

AN ABSTRACT OF THE THESIS OF

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(Name of student) (Degree)

in Agricultural Education presented on May 3, 1968  
(Major) (Date)

Title: A STUDY OF THE NEEDS FOR AN AGRICULTURAL  
EDUCATION PROGRAM IN THE SALEM JUNIOR HIGH SCHOOLS

Abstract approved: ~~Redacted for privacy~~  
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The purpose of this study was to determine the agricultural interests of students and needs for expansion of the agricultural education program in the Salem school district. Three basic areas were included in the study: (1) the self-expressed interests of students for agricultural instruction in agricultural careers, forestry, greenhouse and nursery management, work experience programs and a basic agriculture program for the junior high schools; (2) the opportunities for employment in agricultural occupations both on-farm and off-farm; and (3) using an agriculture advisory committee in reviewing the results prior to making recommendations to the board of directors.

A review of related literature points out the importance of utilizing student interests in the educational process and in the guidance programs for today's world of work.

The continual decline in farm labor due to rapid changes in agricultural technology is forcing rural youth to find employment in off-farm agri-business. Work experience programs can play a vital role in providing necessary experience for decision making and preparation for employment in these occupations.

Findings of this study disclosed interest in all agricultural areas considered. Most popular career interests were in wildlife and forestry conservation and recreation occupations. Livestock and crops careers were second. Forty seven per cent of the boys were interested in a work experience program. Least interest was shown in greenhouse and nursery management.

Census data for Marion and Polk counties show an increase in commercial size farms and a corresponding increase of farm managers. Manpower studies show a need for personnel in technical occupations and agricultural service occupations.

The advisory committee indicates a program should be developed which includes all areas of agricultural instruction with emphasis in power mechanics, and agriculture sciences with a work experience program. Eighty per cent of these adults are willing to recommend to the board of directors that additional staff be hired and that additional facilities be developed.

A proposed agricultural education course of study utilizing the "principles approach" for a junior high, ninth grade program is

included. It is recommended that a work experience program be developed in cooperation with the model work experience program under study at Judson Junior High School.

A Study of the Needs for an Agricultural  
Education Program in the Salem  
Junior High Schools

by

Gene Thomas Streight

A THESIS

submitted to

Oregon State University

in partial fulfillment of  
the requirements for the  
degree of

Master of Education

June 1968

APPROVED:

Redacted for privacy

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Professor of Agricultural Education

in charge of major

Redacted for privacy

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Date thesis is presented May 3, 1968

Typed by Carolyn Irving for Gene Thomas Streight

## ACKNOWLEDGEMENTS

This thesis represents the assistance of several individuals who have contributed to its development.

Special acknowledgements are due Henry A. TenPas and Philip B. Davis of the teacher training staff at Oregon State University for their supervision and guidance of this study. Also to Bruce Thompson, Vocational Coordinator, Salem Public Schools for his coordination of the study in the Salem Junior and Senior High Schools.

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# A STUDY OF THE NEEDS FOR AN AGRICULTURAL EDUCATION PROGRAM IN THE SALEM JUNIOR HIGH SCHOOLS

## INTRODUCTION

Educational and legislative leaders have long recognized the need for vocational education in our high schools which provides students with programs designed for a wide variety of occupations. National concern for such programs is shown in the passage of the Smith-Hughes Act of 1917 and the George-Barden bill in 1946. Funds provided by this legislation gave an impetus to vocational education in agriculture for programs to train present and prospective farmers for proficiency in farming. Because of the decrease in the farming population and the increased demands for workers in off-farm employment, agricultural education programs have been challenged in recent years to provide instruction in a wider variety of occupations. Since the passage of the Vocational Act of 1963, supplemental information has enriched the program by including pertinent material in agricultural occupations related to farming.

The Salem School District has maintained a Vocational Agriculture program since 1934. For many of those years, North Salem High School was the only high school. Three senior highs and six junior high schools are now operating in the district with vocational agriculture being offered only at North Salem High School. A decline

in the enrollment in this program prompted the Vocational Advisory Council to request the board of education to conduct a study of the agricultural interests of the students in the junior and senior high schools. This study would be highly beneficial in (1) evaluating the present program, (2) examining the possibilities of extending the program to a greater number of students, and (3) assisting the advisory council, administration, the board of directors and the instructor in planning a program to meet the needs and interests of the students.

#### Statement of the Problem and Situation

The Salem school district, like many other American schools, shares the problem of being in a transitional state in agricultural education programs. Recent studies show a continued decrease in the number of farm youth returning to the farm but an ever increasing number moving into off-farm agricultural occupations. These studies further show that, for employment in some of these occupations, an agriculture background is essential, and, for others, it is a tremendous asset (24).

Since agricultural instruction is offered only at North Salem High School, the freshman students in the six junior high schools have no opportunity to study agriculture. This condition imposes some serious restrictions on those students desiring maximum instruction and exploration in occupational and educational information,

leadership activities, agricultural mechanics, plant and animal science, and decision making which may be offered in a basic agriculture program.

This exploration is important to students, since agricultural enterprises contribute much in resources to the Salem urban community each year. Salem is the hub of the county's food processing industry. Marion county ranks third highest in volume among food processing counties in the United States. Areas surrounding the district are also basically agricultural.

Although there are six junior high schools located throughout the district, each is situated in an urban locale. Some of these schools are more closely associated with the production areas. Special arrangements have been made permitting any student desiring instruction in agriculture on the senior high level to attend North Salem High School. This, however, may involve emotional problems as well as the physical problem of transportation. The basic problem is twofold and may be stated as follows: (1) should there be an agricultural education program in the Salem junior high schools, and, if so, (2) what should this program be?

#### Purpose of the Study

The primary purpose of this study is to gather data concerning the agricultural interests of students in the six junior high schools in

the Salem school district and to determine the feasibility of developing an agricultural education program for these schools.

Secondary purposes are as follows:

1. To utilize the data gathered in making recommendations in developing the agriculture program.
2. To provide information for the vocational advisory council which will assist them in making sound recommendations to the board of education concerning the agricultural education program.
3. To determine opportunities for employment in agricultural occupations.

#### Limitations of the Study

The content of this study is designed to apply to the six junior high schools of the Salem school district. Data will be gathered from the senior high schools, but will be used only as a supplement to the basic study. This study is also restricted to the formal instructional program of vocational agriculture. A third limitation of the study is introduced by the use of an interest survey questionnaire. Although an effort has been made to minimize this limitation, the following factors may affect the reliability of the survey.

1. Age and maturity of the recipients
2. Background and experience
3. Ability to comprehend the questions asked

4. Momentary or fantasy interests

5. Opinions and biases

Another limitation, imposed by the researcher and the guidance personnel, is that the population surveyed included only male students.

The presentation of employment data will emphasize the Marion and Polk counties needs with limited reference being made to the state and national employment picture.

Since the agricultural advisory council has been included as a part of the total vocational advisory council, the study will be limited to the present agriculture sub-committee members and past agricultural advisory council members.

#### Definition of Terms

1. Vocational Agriculture program: Organized classes of instruction in agriculture including supervised farming programs and/or work experience and the Future Farmers of America as an integral part of instruction which are part of a regular high school curriculum of less than college grade and are recognized by the State Department of Vocational Education.

2. Complete three year program: A vocational agriculture program as defined above designed for grades ten through twelve.

3. Complete four year program: A vocational agriculture program as defined above designed for grades nine through twelve.

4. Salem School District: The total educational program of the city of Salem, Oregon including elementary grades one through six, junior high school grades seven through nine, and senior high school grades ten through twelve.

5. Supervised Farming Program (project): The farming activities carried on by the student of vocational agriculture, usually, but not necessarily, on his home farm under the supervision of the agricultural instructor and his parents.

6. Future Farmers of America (FFA): A national organization of, by, and for boys studying Vocational Agriculture in public secondary schools which operate under provisions of the National Vocational Education Act. The FFA is an intra-curricular part of the Vocational Education in Agriculture of America. It constitutes an effective device for leadership training and teaching through participating experiences.

7. Agricultural work experience program: In agricultural work experience programs, the employment of students is specifically within the occupations for which the courses in school are preparing them. Such employment thus serves the function of a practical laboratory for reinforcing the in-school occupational education. Students may receive both pay and school credit for their work. Students in vocational agriculture programs may be employed on farms within the community or in a local agriculture business establishment such as a

farm implement dealership, a nursery, feed and seed dealer or food processing plant.

8. Basic agriculture course: This course, as proposed, will place emphasis on the inductive problem solving approach. It stresses basic agricultural principles as they apply to overall concepts of agricultural practices and their importance to the economy. It is taught using an exploratory overview for first year agriculture students.

9. A principle: A fundamental truth; often a generalization based upon proven facts and supported by repeated observations of applicability. It may have exceptions but is usually applicable. It is a basis for present and future action and evaluation.

### Research Procedure

#### Preparation of the Questionnaire

The data for this study will be obtained through the use of a revised questionnaire designed to register interest in various aspects of the vocational agriculture programs. The questionnaire was first developed and used by the State Department of Agricultural Education in re-establishing the agriculture program at Roseburg High School, Roseburg, Oregon. In 1964, it was revised by Mr. Curtis Loewen and used to re-evaluate and further develop the agricultural education

program at Roseburg.

Since the questionnaire will be scored by computers, it was again revised in hopes of securing more specific information. It was pre-tested with a group of eighth grade students to evaluate understanding of terms and further refine wording of the questions.

Detail is secured by providing a four choice response: strongly interested, interested, undecided, and not interested for each question. Since the survey will be given to a cross section of students, many of which have little or no background in the areas to be surveyed, a narrated presentation of 30 slides illustrating these areas will be shown prior to the students answering the questionnaire. A copy of the survey and the slide narration are included in Appendix I and II, respectively.

#### Preparation of the Staff

A meeting of guidance counselors from the six junior high schools involved was arranged by Mr. Bruce Thompson, vocational programs coordinator, to review the narrated slide presentation, become familiar with the materials and decide upon a method of selecting students to receive the questionnaire. It was decided that each counselor would randomly select a class containing a cross section of male students. A goal of ten per cent of the boys in each grade are to receive the questionnaire.

Table 1 shows the student population and the number receiving the questionnaire.

Table 1. School population and survey record

<u>School and Grade</u>	<u>Total boys</u>	<u>Number surveyed</u>	<u>Percentage surveyed</u>
<u>Judson Junior High School</u>			
7	182	38	20.8
8	173	37	21.4
9	<u>163</u>	<u>38</u>	<u>23.2</u>
TOTALS	517	113	21.8
<u>Leslie Junior High School</u>			
7	112	11	9.8
8	121	8	6.6
9	<u>124</u>	<u>13</u>	<u>10.4</u>
TOTALS	357	32	9.0
<u>Parrish Junior High School</u>			
7	167	26	16.0
8	185	24	13.0
9	<u>160</u>	<u>33</u>	<u>20.6</u>
TOTALS	512	83	16.0
<u>Waldo Junior High School</u>			
7	188	18	9.2
8	165	19	11.4
9	<u>151</u>	<u>20</u>	<u>13.2</u>
TOTALS	504	57	11.7

Table 1 continued

<u>School and Grade</u>	<u>Total boys</u>	<u>Number surveyed</u>	<u>Percentage surveyed</u>
<u>Walker Junior High School</u>			
7	77	10	12.8
8	85	7	8.4
9	<u>58</u>	<u>11</u>	<u>19.0</u>
TOTALS	220	28	13.0
<u>Whitaker Junior High School</u>			
7	126	11	8.6
8	119	19	16.0
9	<u>115</u>	<u>20</u>	<u>17.4</u>
TOTALS	360	50	14.0
<u>Summary</u>			
7	852	114	12.0
8	831	114	12.3
9	<u>771</u>	<u>135</u>	<u>17.8</u>
TOTALS	2454	363	14.7

Administration of the Survey

Following these preliminaries, the questionnaires and narrated slides will be distributed according to schedule by the vocational coordinator to each of the six counselors. The slides will be shown to the students immediately prior to distribution of the questionnaire. Guidance counselors will read the survey questions at each presentation and will be encouraged to interpret terms as students questions arise.

Questionnaires will be collected following each presentation. No student identification will be used, as recommended by the guidance counselors. However, each is designated as to grade level, school and whether the student is from a farm or city home. This information may be a major factor in determining in which schools additional classes may be offered.

#### Computer Tabulating

Students are to use electrographic pencils when marking the answer sheets. Answers shall be read electrically and then placed on key punch cards for sorting and tallying the responses.

#### Advisory Council Survey

After the student survey data are tabulated and appropriate tables prepared, a summary of the results will be sent to advisory council members along with a list of suggested recommendations. Advisory council members will be asked to indicate the importance they feel should be placed upon the career areas and subject matter areas showing varying degrees of interest by students. In addition, they will indicate the degree of support they will give to the recommendations suggested for presentation to the school board. This data will be tabulated and utilized in the development of the suggested program.

### Occupational Information

Present census information, manpower and labor data, and opportunities for employment in agriculture will be reviewed and included as a part of the findings, thus providing a three phase approach to the analysis of the problem as presented earlier.

## REVIEW OF RELATED LITERATURE

Presentation of literature will be related to four areas under study:

1. Importance of interests of students relative to changing, revising, or developing vocational agriculture programs, and the making of vocational choices.
2. The use of the "principle approach" in teaching vocational agriculture.
3. Work experience education programs.
4. Advisory councils relative to their use and importance in an agriculture education program.

### Role of Interest on Preference in Vocational Choices

Keller (18) has indicated in his writing concerning guidance services that interest of students must play a vital role in the educational process.

The expression of desire, no matter if they change their minds about the object, is the signal to seize the opportunity to "educate". (18, p. 140)

Keller further indicates that:

An effective vocational-guidance program, through individual counseling, through lessons in occupational information, and through continued emphasis upon the importance of individuality stimulates students to make their plans for employment long before graduation and

leads them to use their own initiative and not to depend upon others for help to any greater extent than circumstances warrant. This is the normal, salutary procedure which should not be weakened by unnecessary help and direction. (3, p. 153)

In further emphasizing this point, Ginzberg (10) reminds us that satisfactory occupational choices cannot be made unless an individual considers his interests, capacities, and goals. Failure to do this is apt to lead to frustration.

Rogers (34) indicates that one approach to determining farm mechanics instructional needs is to let the students choose their subject of interest, since the farm problem that is immediately confronting them is their concern.

In a 1958 study by Pitney (31), it was found that sufficient interest in agriculture constituted an agreement that they would carry home supervised farming programs. Fifty per cent of all schools in the study indicated they enrolled all interested students, provided they agreed to carry a supervised farming program.

In a 1964 study by Loewen (21) to determine interest of rural boys in agricultural education, 63 per cent indicated an interest in at least one of the agricultural career areas. The most prevalent interest was found to be in areas of production agriculture. Sufficient interest was expressed in basic agriculture to establish a class at the junior high school level. A class in forestry was established based upon interest and needs of students in the Roseburg area.

Swingle completed a study in Wayne County, Ohio to determine the vocational education courses which rural boys want. This study indicates:

1. A wider variety of vocational education courses were desired by rural boys.
2. Many boys who planned to attend college later also wished to schedule vocational education courses.
3. A substantial number of boys would continue to take vocational agriculture even though other vocational courses were available.
4. The student's choices of vocational education courses were not necessarily closely correlated with employment opportunities in the country.

(40, p. 53)

#### Interest and Need Utilized to Project Offerings

Another approach to solving this problem was followed by Tellefson in 1963 (41) wherein he employed a followup study of students graduating from the vocational education program at Hermiston. His study revealed the program had undergone gradual "change" through the 14 years of the program.

Forty-two of the 72 graduates were employed in the Hermiston area and indicated that the revised program should have a strong

emphasis on management, and decision making areas of instruction which are of economic importance to the Hermiston community.

Since the passage of the Vocational Education Act of 1963, many studies have been conducted to determine employment opportunities in off-farm agricultural occupations.

Richard A. Baker reports the conclusions of a study by selected members of the State educational staffs of Alabama and Auburn University as follows:

1. Based on the expressed opinions of employers, approximately one-fourth of total persons employed in businesses, industries and services associated with agriculture need an agricultural background or training.
2. Vocational agriculture should strive to improve its communications with businesses and industries that provide supplies and services to farmers and other producers of plants and animals.
3. Vocational agriculture should include instruction to acquaint students with the existing employment opportunities, occupational characteristics and the pre-employment, educational needs for off-farm agricultural occupations.
4. Local departments of vocational agriculture should determine the number of employment opportunities available in their service area. (1, p. 105)

Baker, in a later article, states:

It is a recognized fact that the job opportunities for people with an agricultural education, and in some cases with simply a farm background, continue to increase. A vast number of these jobs in agricultural businesses and industries do not need to be filled with persons with baccalaureate degrees.

The Vocational Education Act of 1963 amended the previous vocational education acts to permit vocational agriculture to include educational programs involving the knowledge and skills needed by persons engaged in off-farm agricultural occupations. In no way was this amending intended to minimize the importance of developing the skills needed by persons engaged in production agriculture. Adjusting old, and designing new curricula in vocational agriculture is inevitable if the program is to be effective and is to deal efficiently with the dual functions of providing vocational education for both on-farm and off-farm agricultural occupations. (2, p. 6).

### Background of the Principle Approach

Interest in teaching by the "principle approach" has been revived in recent years. As we look back, however, we find it is by no means a new approach to classroom instruction. In an article entitled "Who Discovered Discovery", by Mauritz Johnson, appearing in the Phi Delta Kappan, the use of this approach is traced to the early writer, Plato, who heard Socrates say: "Do you observe Meno, that I am not teaching the boy anything, but only asking questions . . . ?" (16, p. 121). Johnson continues by pointing out the work of David P. Page, Principal of the first normal school in New York State. In an

1847 article, "Theory and Practice of Teaching", Page reminded teachers that:

There is a great satisfaction in discovering a difficult thing for one's self . . . and a teacher does the scholar a lasting injury who takes this pleasure from him. The teacher should be simply suggestive . . . (16, p. 121).

Johnson also quotes from Herbert Spenser's treatise, "Education: Intellectual, Moral and Physical", which dates from 1860, as saying:

Children should be led to make their own investigations and draw their own inferences. They should be told as little as possible and induced to discover as much as possible (16, p. 121).

Johnson further quotes another educator from an article, "The Teaching of Mathematics", written by J. W. Young, in 1906. This article indicates:

. . . it is the function of the teacher and the text to so present the things to be done, so to propose the problems to be solved that they require real discovery on the part of the pupil: that, at the same time, the steps are in his power, and that he attains, in the end, a good view of the whole subject (16, p. 122).

William C. Bagley is also quoted by Johnson. Bagley writes in "The Educative Process", published in 1905:

The pupil is not to be told but led to see . . . whatever thought the pupil gains, whatever thought connections he works out, must be gained with the consciousness that he, the pupil, is the active agent . . . that he is, in a sense at least, the discoverer (16, p. 120).

The biology field is faced with the problem of the tremendous increase in scientific knowledge. To keep up with the pace and improve instruction, a group of biologists established the Biological Sciences Curriculum Study. The aim of this group was to develop materials upon which to build concepts and principles. "Our primary emphasis has thus been laid upon science as investigation, and inquiry. Observation, experiment, hypothesis, and verification are the four corners of this structure" (22, p. 1X). This provides the students with the opportunity to participate in the learning of basic principles through a scientific process, thus being better prepared to meet problems continually faced in life.

In 1959, the California State Department of Education, with Dr. Sidney S. Sutherland, of the University of California at Davis, as project director, developed an experimental unit in teaching biological principles as an integral part of the Vocational Agriculture program. The primary purposes for undertaking this project were to upgrade the scientific aspects of the high school vocational agriculture program and to provide certification of the agriculture course as an acceptable laboratory science course which would meet admission requirements to the university (39, p. 1). The unit includes 22 "biological principles" basic to agriculture. The latest draft is available to teachers who will attend a three day workshop designed to provide instruction and procedures involved in using the materials. (4)

In 1961, Dunham, in cooperation with the teacher training staff at Oregon State University (9), developed a unit in soils and plant nutrients. This unit was used by student teachers and interns under the direction of supervising teachers. A conference, in 1962, with Dr. S. S. Sutherland as conference leader, was the first of three conferences planned to consider the use of the principle approach in teaching Vocational Agriculture in Oregon. The 1964 conference included a workshop in developing a basic agriculture course of study using the "principle approach". The author participated in this workshop and will utilize this information in preparing examples of principles which may be used in the basic agriculture program under study.

A comprehensive study involving the use of the "principle approach" by Dunham deals with the principles from an agricultural base and makes biological application whenever and wherever possible, whereas the California study used a biological base and made agricultural application when possible. Dunham utilized a panel of subject matter specialists to review the principles included and to make suggestions and changes where necessary to insure scientific accuracy and proper wording of the principles.

Results of his study indicate that agricultural subject matter content can be upgraded and consolidated and that students benefit when subject matter specialists synthesize subject matter into basic, related principles.

In a recent study of vocational agriculture instructors by Robert Way (49), it was found that there is considerable interest in teaching agriculture by use of the "principle approach". Twenty per cent of the Oregon agriculture teachers responding to his questionnaire attended a workshop for developing instructional units and received instructions in using this method of teaching. Most teachers attending this workshop (including the author) are now using and prefer this method. Other Oregon agriculture instructors have indicated a desire to use this approach. Mr. Way's study also indicated, as is implied in the California work, that special instruction is needed to gain success with this teaching approach. As a result, Dr. Sidney S. Sutherland presented information and demonstrations at the 1967 state-called summer conference for Vocational Agricultural teachers. This program was followed by ten district workshops to further explore the "principle approach".

Particular advantages to this approach stem from the additional motivation, student involvement and longer retention of principles once learned (49).

### Work Experience

The rapid changes in technology and shifts in the economy make the choosing of a career a most difficult and complex task for the youth of today. Increasing pressures are forcing these youths to

make decisions when they often do not have complete understanding of all the implications involved. Although some careers may be entered immediately after high school, others may require as many as ten years of additional training. To further complicate the problem, these youth must make the transition from the academics of school to the vastly different environment of the world of work (5, p. 1).

Some educational programs, providing preparation for this world of work, have been in operation for many years. Some utilize the home facilities, often lacking in today's complex industrial economy. Other programs are expanding school facilities to provide some type of work experience at school, while still others are utilizing the community as the facility for work experience.

Various titles have been used to identify these programs. The programs developed in California indicates that true work experience education results only when it encompasses a systematic plan whereby young people, while still in school, can gain realistic employment experiences through part time work performed under all the following conditions:

1. The school adopts a specific plan of operation based on a written outline that shows the respective roles of the school, the student, and the employer.
2. The school assigns qualified personnel to direct the program and to coordinate student jobs with the school subjects.

3. The school makes certain that work done by students is of a useful, worthwhile nature, and that federal, state, and local laws and regulations are followed.
4. The school, with the help of the employer, evaluates work done by students, awards credits for work successfully accomplished, and enters pertinent facts concerning the student's work on his permanent record (5, p. 1-2).

Craig (7) examines work experience by first defining the words, "work" and "experience". Work involves both a mental and physical activity and is goal directed. Experience involves the individual in some specific activity of doing, with something resulting. It is also linked with an entity in time. He concludes by stating:

In a democratic work experience situation, an individual needs and wants to have the opportunity to express himself and, in turn, influence individual and group goals. These goals are compared with available work experience situations (7, p. 151).

California studies show the work experience education programs were considered very important in helping students to learn, as part of their general education, what employment entails. Another benefit to the student comes in exploring the fields in which his interests lie and in determining whether these fields are suitable to him.

Work experience helps the school, community and the employer. First, it aids the school in relating the academic training to the job requirements and increases the school's ability to hold the students in

school for a longer period of time. Second, benefits come to the employer as a result of having carefully selected part time help, who are receiving additional training through related instruction at school. Third, benefits come to the community, in that it increases the possibility that young people will remain in the community. Another benefit comes from increased involvement of the total community, thus improving school-community relations (5, p. 2-5).

Due to the variety of purposes for work experience and the diversity of needs of young people and the community served by these programs, it has been necessary to divide the work experience education programs into three major categories, each under the direct sponsorship of the schools involved: exploratory work experience, general work experience, and vocational or cooperative work experience.

Exploratory work experience is basically a guidance tool. Usually students in this type program spend specified hours at a variety of work experiences either at school, or at a business. Each student, thereby, will have the opportunity to ascertain his desires and abilities in relation to these occupations.

General work experience is designed to promote mature work habits but not necessarily in the area of their occupational goal, while a vocational work experience involves employment of a student in keeping with his occupational goal. It also involves training in a

related course of study, and students receive both high school credit and pay for their work (4, p. 5-6).

The importance of guidance in these programs cannot be overlooked. Hoover (15) emphasizes the importance of beginning vocational guidance at an early age--eighth and ninth grade. Here counselors are administering aptitude tests and helping students plan their high school courses. Mr. Hoover says, "We cannot merely teach agricultural subject matter and then count on 'transfer of learning' to make students aware of employment opportunities and needs in agriculture" (15, p. 232). He further indicates that successful teachers of agriculture have secured the necessary carry-over into farming enterprises as a result of students being involved with home projects, and that this carry-over into future agricultural occupations will come as a result of involvement in a work experience program.

#### Vocational Agriculture Advisory Council

"The first of the 'facts of life' in American public education is that all of the ultimate controls over it are in the hands of citizens" (12, p. 83).

The above statement by Hamlin is restated in closer relation to agriculture as follows:

The public school is the public's, and a good part of the success of public education depends on keeping the people believing that this is actually the case. The

advisory council is one device for saying to the public, 'this is your school and agriculture department. We want to use it for the attainment of values you think are important' (11, p. 111).

Advisory councils have been used for many years with varying degrees of success. Hamlin points out that the use of such councils is extremely important in keeping the community involved in its schools. Many councils have failed to be helpful because the possibilities for usefulness were not fully realized. Values of councils may be discovered through examining their uses.

Since agricultural educators are probably closer to the public than most other educators, a successful approach to public relations is to permit advisory council members to participate in agricultural affairs and to assist the school in making decisions about the school they make (11).

Leach indicates (20) that it is essential that a vocational agriculture program be built around the local interest and needs. An effective way of accomplishing these tasks is to utilize an advisory council, composed of members of the community representing all areas of farming, business and related services. With this system, the community becomes a vast laboratory where students may acquire skills, abilities and attitudes essential in developing proficiency in agriculture. A program thus developed can be readily understood and accepted by the community.

Advisory councils can be effective in stating objectives and assisting in evaluating the program's progress towards these goals. This is especially helpful when the program has been in operation for some time, as changes will occur in agricultural technology and shifts occur in the community's industrial developments.

Correlation of school activities with agricultural agencies is another work of the advisory council. It must be kept in mind that advisory councils are to be considered advisory in nature and should perform in terms of recommendations or suggestions. They can be a tremendous asset to the instructor, administration and the school board. Advice to the Future Farmers of America chapter is invited and readily accepted by chapter members. Chapter officers often call upon council members for assistance with chapter activities, fairs and livestock or crop projects. Council members, too, may be utilized as resource persons for classroom studies.

A role which is becoming increasingly important is the assistance rendered in securing work experience training stations, both in on-farm and off-farm occupations as well as advising in the development of these programs to meet the needs of a changing agricultural industry.

Much of the organization of the council is left up to the local school with authorization coming directly from the local board of education and the administration. Policies regarding the operation of the

council are approved by the board of education. Detailed rules are generally set up in a constitution and by laws developed by the council and approved by the board of education. Guidance may be secured from the state department of vocational education in developing the council.

Many new councils have developed, or old ones reorganized, since the Vocational Act of 1963 made the use of advisory councils mandatory for receiving federal funds for vocational education. These are often developed as total vocational councils with sub-committees for each of the vocational fields represented in the school. Sub-committees meet independently and then are represented on the council which makes the recommendations to the board of education.

### Summary

Throughout the literature, references have been made to the significance of interest in the role of planning vocational agriculture programs for high schools. Various approaches have been employed to discover what this interest constitutes and what courses can be offered which will meet the needs of students as expressed by their interest.

An attempt has been made in several states to upgrade the scientific aspects of vocational agriculture by incorporating the use of the inductive approach to teaching basic agricultural principles.

This approach has been studied and used in California and readily accepted by those in Oregon who have received assistance in its use. This approach has shown that scientific agricultural principles can be consolidated and that they up-grade agricultural instruction.

An extension of the supervised farming program into supervised off-farm work experience has come about as a result of the continued decrease in farm labor and increased demands for agriculturally trained persons in agri-business occupations. Work experience can be exploratory, general, or cooperative, each having a place within the cooperative work experience program as a satisfactory replacement for the home supervised farming program.

The use of advisory councils composed of successful agri-businessmen from all areas of farming, business and related services, has proven to be a successful means of developing, promoting and evaluating the vocational agriculture program. Its role in public relations is one example of how a council may participate in the affairs of the schools they make.

## FINDINGS

A general analysis of the survey data will be made relative to interest in the agricultural areas studied. Responses of the "strongly interested and interested" questions will be combined for simplicity. Responses have been computed separately for farm boys and city boys, but these figures will also be combined for simplicity. Tables illustrating responses in each category of information will include: interest in an agricultural career, power and agricultural mechanics, production agriculture, supervised farming or occupational work experience programs and a course in basic agricultural principles in junior high school.

Findings will also include data on opportunities of Marion and Polk counties with additional data relative to the general agricultural employment picture of Oregon and, to some degree, the United States. Many references refer to the mobility of the labor force, encouraging the reader to include the entire United States into his concept of the "community".

Additional data presents the findings relative to the agricultural advisory committee's analysis of the results the student survey.

### Student Survey Data

It can be noted from Table 2 that there is considerable interest

in agricultural careers. Table 2 reveals that there is a wide range of interest exhibited by students and that some career prospects arouse more interest than others. Every career opportunity suggested received some interested responses. It may be noted that students from farms indicated a preference for livestock production, while, among city dwellers, the element of fantasy may have influenced the responses in wildlife conservation and recreational occupations. This could be an association which may have been coupled with a recent camping, fishing or hunting trip.

Considerable interest was expressed in the six subject matter areas of Vocational Agriculture. Several questions dealing with the same subject matter area were grouped and averaged to determine the number of boys interested and the percentages. This clustering of related questions tended to smooth out the fluxuations shown by the individual questions.

The greatest interest was shown in the area of electricity by thirty three and one half percent of the boys surveyed. Lowest interest was registered in soil and water management.

Agricultural sciences and building construction received an intermediate response between the highest and lowest responses. When Table 3 is compared to Table 10, the number of students in any individual school becomes quite significant.

Table 2. Interest in agricultural careers.

Grade Level	Total No. Boys Surveyed	Lowest No. Interested	Percentage Interested	Highest No. Interested	Percentage Interested	
<u>A. Agricultural Careers:</u>						
7	114	11	9.6	80	70	
8	114	10	8.8	85	74.5	
9	135	5	3.7	87	64.4	
<u>B. Choice of Agricultural Careers:</u>						
	<u>Seventh Grade</u>		<u>Eighth Grade</u>		<u>Ninth Grade</u>	
	<u>Farm</u>	<u>City</u>	<u>Farm</u>	<u>City</u>	<u>Farm</u>	<u>City</u>
First Choice	Conservation	Conservation	Conservation	Conservation	Conservation	Recreation
Second Choice	Livestock Production	Recreation	Livestock Production	Recreation	Livestock Production Forestry Research	Research
Third Choice	Communications	Research	Research	Livestock	Livestock Production Forestry Research	Research
Fourth Choice	Sales	Communications	Recreation	Research	Crop Production	Livestock Production

Table 3. Interest in subject matter areas of vocational agriculture by grade level

Grade	No. Boys Surveyed	Total No. Interested	Percent Boys Interested
<u>A. Agriculture Mechanics in Shop Skills</u>			
7	114	32	28
8	114	29	25
9	<u>135</u>	<u>37</u>	<u>27</u>
Totals	363	98	27
<u>B. Soil and Water Management</u>			
7	114	22	19
8	114	27	24
9	<u>135</u>	<u>30</u>	<u>22</u>
Totals	363	79	22
<u>C. Rural Electricity</u>			
7	114	44	39
8	114	34	30
9	<u>135</u>	<u>43</u>	<u>32</u>
Totals	363	121	33.5
<u>D. Farm Buildings</u>			
7	114	36	32
8	114	34	30
9	<u>135</u>	<u>35</u>	<u>26</u>
Totals	363	105	29
<u>E. Power Mechanics and Machinery</u>			
7	114	41	36
8	114	37	33
9	<u>135</u>	<u>38</u>	<u>28</u>
Totals	363	116	32
<u>F. Agriculture Science</u>			
7	114	37	33
8	114	35	31
9	<u>135</u>	<u>29</u>	<u>21</u>
Totals	363	103	28.5

Table 4 shows that students desire practical work experience and application in agricultural activities. Almost one half of the students surveyed desired an opportunity for work experience. Thirty two percent would participate in a supervised farming program.

Table 4. Interest in supervised farming programs and supervised occupational work experience

Grade Level	No. Boys Surveyed	No. Boys Interested	Percent Boys Interested
<b>A. Supervised Farming Program (Project)</b>			
7	114	40	35
8	114	42	37
9	<u>135</u>	<u>31</u>	<u>23</u>
Totals	363	113	31
<b>B. Supervised Occupational Work Experience</b>			
7	114	45	40
8	114	64	56
9	<u>135</u>	<u>62</u>	<u>46</u>
Totals	363	171	47

Table 5. Interest in a complete three or four year vocational agricultural program

School or Grade Level	No. Boys Surveyed	No. Boys Interested		Percent Boys Interested	
		3 yr.	4 yr.	3 yr.	4 yr.
<u>A. According to Schools, 7-8-9 grades</u>					
Judson	113	29	19	26	17
Leslie	32	7	5	22	16
Parrish	83	19	21	23	27
Waldo	57	21	10	37	18
Walker	28	10	5	36	18
Whitaker	<u>50</u>	<u>14</u>	<u>7</u>	<u>28</u>	<u>14</u>
Totals (Averages)	363	100	67	(28)	(19)
<u>B. School District by Grade Level</u>					
7	114	34	24	29	21
8	114	33	32	29	28
9	<u>135</u>	<u>33</u>	<u>11</u>	<u>24</u>	<u>8</u>
Totals (Averages)	363	100	67	(28)	(19)

Table 5 shows interest in a complete three year program was greater than for the four year program. (This program includes the supervised farming program and/or work experience program.) The fact that the Salem School District now has a three year program may have had an effect on the interest in this program.

In reviewing the interest in Basic Agriculture, the survey revealed a stronger interest at the ninth grade level. Table 6 shows that 40 percent of the eighth grade students and 31 percent of current ninth graders show an interest in Basic Agriculture at the ninth grade level.

Seventh graders show a preference for Basic Agriculture to be offered at the eighth grade level.

Through additional analysis not shown, and assuming the sample to be representative, we could project that the smallest class in any junior high Basic Agriculture course would be 25 students, and the highest would be 52, and an average might be as high as 38 students.

It is assumed by the investigator, that students desiring Basic Agriculture in the ninth grade may also be interested in agriculture from the Vocational standpoint and that many would continue Vocational Agriculture at advanced levels.

Table 6. Interest in basic agriculture course in junior high school

School or Grade	No. Boys Surveyed	8th Grade		9th Grade	
		No.	Percentage	No.	Percentage
<u>A. According to Schools, 8 and 9 grades</u>					
Judson	113	36	32	36	32
Leslie	32	10	31	12	37
Parrish	83	19	23	24	29
Waldo	57	9	16	19	33
Walker	28	13	47	15	54
Whitaker	<u>50</u>	<u>13</u>	<u>23</u>	<u>12</u>	<u>22</u>
Totals (Averages)	363	100	(27.5)	118	(32.5)
<u>B. School District by Grade Level</u>					
7	114	51	45	30	26
8	114	31	27	46	40
9	<u>135</u>	<u>18</u>	<u>13</u>	<u>42</u>	<u>31</u>
Totals (Averages)	363	100	(27.5)	118	(32.5)

Table 7. Interest in a forestry conservation course at senior high level

Grade Level (all schools)	No. Boys Surveyed	Interest in 1 year program		Interest in 2 year program	
		No.	Percentage	No.	Percentage
7	114	44	39	34	30
8	114	49	43	35	31
9	135	61	45	33	24
10	112	45	40	39	35
11	<u>106</u>	<u>42</u>	<u>40</u>	<u>28</u>	<u>26</u>
Totals (Averages)	581	241	(42)	169	(28)

Although this course is designed for junior and senior students, Table 7 illustrates the strong interest in forestry. The one year program received almost twice as much interest with nearly half the students anticipating this type of instruction. It might be noted, at this point, that the possibility of being a park or forest ranger received the highest number of responses.

Table 8. Interest in greenhouse and nursery management

All schools by grade level	No. Boys Surveyed	No. Boys Interested	Percent Boys Interested
7	114	23	20
8	114	21	18
9	135	18	13
10	112	20	18
11	<u>106</u>	<u>19</u>	<u>19</u>
Totals (Average)	581	101	(17)

When reviewing the results of the survey, it becomes apparent that a course in Nursery and Greenhouse Management received the least amount of interest. Table 8 shows that the interest of senior high students did not increase significantly.

Table 9 illustrates the fairly consistent interest among grade levels in several phases of the agriculture education program. A work experience program was popular among all students and was selected as first choice by those in grades eight and nine and third by grades 11 and 10, respectively. Farm forestry, as a part of the agriculture curriculum, rated second, and a one year course in forestry following closely as third most popular choice. More mature students consistently voted forestry higher. Livestock production ranked fourth among all students with greatest interest among the eighth graders.

The mechanical areas: engines, building skills, electric motors and welding were fairly consistently ranked between fourth and ninth place. Sophomores, however, ranked building skills first and electric motors twelfth.

Least popular among subject areas surveyed was nursery and greenhouse management. This was, perhaps, partially due to a lack of understanding of the career opportunities available in this field.

Table 9. Rating of subject matter from responses to single questions (ranked by placing)

Question Number and Description	All Grades	Grade Seven	Grade Eight	Grade Nine	Grade Ten	Grade Eleven
57 Work Experience	1	8	1	1	3	2
43 Farm Forestry	2	1	2	5	4	1
62 One Year Forestry Course	3	9	4	2	2	3
50 Livestock Production	4	2	3	7	10	5
40 Engines	5	7	7	4	7	4
38 Buildings (Framing)	6	12	6	8	1	9
36 Electric Motors	7	3	9	3	12	-
53 Veterinary Medicine	8	6	11	-	-	11
47 Fruit Production	9	5	-	-	-	-
29 Arc Welding	10	-	-	6	8	8
61 Ninth Grade Agriculture	11	-	5	9	-	-
51 Genetics	12	-	10	-	-	-
45 Greenhouse and Nursery Management	least popular	3rd to last	2nd to last	2nd to last	least popular	least popular

Table 10 illustrates the tremendous volume of students which could become involved in agricultural instruction. Projected numbers of students, who might possibly enroll, are calculated independently for each school.

### Occupational Opportunities in Agriculture

Food production and marketing is America's biggest business. The \$77.6 billion spent for food last year was 12 per cent of the country's gross national product. Our farms employ 4,125,000 family workers and 1,484,000 hired workers. The food marketing industry employs 5,000,000 workers ranging from unskilled laborers to highly skilled scientists (36, p. 22).

When agriculture census data is analyzed, we generally note a constant decline in the farm population. In spite of this decrease, advanced technology, increased use of machinery and fertilizers, have enabled farmers to continue to produce enough to more than supply our domestic demands. A look ahead at the next ten years points to continued rapid growth in productivity. To meet the needs of increased population in the United States and expanded selling abroad may mean as much as a 50 per cent increase in farm sales (36, p. 7). The farm of 1976 probably will utilize computers in determining management decisions. Tractors will be larger and use of fertilizers will probably double. Farm size will continue to

Table 10. Rating of subject offerings by schools, grades 7-9 (projected number of students)

Subject Area	Ave. % of All Students	Judson		Leslie		Parrish		Waldo		Walker		Whitaker	
		Act.	Proj.*	Act.	Proj.*	Act.	Proj.*	Act.	Proj.*	Act.	Proj.*	Act.	Proj.*
Coop. Work Experience	47	46	211	13	201	33	203	30	266	15	125	29	209
Forestry Conservation 1 year	42	39	178	18	200	32	197	24	212	20	157	21	251
Basic Agriculture Grade 9	32.5	36	165	12	232	24	148	19	166	15	118	12	79
Basic Agriculture Grade 8	28	32	165	10	110	19	117	9	80	13	112	13	82
Forestry Conservation 2 years	28	35	169	7	72	19	115	15	132	14	110	13	79
Complete Agriculture Program 3 years	28	29	132	7	77	19	117	21	186	10	79	14	100
Complete Agriculture Program 4 years	19	19	87	5	55	21	138	10	90	5	39	7	50
Nursery & Greenhouse	17	15	68	7	78	11	67	12	106	7	55	8	57

\* Assuming sample is representative.

increase. Factory type production will increase, but the large, two-man, family farm will still continue to supply the bulk of the produce. Increased demands upon agricultural services utilizing technically trained individuals will continue.

In the Salem Metropolitan Statistical Area (Marion and Polk counties), the agricultural crop land increased seven per cent between 1940 and 1959. Irrigated land increased 513 per cent, and average farm size increased 11 per cent in Marion county and 34 per cent in Polk county. The national trend indicates a rather constant acreage of crop land since 1940. (23)

Nationally speaking, there has been a constant decline in average agricultural employment. However, due to a significant increase in 1967 crop acreage and yields per acre for many crops, total man-hours of farm work in 1967 were estimated as one per cent above the previous year--a reversal of a long-term trend toward declining man-hours. This was true despite increased use of machinery on farms. (44, p. 3)

In Marion and Polk counties, average agricultural employment dropped 31.4 per cent between 1950 and 1962.(23). If the figures are reviewed on an annual basis, beginning in 1960, there has actually been an increase in these averages in farm employment as shown in Table 11.

Table 11. Agricultural Employment in Marion and Polk counties

1950	1958	1959	1960	1961	1962	1963
11,940	10,260	8,540	8,910	8,380	8,540	8,640

Utilizing the 1954, 1959 and 1964 census data for Marion county, we also see a decline in the owner and tenant categories, but a slight increase in farm managers. It should be especially noted that when utilizing figures from the class I, II and III commercial farms; farms with incomes from gross sales of over \$10,000, we note an increase of farms and operators. These farms comprise only about one third of the total farms but they produce and market 82 per cent of the U. S. food and fiber. (23)

Table 12. Commercial farms in Marion County

Commercial Farms	1959	1964
All commercial farms	2055	2105
Class I	206	260
Class II	282	335
Class III	386	386

Employment Opportunities in Off-farm  
Agricultural Occupations

In recent years, much concern has been expressed about training for off-farm related agricultural occupations. The Vocational Education Act of 1963 provides for this related agricultural

training and stated that students must make known their occupational goal. The programs are to be developed based upon employment opportunities available to students at the end of the training period. Most agricultural census data deals primarily with farm employment and does not include related agricultural occupational needs. State employment data classifications generally include large groupings of job titles, thus making it difficult to isolate specific job titles and employment needs relative to agricultural employment. These major occupational groups are: professional, technical, managerial, clerical, sales, service, skilled, semi-skilled and unskilled.

A manpower resources study of Marion and Polk counties, completed in 1966, indicates that the economic base for the two counties lies in diversified industry, state government employment, and an extensive agricultural production. Almost 2400 additional workers will be needed in the next five years for this labor market. Nearly 22 per cent will be in technical or professional occupations. Clerical, sales and service will have the greatest growth. (29)

Table 13 shows a listing of job titles specifically agricultural or closely related (29). This is by no means a complete list of agricultural occupational titles but serves as an example of the employment needs as well as the need for more specific and complete off-farm employment data.

Table 13. Marion and Polk county agricultural employment needs by 1970

Classification and Job Title	Marion and Polk Counties	State	Currently Employed State
<b>Professional</b>			
County agents	--	63	111
Teachers, vocational	--	381	1,166
Foresters	30	126	1,318
Veterinarians	--	63	138
Engineers, agriculture	86	--	--
<b>Technical</b>			
Forester aide	--	148	368
Instrument	--	76	728
<b>Managerial</b>			
Mgrs. recreation estab.	--	39	420
<b>Sales</b>			
Auctioneers	--	6	69
<b>Service</b>			
Agricultural	66	288	763
Gardners & grounds keepers	49	338	1,566
Food processing	25	--	118
<b>Skilled, manufacturing</b>			
Welders	60	495	2,822
Meat Slaughtering	--	44	288
<b>Skilled, non-manufacturing</b>			
Mechanics, bus, truck, tractor	159	343	1,657
Small engine repair	--	90	135
<b>Semi-skilled</b>			
Tractor operator	37	--	99

Due to this lack of specific agricultural employment data, several county studies have been conducted by the agriculture education teaching staff of the county. A study in Yamhill county by Multanen (24)

indicates that out of 154 employees in firms performing agricultural functions, 46 per cent were agriculturally oriented. Most jobs were at the semi-skilled employment level. These firms did indicate that an additional 33 agricultural occupation opportunities will be available in the next five years. These jobs all require some competencies in agriculture, plant and animal science, agriculture mechanics and farm management. Supporting competencies include bookkeeping, business law and typing.

A survey of occupational opportunities of Jefferson county by Skeans (37) showed 53 per cent of the jobs are agricultural production, 12 per cent agricultural service, two per cent agricultural sales and seven per cent professional occupations.

A further attempt to gain specific agriculture occupational information is being conducted through various agricultural business associations such as: Oregon Feed, Seed and Suppliers Association, Machinery Dealers Association and Oregon Nurserymen. This data is not complete and, therefore, will not be included in this study.

#### Agriculture Advisory Committee Survey Analysis and Recommendations

Results of the student survey were sent to ten present or past members of the advisory council sub-committee for agriculture education. All questionnaires were returned. However, some abstained

from responding to some of the questions. These questions will be tabulated and calculated as unanswered. Each committee member was asked to indicate the importance of the instructional units or to indicate the amount of emphasis which he felt should be placed on certain careers in agriculture or closely related career opportunities.

Table 14 shows the ranking of student career choices in sixth place. Forty per cent of the agriculture advisory committee indicates that it is very important to emphasize forestry research, other forestry careers and careers in crop production. When grouping very important and important columns together, 80 per cent of these adults recommend equal importance be given to careers in livestock, crop production, forestry research, other forestry, wildlife and forest conservation.

Table 15 shows subject matter units in which students showed the greatest interest. All these areas are considered important by the advisory committee. Power mechanics, agriculture sciences and soil and water management were considered most important. Additional comments emphasized the importance of utilizing up-to-date teaching techniques and advanced technology in presenting these subject areas.

Table 14. Reactions of the advisory committee to student's career choices

Student Preference Career Choice	Per Cent of Committee Members Indication of Importance			
	Very Important	Important	Not Important	Abstain
1st Career choice Wildlife and Forest Conservation	40	40	0	20
2nd Career choice Livestock Farming	30	40	0	20
3rd Career choice Recreation Occupations	10	50	10	30
4th Career choice Forestry Research and other Research	40	40	0	20
5th Career choice Crop Production	40	40	0	20
6th Career choice Agriculture Communications	10	40	30	20

Table 15. Importance of agriculture subject matter and recommendations of the advisory committee

Subject Matter Area	Per Cent Student Interest	Recommended Emphasis by Committee Members		
		Very Important	Important	Not Important
A. Rural Electricity	33.5	0	80	20
B. Power Mechanics and Machinery	32.0	40	60	0
C. Farm Buildings	29.0	0	80	20
D. Agriculture Science	28.5	40	60	0
E. Agriculture Mechanics in Shop Skills	27.0	20	80	0
F. Soil and Water Management	28.0	50	50	0

Table 16 shows that all committee members favor some type of supervised work experience program. Sixty per cent are in favor of a basic agriculture course at the ninth grade level. Less importance is placed upon establishing separate courses for forestry and nursery instruction. However, committee members did feel that this instruction should be included as part of the agriculture course of study.

Table 16. Supervised experience programs and additional course recommendations

Offering	Per Cent Student Interest	Per Cent Recommending of Committee Offering			
		Yes	Possibly	No	Abstain
Supervised Farming Program	32.0	70	20	0	10
Supervised Work Experience	47.0	70	30	0	0
Basic Agriculture	32.5	60	30	10	0
Forestry Unit	--	40	50	0	10
Forestry One Year Course	42.0	10	60	0	30
Nursery Unit	--	50	0	30	20
Nursery One Year Course	17.0	30	20	30	20

Eighty per cent of the adults surveyed as shown in Table 17, are willing to recommend to the board of directors of the Salem School District that the agriculture facilities be expanded or further developed and that additional staff be hired. Sixty per cent are in favor of extending to the ninth grade some instruction in agriculture. All but two are willing to meet with the total advisory council and as a committee for further study in developing the agriculture education program of the district.

Table 17. Advisory committee recommendations to the board of directors

Recommendations	Yes %	No %	Abstain %
Hire at least one more agriculture staff member	80	10	10
Expand and/or develop additional agriculture facilities	80	20	0
Extend agriculture curriculum to the ninth grade level	60	40	0

## PROPOSED PROGRAM

The basic agriculture course, as proposed, will be a supplement to the high school vocational agriculture program now in operation at North Salem High School. The course places emphasis on the inductive, problem solving approach. It will teach basic agricultural principles as they apply to over-all concepts of agricultural practices and their importance to the economy of the local area, the state of Oregon, and the nation.

In light of the maturity level and mobility of the students involved, the course will be exploratory in nature to arouse the inquisitive to discover himself in relation to the agricultural world surrounding him.

Basic agriculture will comprise six general categories: Youth Leadership Principles, Occupational and Educational Information in Agriculture, Plant Science, Animal Science Principles, Mechanical Principles and Decision Making Principles. Each unit will include several principles: activities, problems, experiments and demonstrations. Student experiences will be used to introduce and teach each principle. This approach will promote the discovery of the principle by students instead of its being formally stated by the instructor. A principle learned in this way is already fairly well understood.

The purposes of this course are: to contribute to the broad educational objectives of the school, to provide a foundation for further courses in agricultural education and other courses and to explore the world of work programs. Secondary goals may include: the understanding of the culture of the community and state as related to agriculture, the exploring of prospective occupations in agriculture and the development of personal goals and responsibilities.

During this first year program, students will be encouraged to develop supervised farming programs or to become involved in practical agricultural activities sponsored by the school. Because of the high interest in the work experience program, there should be developed, for consideration, an exploratory work experience program more completely involving the community. This program would be developed in conjunction with the world of work occupational and exploratory program under study at Judson Junior High School.

The following discussion focuses attention on six basic agriculture units to be taught at the junior high level. Two principles will be presented as examples for each unit with suggested questions for consideration and activities to assist students in arriving at the principle. This course would be highly desirable as an elective for a full year, but is flexible enough to be used as an agriculture unit in a "round robin" arrangement with other electives.

Basic Agriculture (Agriculture I)  
Unit I

Leadership Principles

Principle: Leadership consists of abilities and readiness to act and the acceptance of responsibility.

Question:

1. What is the make up of a good leader?
2. What makes a person a leader?

Activities:

1. Prepare a list of leaders in your school.
2. Have school leaders speak to the class.
3. Have students attend a game commission meeting and report to the class.

Principle: Group participation situations provide each individual with the opportunity and the accompanying responsibility to contribute in comparative self-realization.

Question:

1. How does a member contribute to a group?

Activities:

1. Have students work out puzzle and find the missing letter (T) \_ \_ a \_ \_ \_ \_ ered \_ \_ om \_ \_ a \_ \_ \_ led \_ \_ o \_ he \_ \_ u \_ \_ or.

2. Perform team experiments.
3. Plan a club program of work.
4. As a group, prepare a model forest showing ecology of animal life.
5. Present debates on hunting laws.
6. Watch ball game and note teamwork and individual contributions.

## Unit II

### Occupational and Educational Information

Principle: The kind of work in the community is dependent upon the service, foods, natural resources and productivity of the area.

#### Questions:

1. What are the natural resources of the area?
2. What services do people buy in your community?

#### Activities:

1. Conduct a survey of the natural resources of the community including wild life and fish.
2. Study comparative advantage.
3. Study resources analysis for county compiled by Cooperative Extension Service, OSU.
4. Conduct a field trip to Detroit Dam or other resource facility.

5. Show forestry and agriculture films.
6. Have fish and game commissioner as guest speaker.

Principle: The kinds of educational experiences will affect the kinds of occupational choice available to you.

Question:

1. What courses should I take in high school or post high school?
2. What work experiences may I have which will provide occupational education?

Activities:

1. Study educational requirements for your occupational choice.
2. Determine educational opportunities available to you.
3. Conduct a field trip to Salem Technical School and/or OSU or other college.
4. Show the film "The Drop Out" or "When I Leave Home".
5. Participate in open house at high school.
6. Take aptitude tests, interest tests and achievement tests.
7. Have interviews with guidance counselor to review standardized testing results.
8. Chart the remainder of your high school courses or education program.

Unit IIIPrinciples in Plant Science

Principle: Living organisms are classified according to similarity of structure and function.

## Questions:

1. Why has a classification system been developed?
2. How are plants and animals classified?
3. How are classification systems important to us?

## Activities:

1. Have students collect from the school yard as many plants as possible. Bring them to the classroom and group them. Have the students explain why they put the plants in the various groups.
2. Study different systems of animals: digestive, reproductive, muscular, respiratory, etc.
3. Review animal breed identification kits.
4. Study uses of animals. Why are they kept?
5. Show the film, "The Trout Story".
6. Trace scientific classification of several animals, kingdom to specie--bear dog, cow.

Principle: All living things require specialized chemical substances to regulate the life processes necessary for growth

and development.

Questions:

1. What makes a plant grow up?
2. What happens within a plant when 2-4-D is applied?
3. Why do apples turn red?

Activities:

1. Demonstrate tropisms by lighting one side of a plant or by hanging a plant upside down.
2. Conduct an experiment showing the effect of removing the apical bud.
3. Use rooting hormones for cuttings.
4. Secure spray hormones and apply to various plants.
5. Study tree heights.

Unit IV

Biological Principles in Animal Science

Principle: Living things, in order to survive, possess the ability to perpetuate their own kind from a part of themselves (sexually and/or asexually).

Questions:

1. What are the types of reproduction?

2. What are the major parts of the reproductive system and how do they function?
3. What part does cell division play in reproduction?

Activities:

1. Diagram the life cycle of a farm animal, a single celled organism and a parasite.
2. Have a guest speaker from an artificial insemination association show slides and speak to the class.
3. Identify the reproductive parts of an animal through field trip to a slaughter house where the vesera may be studied.
4. Make cuttings and start plants in the greenhouse or classroom window.
5. Prepare various types of grafts, including budding.
6. Examine single celled organisms under the microscope.
7. Show film, "Meiosis".
8. Arrange a trip to an Oregon State game commission trout hatchery or game bird hatchery.

Principle: All living organisms have the ability to respond to stimuli in some fashion.

Questions:

1. What is stimulus?
2. Why do dogs bark, bite?

3. Why do plants bend toward the light?
4. What happens when you train a dog?

Activities:

1. Attend a dog obedience school as a field trip.
2. Conduct experiments on light tropism.
3. Watch various insects or organisms with antennae.
4. Set up a colony of bees so they can carry on their normal activities, but be viewed in the classroom.

Unit V

Mechanical Principles

Principle: The lever, wheel and inclined plane are the basic parts of a machine.

Questions:

1. What are the basic machines?
2. How are these used in building complex machines?

Activities:

1. Secure a group of tools from the shop and place into three groups based upon similarities.
2. Study charts of machinery and equipment and list various basic machines you see.
3. Demonstrate use of drill press and locate basic machines.

4. Show film, "Basic Machines".

Principle: The quantity and quality of work produced is dependent upon the skill or ability, the attitude and the planning by the individual or the group.

Questions:

1. What are employers looking for in their employees?
2. How can you increase your output?
3. How does attitude effect your work habits?

Activities:

1. Have students perform a task with very little or no advanced training or organization; then critique.
2. Organize and demonstrate a shop skill and then assist students in performing the skill.
3. Compare shop grade to wages while on the job.
4. Have a guest employer speak to the class about "work".
5. Participate in exploratory work experience programs.

Unit VI

Decision Making

Principle: Decision making is a continuous process. Personal decisions must be made by oneself.

Questions:

1. When are decisions reached?
2. How are decisions made?
3. Who makes your decisions?

Activities:

1. Have a counselor conduct a group counseling session.
2. Review recent decisions made at an FFA meeting.
3. Provide items for students to purchase.
4. Provide choices in preparing class projects.
5. Review past decisions students have made.

Principle: Past decisions affect future decisions and many are irrevocable.

Questions:

1. What causes you to make certain decisions?
2. Why are some decisions irrevocable?
3. What generally happens when you tell a lie?
4. What causes you to change your mind?

Activities:

1. Have the principle of the school discuss decision making with the class.
2. Discuss how a decision to, or not to take agriculture next year may affect future decisions.

3. Find out from the employment office the average number of job changes per adult in his working life.
4. Prepare a list of decisions made today. Which one was the most important?
5. Gather several articles and give students enough money to purchase them. After they have purchased, offer other desirable articles which lack of money will keep some from purchasing.

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### Summary

Stimulation for this study came as a result of a recommendation by the vocational advisory council to the Board of Directors of the Salem School District requesting a study of student interest in Vocational Agriculture. Since the numbers of students enrolling in the agriculture program was on a decline, this Board of Directors requested that the study be conducted. The primary purpose of the study was to gather data concerning interest in and needs for further development of the vocational agriculture program.

The vocational advisory council assisted the author in revising a state department of education survey questionnaire to be administered by the guidance departments of each junior and senior high school in the school district. Students in grades seven through 11 were selected through the guidance department to receive the questionnaire. A narrated slide presentation, illustrating various agriculture careers, was shown to students prior to their responding to the questions. Results were computer tabulated and tallied. Tables were prepared with results being sent to the advisory council for evaluation and preparation of recommendations to be made to the Board of Directors.

Throughout the literature, references have been made to the significance of interest in the role of planning vocational agriculture programs for high schools. Interest by a student may indicate an eagerness to learn, although interest in career opportunities may be rather unstable until a later age.

A need for student experiences as provided by the school or community has been expressed by educators. Varying attempts to provide these experiences through work experience programs are being conducted to help students become aware of the world of work. Vocational advisory councils and committees are playing a vital role in providing guidance in developing, conducting and evaluating these programs. These councils must be composed of interested, successful agri-businessmen representing all areas of farming, business and related agricultural service.

The findings of this study indicate considerable interest in agricultural career opportunities. Work experience interest averaged 47 per cent for all grades surveyed. This includes supervised farming programs in production agriculture and off-farm work experience. Thirty one per cent of the ninth graders desired a basic agriculture course at that grade level. Projections indicate the smallest ninth grade agricultural class would be 34 students and the largest might be 100. Data revealed a 42 per cent interest in a one hour forestry program, while the possibility of instruction in greenhouse and

nursery management was only 17 per cent.

Employment data revealed that a rather constant decline has been experienced both in the number of farms and the number employed in farm work. More recently, however, there is indicated, especially in the larger commercial operations, an increase in both farm numbers and farm managers. Employment data shows an increase in demand for technically trained agriculturalists in agribusiness occupations both on and off the farm. Some difficulty was experienced in locating specific data identifying employment needs in off-farm agriculture occupations.

### Conclusions

The following conclusions are made by the investigator based upon the results of this study:

1. There is a need for a basic agriculture course at the ninth grade level, not only because of the interest shown in basic agriculture, but also because of the responsibility of the school to provide students with the opportunity to explore careers and to aid students in pre-vocational choices.
2. Forestry conservation and research instruction and exploration should receive emphasis in a one hour course at the senior high level.

3. The agriculture program must provide opportunities for development of skills, abilities and attitudes and exploration of the world of work through participation in some type of work experience program relative to employment in an agricultural career.
4. An agriculture advisory council plays a vital role in the evolution and development of an agriculture education program. Surveyed council members are willing and anxious to meet for further consideration in up grading the agricultural program.
5. The survey taken indicates interest in agriculture instruction, but further study may be needed prior to development of a ninth grade agricultural education program.
6. Additional instruction time and additional facilities will be necessary to develop a ninth grade agricultural education program.
7. Employment in agricultural occupations will be available for those interested who have the necessary agricultural background and training.

#### Recommendations

The recommendations based upon this study are:

1. That an expanded agricultural education program become a

reality as quickly as finances, facilities and qualified assistance become available.

2. That a more complete agricultural survey be made of eighth grade students by placing the basic agriculture course on the pre-enrollment blanks of eighth grade students as an elective.
3. That the agriculture advisory committee be officially re-established as quickly as possible to assist in developing the agriculture education program.
4. That an agriculture exploratory work experience program be established in off-farm agricultural occupations utilizing both school-acquired facilities and community work training stations.
5. That additional personnel be secured to adequately develop and conduct the agriculture work experience program.
6. That the agriculture work experience program be coordinated with the model work experience program being developed at Judson Junior High School.
7. That the inductive method in teaching basic agriculture principles be employed in further developing the basic agriculture curriculum.
8. That the advisory council assist in making an annual evaluation of the vocational agriculture education program

utilizing recommendations and trends from other departments, the State Department of Education and the Agriculture Education Department of Oregon State University.

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## APPENDICES

## APPENDIX I

Agriculture Education Interest Survey

This questionnaire is designed to acquaint you with the Agriculture Education program and to gather information concerning your interest in Agriculture and as an aid to possible revisions of the present program.

Please read the questionnaire carefully, decide which response to make and then mark one of the four choices for each question or area. The response may be: Strongly Interested - Interested - Undecided - Not Interested. Above all, we would appreciate your honesty in each response.

Section I

In Section one you will find a list of possible agriculture careers. Please indicate your career interests honestly and accurately by marking one block for each line on the answer sheet.

1. Production farming --- crops.
2. Production farming or ranching --- livestock.
3. Tree farming or timber production.
4. Greenhouse plant production.
5. Being a florist.

6. Growing flowers or shrubs for planting around the home  
(Landscaping).
7. Research in crops, soils, or livestock.
8. Forestry research.
9. Equipment and machinery design, engineering and  
development.
10. Research in food processing and marketing.
11. Being a County Agent or Agriculture teacher.
12. Being a government agricultural agent.
13. Selling equipment or machinery (Salesman).
14. Selling farm supplies - feed, seed, fertilizer.
15. Selling agricultural products - crops - meat.
16. Working in the food processing industry.
17. Being a bank agricultural advisor. (Making bank loans to  
farmers)
18. Being a Land Appraiser.
19. Being an Insurance Agent.
20. Working as an agricultural products grader or inspector.
21. Being a technician such as a Veterinarian.
22. Working in agriculture communications such as: Radio,  
TV, Motion Pictures, Publications, or Public Relations.
23. Working in forest conservation.
24. Working in soil and water conservation.

25. Working in wildlife conservation and management.
26. Working with private and government game preserves.  
(Providing game for hunters in designated areas)
27. Being a forest or park ranger.
28. Working in setting up or maintaining playgrounds or golf courses.

## Section II

Section two presents a list of subject areas which make up the agriculture mechanics phase of the agricultural program. The brief list of activities will help to identify the instruction included in the subject area. Please rate your interest in all the subject areas.

29. Arc Welding - using the arc welder to make welds in all positions and in the construction of metal projects.
30. Oxy-Actylene Welding (gas welding) - mild steel welding, brazing and cutting metals.
31. Metal Work - drilling, cutting threads, soldering and sheet metal work.
32. Hand and Power Tools - identification, safe and proper use, care, repair and sharpening.
33. Surveying with Transit or Level - measuring land, laying out fields for irrigation and drainage.

34. Soil Testing and Soil Management.
35. Rural Electrification - principles of electricity, safety measuring electricity, arrangements and installation.
36. Electric Motors and Electric Devices - selection, installation, care and repair.
37. Concrete and Cement Work - forms, foundations, bricks blocks.
38. Building, Framing or Constructing Buildings - blue print reading, tool use and construction procedures and skills.
39. Tractor Maintenance and Service - lubrication (greasing), battery care, proper checking before using.
40. Gas and Diesel Engines (large & small) - principles of operation, maintenance, and repair.
41. Hydraulic Systems - principles, care, maintenance.
42. Operation Adjustment and Repair of Machinery - plows, tillage implements, planting and harvesting equipment.

### Section III

In section three the subject areas provide instruction in the scientific production of agricultural products: Please rate your interest in all of the subject areas.

43. Farm Forestry - identification of trees, planting, pruning

and thinning trees; growing Christmas trees and marketing lumber.

44. Crop Production - grains and vegetables etc., selection care, harvesting and marketing.
45. Nursery and Greenhouse Management - principles and practices of plant production and propagation. (starting new plants).
46. Pasture and Hay Production.
47. Fruit Production - berries, peaches, cherries, etc.
48. Soils and Fertilizers - soil origin, types, conservation management, type of fertilizer, values, economics and application.
49. Use of Farm Chemicals - insect and weed control.
50. Livestock Production - beef, sheep, dairy, swine, poultry; selection, care, management, fitting, showing and marketing.
51. Genetics and Reproduction - basic principles and their application in livestock improvement.
52. Livestock Feeding Programs and Animal Nutrition - kind of feed, amounts and how the animal uses feeds.
53. Veterinary Medicine and Practices - sanitation and health practices, parasite control, when to call a veterinarian and what to do before he comes.

54. Farm Business - records, contracts, taxes, insurance, federal programs.
55. Leadership - public speaking, conducting meetings, club activities.

#### Section IV

A supervised farming program involves the production of some type of agricultural product, usually at home for skill or profit.

56. It is supervised through the periodic visits by the instructor during the school year, and the summer.

#### Section V

##### Supervised Occupational Work Experience Program

57. A course of study dealing in related Agriculture Occupations with the opportunity of becoming employed in one of the occupations with supervision. Occupational fields could be: working in a feed and seed store, fertilizer distributorship, in a greenhouse, in a meat or packing house, farm equipment dealership, for a veterinarian, forest service, Department of Agriculture, food processing plant, or be employed on a farm, etc. This would generally be in the last year of your program.

## Section VI

Would you be interested in taking the complete Vocational Agriculture Program as outlined from I through V above?

58. As a three year program (Soph., Jr., Sr.).

59. As a four year program (Fr., Soph., Jr., Sr.).

Would you be interested in taking a course in general or basic agriculture in Junior High School? It would include: how and where our food and fiber is produced; common breeds of livestock, dairy and poultry; basic crops and their distribution; soil, water, forestry and wildlife conservation; country living, part or full-time; survey of occupations related to agriculture.

60. Eighth grade level.

61. Ninth grade level.

## Section VII

Would you be interested in taking a Forestry Conservation Course (high school)? It would include: tree identification and characteristics, forest soils, forestry production and management, logging operations and safety, forest products, forest fire and disease control, forestry career opportunities, etc.

62. One year one-hour course.

63. One year two-hour course.

Section VIII

Would you be interested in taking a course (in high school) in Greenhouse and Nursery Management (if a greenhouse were available)?

64. Principles of plant growth, propagation and reproduction; budding, grafting, pruning and transplanting; selection of shrubs and flowers for home beautification and landscaping; laboratory experience and actual practice.

## APPENDIX II

Slide Narration

1. Vocational Agriculture may be explained by this diagram of its molecular structure. Agriculture science includes crop and livestock production, as shown on the left: the farm mechanics phase as shown on the right and the other two supporting phases, the supervised farming and work experience programs and the Future Farmers of America or more commonly referred to as the FFA.

2. You may have seen the blue and gold jacket of the FFA worn here by two past members who are now in college further preparing themselves for their chosen occupation.

3. Your idea of agriculture may be that of hard work and hard labor, maybe hoeing corn or picking berries.

4. Perhaps moving irrigation pipe or picking beans.

5. As you respond to the interest inventory think further into the future toward the career goal you have or may set for yourself. Some of you may be interested in livestock production, such as sheep ranching.

6. Beef cattle feed lot operators are going to be busy producing meat for an ever increasing population.

7. With increases in livestock production comes a need for trained technicians such as herdsmen and veterinarians.

8. Some may be interested in modern milk production. True, the number of cows is on the decline but the trained dairyman is increasing the production of the individual animal.

9. Pleasure horses are increasing in number. This will bring about a need for trainers and stablemen.

10. Everybody loves an Easter lily, or at least some beautiful flowers. Are you aware of the careers in floriculture?

11. Marion County leads the nation in the area of food processing and the production of canary crops like this sweet corn. Many of you have picked pole beans and I'm sure strawberries.

12. Some agriculturists produce only alfalfa hay handled completely with machines.

13. This young man can shear 175 sheet in an eight hour day. At \$.50 per head, how much can he earn per day? This makes a fine part time job.

14. For those who are interested, you will find the designing, constructing and repairing machinery a very basic part of the agriculture program.

15. Or prepare as an agriculture engineer.

16. Some prefer to operate equipment. This is a custom corn picker operating in the Stayton and Aumsville area.

17. As agricultural acreages decrease, each piece of land must produce more. Irrigation may be the answer. Fortunately in

this area we are blessed with an abundance of water. Sometimes too much. Engineers and irrigation specialists are needed to plan these systems.

18. Again we see that meat, but this time a little closer to the table, cutting and displaying meat products is an art and a science.

19. How about selling machinery or equipment?

20. A greenhouse in the backyard? We are a nation who loves beauty. Notice your neighbor's yard or along the highway. Many of those plants started in a greenhouse similar to this. A terrific place to learn the principles of plant growth and reproduction. Perhaps leading into a career in landscaping.

21. Canary field men are a tremendous aide to the producers, preparing planting and harvesting schedules, giving advice when problems arise and in general assisting the producer.

22. You no doubt have been fishing. And there is a good chance the fish that got away came from a hatchery like this. Here you see research in action. The fish are being vacuumed into the cylinder and then will be piped to the automatic sizing machine you see in the left portion of the slide.

13. The Oregon State Game Commission maintains a staff to assist in your game management programs. Test plots here show the amount of grazing deer have done in this area.

24. Upland game bird management is another area of the game

commission. An agriculture background would be valuable in raising pheasants for release. Some individuals have set up game preserves and charge hunters a fee for shooting privately released birds.

25. Here you see a soil conservation specialist examining the soils on a central Oregon beef ranch. His services are made available to assist farmers and ranchers who use the soils to produce as much as possible with as little soil loss as possible.

26. A complete farm plan is prepared and the producer may then use the county agent's services in setting up and carrying out this plan. A college education would be needed prior to entering this type career.

27. Forestry, Oregon's number one industry is calling upon the forester to produce more timber in less time. The section on the left was taken from a tree 100 years old. The right section from a tree only 45 years old. Each has the same value.

28. Here an industrial forester counts the growth rings on a core taken with the increment bore. Forests are now managed as other agricultural plants, by thinning, pruning, fertilization, plant breeding and other improved practices.

29. Many occupations are available to you in the forest industry and the federal forest service programs.

30. This slide may cause your imagination to run wild thinking of possible careers; owner of a donkey ball club, pack trips into

the mountains, a turf manager on school fields, in city parks or a golf course. Don't be stubborn like this donkey, look ahead! Move ahead in your education program.

## APPENDIX III

Letter to Advisory Committee

February 21, 1968

Mr. Rollin Haag  
A. C. Haag and Company  
1665 Silverton Road N. E.  
Salem, Oregon 97301

Dear Mr. Haag:

The results of the agriculture interest survey conducted by Gene T. Streight under the direction of Bruce Thompson, Vocational Coordinator, Salem Schools, as directed by the Board of Directors of the Salem School District, revealed some very interesting areas of concern and needs for further examination. It is felt that additional value may come from the study if authorities in the various fields of agriculture and representatives of the Salem School District were to review the findings to see if the interests of the students are in keeping with the needs of the agricultural industry. Therefore, this questionnaire is being sent to past and present members of the Vocational Agriculture Advisory Council.

This information is a summary of the agriculture interest survey given to 363 seventh, eighth, and ninth grade students in the Salem School District. Additional tenth and eleventh grade students were also surveyed and some of that data will be used to supplement the junior high data.

Please review the enclosed information and respond to the various sections as indicated and return to me in the stamped, self addressed envelope by February 28, 1968. Feel free to make any additional comments which might add to the value of the study.

If you have questions, please feel free to call me at 743-2141 during the day or 743-2214 in the evening.

Letter, continued

Thank you in advance for your assistance and cooperation in adding valuable information to the study.

Sincerely,

Gene T. Streight  
Vocational Agriculture Instructor

Enclosures

## APPENDIX IV

Advisory Committee SurveyAGRICULTURE INTEREST SURVEY  
SALEM SCHOOL DISTRICT

## I. Interest in various agriculture careers.

Student interest in entering various careers in agriculture are ranked as to preference in the order shown below. Emphasis in the agriculture program can be placed on these areas by the inclusion of instructional materials related to these careers. Please indicate the importance which you feel should be placed on these areas

	Very Important	Important	Not Important
1st Career Choice Wildlife and Forest Conservation Occupa- tions			
2nd Career Choice Livestock Farming occupations			
3rd Career Choice Recreation Occupations			
4th Career Choice Forestry Research and other Research			
5th Career Choice Crop Production Occupations			
6th Career Choice Agriculture Communi- cations			

Comments \_\_\_\_\_

## II. Interest in Subject Matter Areas of Vocational Agriculture.

These are the general areas of instruction usually included in the Vocational Agriculture programs.

		Very Important	Important	Not Important
A.	Rural Electricity	33.5%		
B.	Power Mechanics and Machinery	32%		
C.	Farm Buildings	29%		
D.	Agriculture Sciences; Plant and Animal	28.5%		
E.	Agriculture Mechanics in shop skills	27%		
F.	Soil and Water Management	22%		

Comments \_\_\_\_\_

## III. Interest in Supervised Farming Programs and Supervised Work Experience Programs.

This is the project phase of the program giving the student practical experience and application of the information learned in the classroom. The Supervised Farming Program is usually carried out at home and the work experience program is usually for students not having facilities for the supervised farming program but is interested in some type of agriculture occupation. He may be placed on the farm for production training or in an off-farm agriculture related training station.

		Very Important	Important	Not Important
A.	Supervised Farming Program	32%		
B.	Supervised Work Experience Program	47%		

Comments \_\_\_\_\_

IV. Thirty-two and one-half percent of the 363 junior high students surveyed were interested in taking a course in Basic Agriculture.

Would you be in favor of such a course at the ninth grade level?

Yes \_\_\_ Possibly, but needs further study \_\_\_ No \_\_\_

Comments \_\_\_\_\_

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V. Forty-two percent of the students, grades seven through eleven, were interested in a one year forestry course at the senior level.

Would you be in favor of including a course in forestry as part of the Agriculture course of study?

Yes \_\_\_ Possibly, but needs further study \_\_\_ No \_\_\_

Comments \_\_\_\_\_

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VI. Less interest was shown in a greenhouse and nursery management course; 17 percent of all students surveyed.

Should instruction in this area be included as part of the Agriculture course of study?

Yes \_\_\_ Possibly, but needs further study \_\_\_ No \_\_\_

As a separate course of study at the senior level?

Yes \_\_\_ Possibly, but needs further study \_\_\_ No \_\_\_

Comments \_\_\_\_\_

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VII. Recommendations:

In order for this study to be of value to the Salem School District, some recommendations should be made to the Board of Directors. Based upon your review of the above summary and your knowledge of the field you represent, please indicate your willingness to support the following recommendations.

A. Recommend the hiring of at least one more agricultural staff member.

Yes \_\_\_\_\_ No \_\_\_\_\_

B. Recommend the expansion or development of additional facilities.

Yes \_\_\_\_\_ No \_\_\_\_\_

C. Recommend the expansion of Agriculture instruction to include the ninth grade.

Yes \_\_\_\_\_ No \_\_\_\_\_

D. Recommend that the starting point for developing the Vocational Agriculture program begin at:

- 1. \_\_\_\_\_  
\_\_\_\_\_
- 2. \_\_\_\_\_  
\_\_\_\_\_
- 3. \_\_\_\_\_  
\_\_\_\_\_

I would be willing to meet with the group receiving this questionnaire to further discuss the future of the Vocational Agriculture program in the Salem School District.

Yes \_\_\_\_\_ No \_\_\_\_\_