacher-Training Department. In all, data were secured from 353 project reports. The projects were classified according to their nature under six headings in order that comparisons would be possible with similar data from the State of New York.

Table 19. Showing a sample of the Kind, Number, and Percentage of Projects in Oregon.

<table>
<thead>
<tr>
<th>Kind of Project</th>
<th>No.</th>
<th>Percent</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poultry</td>
<td>86</td>
<td>24.07</td>
<td>3</td>
</tr>
</tbody>
</table>
### Kind of project

<table>
<thead>
<tr>
<th>Kind of project</th>
<th>No.</th>
<th>Percent</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crops</td>
<td>112</td>
<td>31.69</td>
<td>1</td>
</tr>
<tr>
<td>Fruit</td>
<td>38</td>
<td>10.73</td>
<td>4</td>
</tr>
<tr>
<td>Animal husbandry and Dairy</td>
<td>99</td>
<td>25.21</td>
<td>2</td>
</tr>
<tr>
<td>Agricultural Eng'g.</td>
<td>16</td>
<td>4.53</td>
<td>5</td>
</tr>
<tr>
<td>Farm Management</td>
<td>2</td>
<td>0.56</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>353</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

Note: Approximately half of these projects were conducted in 1921-22 and the other half in 1924-25.

It will be interesting to compare the above table with a similar one that was computed for New York State.

Table 20. Showing the Kind, Number, and Percentage of Projects in New York.

<table>
<thead>
<tr>
<th>Kind of Project</th>
<th>No.</th>
<th>Percent</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poultry</td>
<td>390</td>
<td>28.78</td>
<td>2</td>
</tr>
<tr>
<td>Crop projects</td>
<td>680</td>
<td>50.18</td>
<td>1</td>
</tr>
<tr>
<td>Fruit</td>
<td>48</td>
<td>3.54</td>
<td>4</td>
</tr>
<tr>
<td>Animal Husbandry and Dairy</td>
<td>183</td>
<td>13.51</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Eng'g</td>
<td>4</td>
<td>0.29</td>
<td>6</td>
</tr>
<tr>
<td>Farm Management</td>
<td>50</td>
<td>3.62</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1355</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

It is interesting to note that Oregon and New York both have the crop projects at the top of the list and the fruit projects in fourth place, but all other kinds of projects in different ranks. It only indicates, however, that crop
projects appear to be most popular and agricultural engineering and farm management projects of the least frequent in both States. Such a comparison is enlightening only from the point of view of means of checking the tendency in this State with that of another administrative unit. A more pertinent comparison will be to compare the project frequencies with the importance of the various types of agriculture in the State, as determined by the value of products.

Table 2. Showing the rank of the various products in Oregon.

<table>
<thead>
<tr>
<th>Poultry</th>
<th>Crops</th>
<th>Fruit</th>
<th>Animal Husbandry and Dairying</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is pleasing to note that the indications are that stress is being laid upon the various agricultural enterprises in the State in approximately the same proportion as their value to the State is indicated. It is true, however, that there is room for improvement. Poultry projects are receiving more attention than the importance of the poultry enterprise would warrant, and fruit projects are not as popular as is their due. It is not assumed, however, that implications suggested above are to be taken as indicative of real maladjustments, for it could be possible that the communities represented, majored in these particular farming enter-
prises. However, the communities represent an unselected representative group from various parts of the State, and it is known that some of them are stressing certain enterprises in their projects that are not dominant farming interests in their respective communities. It goes to show that the State Supervisor must endeavor to arouse the agricultural teachers to a realization of project adaption to the dominant agricultural interests of the community. Two specific examples of departments that are misplacing their attention on certain types of projects will be cited, and possible causes and remedies suggested.

Seaside

Of 26 projects at this department, 20 were poultry projects, or 77 per cent. Yet dairying, as a farm enterprise in Clatsop county, is five times as important as poultry, livestock is twice as important, crops twice as important, and fruit equally as important as poultry. Of course, Seaside is only one small portion of Clatsop county, but it is the only agricultural department in the county, and it is known that the other enterprises mentioned are conducted in the Seaside community. Dairying is one of the major enterprises of the community.

Causes

1. Eighty-five percent of the students in the department are town residents, and therefore are obliged to undertake something which they may carry on in their homes.
2. Poultry projects do not require very much capital for a start.

**Suggested Remedies**

1. Recruit more farm boys from the student body or the farms of the community.
2. Encourage the students to rent sufficient land, when possible, to use in crop or fruit production.
3. Arrange with students and farmers to establish dairy herd improvement projects.

**Medford**

Data were collected on all the projects that were in operation when the writer called up the department. There were twenty projects under way at that time, consisting of gardens, poultry, bees, and one each in poultry, corn and potatoes. There was not one fruit project in the lot, unless it might happen to be in their gardens. On the other hand, Jackson county ranks first in value of fruit and nut products produced. It is apparent that this type of project is neglected at Medford.

**Causes**

1. Sixty-one per cent of the students in the department are residents of Medford.
2. Not enough effort has been put forth in the project phase of the instruction.
3. Less capital and effort are required in back-yard garden, bee, and poultry projects.
Suggested Remedies

1. Recruit more farm boys for the department.
2. Closer supervision of reports by the State Supervisor.

Summary

Oregon is, on the whole, adapting its projects in the vocational agricultural departments to the agriculture of the State, but there is room for improvement. Some departments are not attempting to meet this demand, due to inadequate effort of the teacher, large numbers of town boys in the classes, or both. The State Supervisor should supervise the projects of some departments more closely.

Problem No. 2

Agricultural Surveys

One of the basic principles of all teaching is that the instruction begins with the known and proceed to the unknown. The teaching of agriculture is no exception to the rule. Before an instructional program can be intelligently formulated for a community, it is necessary that the teacher discover the foundation upon which the program is to be built. He must know what physical equipment in the community he has at his disposal for instructional purposes. He must know the weak places that exist in the equipment. He should be aware of the whole background in agriculture, from which his pupils have to draw, that they may understand the new knowledge and additional skills.
which are to add to the present abilities. Such a knowledge of the students' background will save the time of the instructor and student alike, will save energy and money, and will make it possible for the instructor better to meet the specific needs of his community. It is obvious that the survey method in some form must be used to gain this knowledge in any adequate way. Such surveys are not being undertaken as frequently, nor as intensively in Oregon as the nature of the instructional service demands.

It is believed that surveys would be conducted more frequently and more intensively in the various departments if the instructors were better instructed in methods of surveys. With this point in view, the writer is submitting a survey schedule as an example for use in making such surveys. It is not assumed that this could be used, or should be used as it is in all communities alike. There will be certain types of information desired in some communities that this schedule does not include. It is suggested that this schedule be filled out by all students in agriculture and as many more high school students and farmers as can be induced to do so. Two copies should be filled with the instructor, one of which should be sent to the State Supervisor.

The writer has been guided in the information of this schedule by a similar one that is used in the State of Illinois. Adaptations have been made that Oregon farming conditions would warrant.
FARM AND HOME SURVEY

Location

County........................Township............Village or town center....
Population....................................School District............
Name of Informant...............................................................
Date...........................................................
Farm and Home Survey

I. The Family

(a) Farm owner or tenant, part owner or part tenant.....
(b) No. years in community..........................................
(c) No. years on this farm............................................
(d) Persons in family..................................................
   Father's age..........., Birthplace.........................
   Mother's age..........., Birthplace.........................
   Children..........................................................
(e) Hired help, men.................................Months in year.....
    Women.................................Months in year.....
(f) Educational facilities:
    Members attending school, No.........................
    Nature of the school..........................................
    No. college graduates in the family....................
    No. high school graduates in the family..............
    No. 8th grade graduates in the family..............
    Is public library used.................................
    Are agricultural bulletins read in home............
    List of newspapers and magazines in home...........
                                .............................................
                                .............................................
                                .............................................
                                .............................................
    Are parents willing to have children study vocational
    subjects?......................................................
(g) Social opportunities:

(1) Clubs or lodges to which members of family belong.

(2) Agricultural or home improvement societies or organizations to which members of family belong.

(3) Members of family who are leaders or officers of rural organizations.

(4) List of community events shared in or attended during the past year.

(5) Recreational facilities—games, sports, etc.

(h) Health conditions:

(1) Deaths in family... Causes.

(2) Diseases in family during past 3 years.

(3) Sources of water supply.

   Dug Wells.
   Driven Wells.

(4) How is waste and sewage disposed of.

(i) Religious life:

(1) Church affiliation.

(2) Church preferred.
(3) Church attendance, regular or irregular

(4) Sunday school attendance, regular or irregular

(j) Is the family satisfied with country life

Why

If not, why not

II. The Farm House

(a) The yard:

Dimensions

Means of beautifying..check(x) those used

Shade trees

Shrubs

Vines

Well kept lawn

Annual or perennial flowers

(b) The farm house

Stories

Rooms

Modern conveniences--check (x) those present, and add others if necessary.

Running water in plumbing system

Electric power and light

Gas engine power

Power driven washer, churn, separator, etc.

Build-in furniture and features.

Pictures

Musical instruments

Radio
III. The Farm

1. Acres......

2. Operated by owner or tenant, part owner or part tenant (underline)

3. Resources of the Farm.

   (a) Live Stock

<table>
<thead>
<tr>
<th>Horses</th>
<th>Beef</th>
<th>Dairy</th>
<th>Swine</th>
<th>Sheep</th>
<th>Poultry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>Cattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. on hand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Altered</td>
</tr>
</tbody>
</table>

Breed preferred

<table>
<thead>
<tr>
<th>No. females</th>
</tr>
</thead>
</table>

Bred per year

(b) Farm Crops

<table>
<thead>
<tr>
<th>No. of acres</th>
<th>Yields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td></td>
</tr>
<tr>
<td>Vetch Seed</td>
<td></td>
</tr>
<tr>
<td>Alfalfa Seed</td>
<td></td>
</tr>
</tbody>
</table>

Telephone

Library, No. of volumes......
Potatoes

Hay and Forage

---

(c) Horticulural crops

| Amount | Condition
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Young Prime</td>
<td>Old Bears</td>
</tr>
</tbody>
</table>

Tree Fruits

Apple---No. of trees
Pear
Plum
Prune
Peaches
Apricot
Cherries
Walnut
Filbert

Small Fruits

Grapes, No. of vines
Currants, bushes
Raspberries, acres
Blackberries,
Loganberries,
Strawberries,
Vegetables

Dimensions of garden

List of garden vegetables grown

(d) Waste Land

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tillable land used, acres........</td>
<td></td>
</tr>
<tr>
<td>Undrained or swamp, &quot;............</td>
<td></td>
</tr>
<tr>
<td>Hilly..........................</td>
<td></td>
</tr>
<tr>
<td>Not irrigated.................</td>
<td></td>
</tr>
<tr>
<td>Stump land....................</td>
<td></td>
</tr>
</tbody>
</table>

(e) Farm Business

System of farm accounts

Is a good profit made annually

(f) Fertilizers Used

<table>
<thead>
<tr>
<th></th>
<th>Acres treated</th>
<th>Amount per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lime stone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rock phosphate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sulphur
Basic slag
Potassium, what form
Nitrates, what form
Mixed, state name
Farm manure
Other

(g) Farm Equipment

<table>
<thead>
<tr>
<th>Name</th>
<th>No.</th>
</tr>
</thead>
</table>

Farm Buildings

Farm implements

Farm Conveyances

Farm fences
PROGRAM OF WORK SUGGESTED

1. Vocational agricultural education must be promoted more by the following means:
   
   (a) The agricultural press
   (b) Through farm and rural organizations
   (c) By the individual teachers in their communities.

2. Consolidation of small high schools must be encouraged throughout the State.

3. A salary schedule for agricultural teachers should be worked out and adopted.

4. Arrangements will be made at the Teacher-Training Department at the college for members of the staff to visit more often and more regularly the various departments in the State.

5. Definite methods of procedure should be adopted for the establishment of new departments in the State, and more specific investigations of prospective departments undertaken.

6. All members of the State service should be encouraged to establish definite standards of achievement on an objective basis of measurement for their individual department to strive for. Such standards should be supervised sufficiently by the State Supervisor, that there will be a means of comparing the efficiency of one department in the State with another.

7. There is need for closer supervision by the State
Supervisor of the nature of the home-projects of the students in some of the departments.

8. The survey method of instruction needs to be promoted to a greater extent.
Eaton, T. H.; Eaton, T. H.; Federal Board for Vocational Education; Annual Reports.
Federal Board for Vocational Education; Regional Reports.
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Warren, G. F.; Farm Management.

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Vocational Agriculture Function.
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in the High School at Dryden, N.Y.
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