THE POULTRY CURRICULUM IN DEPARTMENTS OF VOCATIONAL AGRICULTURE IN OREGON

by

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CHAPTER I

INTRODUCTION

The poultry industry has been to date one of the major agriculture enterprises in Oregon. The gross farm income from poultry has ranged from twenty to forty million dollars annually and has contributed about ten per cent of the total cash farm sales in the state. (16, p. 7)

The situation concerned with laying hens has remained relatively stable for a number of years. The number of laying hens has not changed greatly for the last two decades except for a short period during the war. However, the average annual egg production per bird has increased 51 per cent in the last 16 years. (16, 15 p.) This increase has been sufficient to approximately provide the eggs needed to take care of the growth in human population in Oregon. It has been suggested by authorities (17, p. 9) in the industry that an increase in laying hen population accompany any increase in human population.

The production of poultry meat has greatly expanded in Oregon as well as most other states. Approximately eight million broilers were produced in Oregon during the year of this study (1956) as compared to one and one-half

million ten years ago. Even with this large increase, Oregon has consumed 30 to 40 per cent more broilers per year than have been produced within the state. (16, 10 p.)

The production of turkey breeding stock and hatching eggs has developed into important and specialized phases of the poultry enterprises in the state.

The production of chicken hatching eggs has developed into an important farm enterprise to a number of growers, primarily in the western part of the state. Approximately 150 carloads of hatching eggs have been shipped annually to California for the past several years. (16, 3 p.)

In addition to the importance of poultry as measured by income and frequency, it has been one of the limited number of enterprises adapted to farms of small land areas. Such farms have become common in western Oregon and particularly in counties with large urban populations. In the Willamette Valley, approximately 30 per cent of all commercial farms of less than 29 acres in size were poultry farms according to the Agricultural Census of 1954.

A number of departments of vocational agriculture have become established in areas where small farms are common and a portion of the enrollment is from part-time farms and offers an opportunity for students to conduct a relatively large farming program on a limited acreage. In addition to the adaptability of poultry as a farming

project for students there have been other advantages for including it in many instructional programs. An interest initiated in poultry at the secondary level has served as the incentive for further training and a career in the field. The improvements and expansion in poultry have created a demand for more trained people and at a time when there is an apparent decline in the number of young people entering the field. Poultry authorities have reported that there are as many as 12 jobs for each graduate (20, p. 12) at a time when the enrollment in poultry in land-grant colleges has declined. There has become an apparent need for more poeple trained in poultry. Instruction in poultry has proven to be desirable for other students that do not enter the specialized poultry field but who work in related occupations. The American Feed Manufacturers Association has reported that approximately two-thirds of all manufactured feed sold in the United States consists of poultry rations. The U. S. Census Bureau has reported that poultry is the most common farm enterprise found in the nation. Many agriculture occupations require a working knowledge of poultry.

Purpose of the Study

The purpose of this study was to investigate the poultry curriculums in departments of vocational agriculture in Oregon. This investigation included such factors

as the amount of poultry taught, number of poultry projects conducted by students in their supervised farming programs, and student participation in closely related poultry activities. In addition to the survey of vocational agriculture departments, information was obtained about the frequency and importance of poultry as a source of farm income in the areas surveyed. It was assumed that it would be possible to determine if the poultry curriculum in its entity is in proportion to the importance of poultry as a farm enterprise.

More specifically, the purpose was to study the extent to which poultry is being taught in vocational agriculture; the frequency, size and labor income obtained from poultry projects; the extent to which related poultry activities are used in teaching poultry and expressed opinions of instructors concerning reasons why students do not have more poultry projects.

Significance of the Problem

Teachers of vocational agriculture have always been confronted with the problem of determining how much emphasis and time shall be alloted to various farm enterprises in their respective instructional programs. A widely accepted procedure for building course content has been the practice of making local farm surveys and then emphasizing in the instructional program those enter-

prises that are most common and important in the area.

It was the hypothesis of this study that teachers of vocational agriculture do not follow the above recommended procedure in respect to the poultry enterprise and do not include poultry jobs and activities in their course content in proportion to the importance of poultry as a farm enterprise within the area.

Scope and Procedure

This study involved 47 departments of vocational agriculture located in 19 different counties and represented four geographical districts of Oregon. A check list including poultry jobs that would cover most of the common poultry problems encountered by farmers was prepared. A copy of the questionnaire is included in the appendix. Three poultry text books (12, 13, 18) were used as references for determining the common areas of poultry instruction used in the check lists. In addition, the check list included a section composed of various poultry activities associated with the instructional program of vocational agriculture.

Since supervised farm projects have always been an integral part of vocational agriculture classes and this study was an investigation to analyze the poultry curriculum in its entity, instructors were also requested to rate several factors that might be difficulties confronting

students desiring poultry projects. The total number of students conducting poultry projects in the departments studied was obtained from the office of the State Supervisor of Agricultural Education in Salem, Oregon. In addition, size of projects and labor income were tabulated in order to present a more complete observation of projects.

Data concerning the frequency and income from poultry in the areas studied were obtained from the Agricultural Census, published reports of the Agriculture Extension Service and personal communication with the statistical section of agricultural economics in Agriculture Extension.

The data obtained were arranged into tables showing the number of poultry jobs included in the course content, the number and scope of poultry projects conducted by students in the departments studied, the ranking of factors that might limit student poultry projects and the importance of poultry as a farm enterprise in the areas studied.

In general, simple statistical measurements of central tendency were used, such as the mean. In certain key comparisons, relationships between some of the measurements were determined by computing the coefficient of correlation.

Definition of Terms

Since a number of terms in common usage may have various meanings to different individuals, the definitions that follow are those used in this study.

Supervised farming program--the farming activities conducted by students of vocational agriculture as an integral part of their educational training and for which systematic training and supervision are provided by the instructor.

Enterprise survey--an over-all record of a farm enterprise showing production and marketing practices and other data concerning the enterprise.

Poultry curriculum--the total of the lessons, organized activities and projects pertaining to poultry included in the instructional activities of the department of vocational agriculture.

Job--a common unit of teaching in vocational agriculture classes.

Poultry enterprise--the enterprise conducted on a farm involving laying hens, meat-production birds, hatchery supply flocks or turkeys. Miscellaneous birds kept for enjoyment are not included within this meaning.

Adult classes--classes conducted for adults enrolled in a course of systematic instruction on practical farm problems by departments of vocational agriculture.

Future Farmers of America--a national organization of farm boys studying vocational agriculture. Commonly known as the F.F.A.

Districts--groupings of geographical areas in the state. For purposes of this study and because of the distribution pattern of vocational agriculture departments, four districts were used. These have been designated as District 1--Willamette Valley; District 2--Coastal; District 3--Southern Oregon, and District 4--Eastern Oregon.

Labor Income--the amount of income remaining from supervised farming projects after total expenses are deducted from total receipts.

Review of the Literature

That the course content in vocational agriculture should be built largely upon the student needs and the farm enterprises common to the community has been criteria frequently given by authorities in the field.

Cook (4, Ch. 13, p. 337-340) stressed the need for building a course of study based upon farm enterprises of major importance to the locality. Ekstrom (7, p. 4-5) in reviewing studies of curriculum in vocational agriculture indicated that teachers and teacher-trainers were of the opinion that much advanced planning should be done in developing a course of study and that the planning should

be based upon occupational practices typical of the home farms. Hammonds (10, ch. 4) devoted a chapter in his book to building a course of study based upon the needs of the community and students. Other authorities have likewise emphasized the need for community surveys to guide teachers in preparing courses of study.

In all literature reviewed by the writer, the consensus of opinion was that good supervised farming programs were also based upon the farm enterprises common to the community. Angerer (1, p. 27) found it highly desirable to encourage supervised farm programs that fit the type of farming in the area. His study indicated that most young men enter farming in their home community and follow a pattern similar to the type of farming common to the locale. Deyoe (5, p. 181) related similar characteristics and advocated local surveys be made to locate important enterprises. Snyder (17, p. 246) evaluating criteria of farming programs for vocational agriculture students indicated that better farming programs lead to establishment in farming. His study also showed that the following were significant criteria of a good program:

1. The main productive projects of the farming program should be of major importance in the area.
2. That a large number of production projects are included in students farming programs.

3. That the productive projects meet the minimum size as set up in state standards.

Beard (2, p. 85) in his handbook on supervised farming recommends that a study be made of farms in the area and select projects that are common on the farms. The importance of basing the farming programs upon the type of enterprises found in the community was stressed by Ross et al (16). The procedure recommended included general farm surveys to determine what enterprises were most important in the area and enterprise surveys to determine more specific requirements and opportunities. Some of the factors that should guide students in selecting farm enterprises were:

1. Type of farming on the home farm.
2. Type of farming in the locality.
3. Availability of markets.
4. Opportunity for making money.

In addition to basing the course content and supervised farming programs upon enterprises important to the community, Deyoe (6, p. 158) in a review and interpretation of four studies in this area, revealed that the more successful instructors used a variety of methods, including field trips and tours, to teach and guide students in developing good programs.

Since poultry is frequently associated with small farms, a search was made for literature on students from

part-time farms. Newman (15, p. 214-215) and Knight (14, p. 167-168) reported on the problems of students from part-time farms. There appeared to be a trend toward recognizing this problem and adjusting courses of study in vocational agriculture so that related jobs in agriculture are presented to the students.

A search of the literature for information on opportunities in the poultry enterprise revealed several articles and publications. The most inclusive publication was developed by a committee of the Poultry Science Association and entitled, "Find Your Career in the Poultry Industry" (8). This publication emphasized the great need for trained workers in the industry and that there were as high as twelve jobs for each graduate in the field.

As previously mentioned, several workers brought out that consideration should be given to the opportunity for making satisfactory returns when selecting farm enterprises to include in the students' farming programs. A review of recent literature on costs and returns of the poultry enterprise was made. A cost study (10) made in Yamhill County during the year of this study was reviewed and one state study involving ninety-one farms in western Oregon (3). The data presented indicated that average producers made between one and two dollars per hour of labor. This appeared to be a satisfactory rate of return

to justify encouraging young men to consider including it in their farming programs.

In summary of the literature reviewed by the writer, the following conclusions were indicated:

1. Authorities agreed that courses of instruction should be built upon the most important farm enterprises in the area.
2. Supervised farming programs of students in vocational agriculture should include the most common and important enterprises in the area.
3. There was an opportunity for young men in the poultry industry.
4. There was an opportunity to make money in the poultry enterprise on the farm.

CHAPTER II

METHODS AND MATERIALS

Methods Used in Obtaining Data

This study involved 37 departments of vocational agriculture located in 19 different counties in Oregon. Because of the wide distribution of cooperators, the questionnaire method was selected as the most practical instrument for gathering data. A copy of the questionnaire check list has been included in Appendix B.

The purpose of the questionnaire check list was to obtain data on lessons taught, activities and related information concerned with the poultry curriculum in departments of vocational agriculture. In order to determine what poultry lessons were included in the course of study, a check list was developed that permitted cooperators to check the year in which the lessons were taught or a box indicating that they were not taught. Among the lessons listed in the questionnaire, 19 were concerned with laying hens, five with broilers and four with turkeys. Three poultry texts (12, 13, 18) and a number of current agriculture bulletins were used as guides to determine what lessons would represent the jobs necessary for the successful conduct of a poultry project and which should be included in the questionnaire.

To determine a measure of the number of laboratory demonstrations and field trips used in teaching poultry, the questionnaire included a list of eight laboratory or demonstration lessons and nine related field trips. Spaces were provided for checking each question as either "not used" or the year in which it was used. Two of the nine field trips represented areas that would have been pertinent to other farm enterprises as well as the poultry enterprise but they were also associated with a complete understanding of the poultry enterprise.

Related poultry activities participated in by departments were measured by a series of the questions that could be checked by the respondent. Included in the activity list were judging contests, exhibits, cooperative group projects, production contests, student demonstrations and shop work related to poultry equipment. Space was provided for listing any additional poultry activities in which the department participated.

In addition to the areas concerned directly with the teaching of poultry, a brief section was included that requested the cooperators to rate a series of obstacles confronting students desiring poultry projects. Nine factors were listed and space provided for inserting others. This section of the questionnaire was subjective in nature but it was the writers opinion that any study investigating the poultry enterprise in vocational agri-

culture departments should take into consideration such obstacles.

Five miscellaneous questions completed the questionnaire. These questions were concerned with gaining a more complete picture of the instructors opinion regarding poultry projects and the background of the instructors in the poultry field.

A preliminary draft of the questionnaire was prepared and presented for criticism to a class in Educational Research in which the writer was enrolled. Suggestions were made and accepted for making the written questionnaire more easily completed.

Selection of Departments

The selection of departments to be included in the sample was based upon a number of factors. It was desirable to obtain a sample representative of the geographical and agricultural regions of the state. Consideration was also given to the inclusion of departments representing different enrollments, two teacher units and experience of instructors. More departments were selected in the Willamette Valley district because this area represented the heaviest concentration of both departments of vocational agriculture and poultry operations. Approximately 78 per cent of the total poultry income in the state and

53 per cent of the vocational agriculture departments were located in the Willamette Valley.

There were 21,622 students enrolled in the schools participating in the study. The number of male students was not determined but 1765 or 8.1 per cent were enrolled in vocational agriculture. The average number of students per department was 49 and varied from a low of 26 to a high of 82. The average years of teacher experience was 9.9 years and varied from a low of two years to a high of 32 years.

Information about poultry projects conducted by students in departments of vocational agriculture was obtained from the office of the State Supervisor of Agricultural Education, Mr. Ralph L. Morgan. This information included the number of projects, number of birds included in the projects, receipts, expenses, labor income, and student labor hours expended. In addition to this information, it was necessary to contact some instructors for more detailed information in order to determine if the reported scope of poultry projects was greatly influenced by large broiler projects.

Information concerning income and distribution of the poultry industry within the state was obtained from survey data tabulated by the Oregon State College Extension Service and the Agriculture Census. Such information was secured so that it could be determined if the number

of poultry projects and the amount of poultry taught was related to the importance of the enterprise within an area.

Although the economic information represented a more extensive period than that of the project records, it should retain value for establishing relative distribution of the poultry industry and farm income. Such changes that occur in income between areas have been relative and not radical in nature within a brief period of one or two years.

Assembling and Summarizing the Data

Completed questionnaires were received from 36 or 97.3 per cent of the departments that were contacted. As the questionnaires were received, each section was totaled and the totals transferred to the tabulating sheets. The tabulating sheets were prepared so that data from cooperating departments were grouped into counties and districts roughly corresponding to geographic areas as grouped on Oregon Commodity Data Sheets. This arrangement made it convenient to compare data obtained from departments to published poultry commodity data within the area. The grouped data were totaled by counties and districts and percentages computed.

Data received from the section of the questionnaire requesting instructors to rate nine possible factors that

influence poultry projects were recorded and totaled to determine the rank order number of the various factors.

Data concerned with student poultry projects were tabulated by counties and districts. Poultry commodity data recorded included the percentage of agriculture income derived from poultry and the per cent of state poultry income represented by the area.

In order to make comparisons between counties and districts, the arithmetic mean was computed. In order to determine if there existed a relationship between the amount of lessons taught, number of projects and the income from poultry, coefficients of correlation were computed.

Summary

A check list questionnaire was used to gather information on the poultry lessons taught, related poultry activities and instructors opinions regarding poultry projects. Information was also obtained concerning poultry projects and poultry income from different areas of the state.

The data were grouped into counties and districts so that comparisons could be made between totals and averages. Coefficients of correlation were computed in order to determine relationships between lessons taught, poultry projects and poultry income.

CHAPTER III

ANALYSIS AND INTERPRETATIONS

Poultry Lessons Taught

The number of poultry lessons reported taught on the questionnaire are shown in Table I, both numerically and as a percentage of the total lessons included in the questionnaire. The lessons concerned with chickens, both layers and broilers, were reported as a combined figure and the turkey lessons as a separate unit. The data were grouped by county and district areas.

The per cent of the lessons taught ranged from 95.8 to zero among counties. The upper range represented three counties and the lower range represented two counties. All extremities in data among the counties resulted from a single school representing the county.

The average per cent of the lessons for all schools reporting was 75.6. The mean of counties in the Willamette Valley district was 76.9 per cent as compared to 91.7 for the Coastal district and 88.6 for the Southern Oregon district. All three of these districts reported substantially more lessons taught than the Eastern Oregon district which reported 45.2 per cent of all lessons listed.

The majority of the poultry lessons were included in

TABLE I

POULTRY LESSONS TAUGHT BY COUNTIES IN DISTRICTS

Counties	Lessons Taught No.	Lessons Taught %	Freshmen No.	Freshmen %	Sophomores No.	Sophomores %	Juniors No.	Juniors %	Seniors No.	Seniors %
District I										
Clackamas	76	79.2	52	54.2	12	18.8	4	4.2	2	2.1
Washington	59	71.2	31	53.2	21	21.9	3	3.1	3	3.1
Multnomah	17	70.8	14	58.3	1	4.2	2	8.3	0	0.0
Linn	31	64.6	26	54.1	2	4.1	3	6.2	0	0.0
Polk	21	87.5	10	41.6	4	16.6	4	16.6	0	0.0
Yamhill	66	68.8	45	46.9	14	14.6	8	8.3	0	0.0
Lane	87	90.6	16	16.7	47	48.9	23	23.9	1	1.0
Marion	45	62.5	19	23.4	13	18.0	9	12.5	4	5.6
Columbia	23	95.8	21	89.5	2	8.32	0	0.0	0	0.0
Total	435		254		122		56		10	
Average		76.9		48.0		17.3		9.2		1.3
District II										
Clatsop	23	95.8	15	62.5	0	0.0	2	8.3	5	20.8
Tillamook	21	87.5	21	87.5	0	0.0	0	0.0	0	0.0
Total	44		36		0		2		5	
Average		91.7		75.0		0.0		4.2		10.4

TABLE I (Cont'd)

Counties	Lessons Taught No.	Lessons Taught %	Freshmen No.	Freshmen %	Sophomores No.	Sophomores %	Juniors No.	Juniors %	Seniors No.	Seniors %
District III										
Douglas	19	79.2	0	0.0	19	79.0	0	0.0	0	0.0
Jackson	23	95.8	1	4.2	19	79.2	0	0.0	3	12.5
Josephine	27	90.7	1	4.2	27	56.3	13	18.0	0	0.0
Total	79		2		65		13		3	
Average		88.6		2.8		87.7		6.0		4.2
District IV										
Wasco	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Umatilla	44	91.7	40	83.3	4	8.3	0	0.0	0	0.0
Deschutes	15	62.5	9	37.5	0	0.0	6	25.0	0	0.0
Crook	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Malheur	17	70.8	17	70.8	0	0.0	0	0.0	0	0.0
Total	76		57		4		6		0	
Average of study		75.6		41.3		23.8		6.1		5.9

the teaching plans during the first year of vocational agriculture. The per cent of lessons reported as taught the first year averaged 41.3 of all lessons taught for all reporting departments. One county reported a high of 89.5 per cent of the lessons taught the first year while two counties reported none the first year. One district reported a low of 2.7 per cent of the lessons taught during the first year while at the upper extreme, another district reported 75 per cent of the lessons taught the first year.

A decrease in the per cent of poultry lessons taught following the freshmen year was reported in all but four counties. Three of the four counties composed one district which was the only district reporting a majority of the lessons taught at any level than the freshmen year. This could indicate that the instructors in the area have met together in common discussion of their teaching problems.

The per cent of lessons as reported taught by all departments was 23.8, 6.1 and 3.9 for the sophomore, junior and senior year respectively. There were three schools which reported no lessons taught throughout the four years. Eight counties reported no lessons taught the junior year and thirteen counties reported none in the senior year. These figures represented 42.1 and 68.4 per cent of all counties included in the study.

An analysis of the lessons taught reveals that only two of the twenty-four lessons concerned with chickens were not taught by a majority of the departments reporting (Table II). These lessons were (1) Brooding in batteries and sunshine brooders and (2) Producing hatching eggs. The first of these two lessons has been of minor importance in Oregon whereas the second lesson has been of major interest to a relatively large number of poultrymen, particularly in western Oregon.

Three lessons were taught by all departments that reported any poultry taught. These lessons included (1) Selecting and ordering chicks, (2) Management of the laying flock and (3) Prevention and control of cannibalism. Although it appeared inconsistent that the lessons on selecting and ordering chicks were not in all cases followed up by subsequent lessons on chick care, the analysis revealed that most of the key lessons were taught by all but three of the departments.

The lessons concerned with broiler chickens were not as commonly taught as those concerned with laying hens. The least commonly taught lessons were concerned with selecting the breed or strain and financing the broiler enterprise. It would appear that these lessons would have been of greater importance than two of the lessons that were more frequently taught in that the two lessons

TABLE II

FREQUENCY OF POULTRY LESSONS TAUGHT

Lesson	No. Departments	%
Layers		
Opportunities and requirements in the poultry field	23	63.8
Selecting and ordering chicks	33	91.7
Brooder houses and brooding equipment	30	83.3
Preparation of the brooding facilities	32	88.9
Management during the brooding period	32	88.9
Brooding in batteries and sunshine brooders	15	41.7
Feeds and feeding systems for chicks	32	88.9
Range or confinement rearing of pullets	29	80.6
Laying houses and equipment	31	86.1
Housing pullets	31	86.1
Management of the laying flock	33	91.7
Feeds and feeding systems for layers	32	88.9
Culling modern-day laying strains	29	80.6
Lighting the laying flock	29	80.6
Producing and marketing quality eggs	28	77.8
Producing hatching eggs	15	41.7
Prevention and control of cannibalism	33	91.7
Prevention and control of parasites and diseases	31	86.1
Keeping and analyzing poultry records	23	63.9
Broilers		
Selecting the breed or strain	21	58.3
Housing and equipment for broiler flocks	24	66.7
Financing the broiler enterprise	21	58.3
Feeds and feeding systems for broilers	25	69.4
How and when to market broilers	24	66.7
Turkeys		
Brooding turkeys	7	19.4
Range or confinement rearing of turkeys	6	16.7
Feeds and feeding requirements of turkeys	6	16.7
Marketing of turkeys	6	16.7

that were more frequently taught were concerned with broilers and were very closely allied to lessons commonly taught in the laying hen enterprise.

The number of departments that included lessons concerned with the turkey enterprise was very small in relation to the number teaching lessons concerned with layers and broilers. Only four departments reported teaching all four of the lessons concerned with turkeys and thirty departments reported teaching none of them.

Laboratory and Field Demonstrations

An analysis of the data reported on laboratory and field demonstrations (Table III) showed that a total of 76 were conducted. This constituted 26.4 per cent of the total possible number listed in the questionnaire.

Two departments reported that all of the listed demonstrations were included in their plans and ten reported that none were included in their programs. The average number of laboratory or field demonstrations reported was 2.1 per department. The per cent of laboratory or field demonstrations reported by counties (Table IV) varied from 18.8 per cent to 50 per cent.

The distribution of laboratory and field demonstrations as reported in Table III indicated that the greatest number were included in the second or sophomore year,

TABLE III

DISTRIBUTION OF LABORATORY AND FIELD DEMONSTRATIONS BY CLASSES

Skill	Total	%	Freshmen No.	%	Sophomores No.	%	Juniors No.	%	Seniors No.	%
Blood testing	4	11.1	1	2.8	2	5.6	1	2.8	0	0.0
Vaccination for pox	5	13.9	2	5.6	3	8.3	1	2.8	0	0.0
Debeaking or specking	17	47.2	7	19.4	7	19.4	1	2.8	0	0.0
Chemical caponization	5	13.9	2	5.6	2	5.6	0	0.0	0	0.0
Anatomy of the fowl	10	27.7	5	13.9	4	11.1	1	2.8	0	0.0
Dubbing combs and wattles	6	16.6	2	5.6	3	8.3	1	2.8	0	0.0
Killing and dressing fowl	9	25.0	5	13.9	1	2.8	1	2.8	2	5.6
Grading and candling eggs	20	55.5	5	13.9	11	30.5	4	11.1	0	0.0
Total	76		29		33		14		2	
Average		26.4		10.1		11.5		3.5		.7

TABLE IV

DISTRIBUTION OF LABORATORY OR FIELD DEMONSTRATIONS BY COUNTIES AND DISTRICTS

Counties	Testing Blood	Vaccination	Debeaking Specking	Chem. Caponization	Anatomy	Dubbing	Kill and Dress	Grading Candling	Total	Per Cent
District I										
Clackamas	0	0	1	0	0	0	2	3	6	18.75
Washington	1	1	2	3	1	1	1	2	12	37.50
Multnomah	0	0	0	0	0	0	0	1	1	12.50
Yamhill	0	1	3	0	1	1	0	2	8	25.0
Polk	0	0	1	0	0	1	0	1	3	37.50
Marion	0	0	0	0	0	0	1	1	2	8.3
Linn	0	0	1	0	1	0	0	0	2	12.50
Lane	1	1	3	0	1	1	0	3	10	31.3
Columbia	0	0	0	0	0	0	0	0	0	0
Total	2	3	11	3	4	4	4	13	43	
Average										23.4
District II										
Clatsop	0	0	1	0	1	0	1	0	3	37.5
Tillamook	0	0	1	1	1	0	1	0	4	50.0
Total	0	0	2	1	2	0	2	0	7	
Average										43.7

TABLE IV (Cont'd)

Counties	Blood Testing	Vaccination	Debeaking Specking	Chem. Caponization	Anatomy	Dubbing	Kill and Dress	Grading Candling	Total	Per Cent
District III										
Douglas	1	1	1	0	0	1	0	1	5	62.5
Jackson	0	0	0	0	0	0	0	0	0	0
Josephine	1	2	1	1	2	1	1	2	11	68.8
Total	2	3	2	1	2	2	1	3	16	
Average										50.0
District IV										
Wasco	0	0	0	0	0	0	0	0	0	0
Umatilla	0	0	2	0	1	0	2	2	7	43.8
Deschutes	0	0	0	0	1	0	0	1	2	25.0
Crook	0	0	0	0	0	0	0	0	0	0
Malheur	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	2	0	2	3	9	
Average										18.8
Grand Total	4	6	17	5	10	6	9	19	76	
Average										26.38

closely followed by the freshmen or first year of vocational agriculture.

Analysis of the frequency of the different laboratory and field demonstrations revealed that two were most common. These were debeaking and specking of poultry and grading and candling of eggs. These activities were reported by 47.2 and 55.5 per cent of the departments respectively. Chemical caponization and fowl pox vaccination were the least common laboratory or field demonstrations reported and both were reported by 13.8 per cent of the departments.

Field Trips

A total of 107 field trips were reported on all returned questionnaires (Table V). This represented 37.2 per cent of the total possible field trips listed.

Three departments reported no field trips taken and two others reported only one field trip. At the other end of the range, nine field trips, the maximum number listed in the survey, was reported by one department. The average number of field trips taken on a county level varied from a high of 77.7 to the previously reported low of zero.

The greatest number of field trips were taken during the freshmen year with progressively fewer in each succeeding year (Table VI). The percentage of field trips that were taken during the different years indicated that there

TABLE V

DISTRIBUTION OF FIELD TRIPS BY COUNTIES AND DISTRICTS

Counties	Hatch.	Breeder Farm	Process Plant	Feed Mill	Expr. Sta'n	Commer. Egg Farm	Broiler Operat'n	Turkey Operat'n	Egg Mkt.	Total	Per Cent
District I											
Clackamas	3	2	0	1	1	2	0	1	1	11	30.5
Washington	3	2	1	3	1	2	2	0	0	14	38.8
Multnomah	0	0	0	1	0	1	0	0	1	3	33.3
Yamhill	2	1	1	1	1	2	1	0	0	9	25.0
Polk	0	1	1	0	0	1	0	0	0	3	33.3
Marion	1	2	1	1	0	2	1	0	1	9	50.0
Linn	2	1	1	2	1	1	1	0	0	9	33.3
Lane	0	2	3	3	1	1	1	1	2	14	38.8
Columbia	0	0	0	0	0	1	0	0	0	1	11.1
Total	11	11	8	12	5	13	6	2	73		
Average											38.0
District II											
Clatsop	0	0	1	0	0	1	1	0	1	4	44.4
Tillamook	0	0	0	1	0	1	1	0	1	3	33.3
Total	0	0	1	1	0	2	2	0	2	7	
Average											43.7

TABLE V (Cont'd)

Counties	Hatch.	Breeder Farm	Process Plant	Feed Mill	Expr. Sta'n	Commer. Egg Farm	Broiler Operat'n	Turkey Operat'n	Egg Mkt.	Total	Per Cent
District III											
Douglas	1	1	0	0	0	0	0	1	1	4	44.4
Jackson	0	0	0	0	0	1	0	0	0	1	11.1
Josephine	2	2	1	2	1	2	1	1	2	14	77.7
Total	3	3	1	2	1	3	1	2	3	19	
Average											59.3
District IV											
Wasco	0	0	0	0	0	0	0	0	0	0	0
Umatilla	1	0	1	2	0	1	1	0	0	6	33.3
Deschutes	0	0	0	0	0	0	0	0	0	0	0
Crook	0	0	0	0	0	0	0	0	0	0	0
Malheur	0	0	0	0	1	0	0	1	0	2	22.2
Total	1	0	1	2	1	1	1	1	0	8	
Average											16.6
Grand Total	15	14	11	17	7	19	10	5	9	107	
Average											37.2

TABLE VI

DISTRIBUTION OF FIELD TRIPS BY CLASSES

Trip	Freshmen		Sophomore		Juniors		Seniors		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Hatchery	10	27.7	5	13.9	0	0.0	0	0.0	15	41.7
Breeder Farm	3	8.3	7	19.4	1	2.8	1	2.8	12	33.3
Processing Plant	6	16.6	2	5.6	3	8.3	0	9.0	11	30.5
Feed Mill	6	16.6	5	13.9	4	11.1	2	5.6	17	47.2
Experiment Station	3	8.3	3	8.3	3	8.3	0	0.0	9	25.0
Commercial Poult. Farm	8	22.2	6	16.6	4	11.1	1	2.8	19	52.7
Broiler Farm	7	19.4	4	11.1	1	2.8	0	0.0	12	33.3
Turkey Farm	1	2.8	2	5.6	1	2.8	0	0.0	4	11.1
Egg Market	0	0.0	3	8.3	4	11.1	1	2.8	8	22.2
Total	44		37		21		5		107	
Averages		13.6		11.4		6.4		1.5		33.0

was not a direct and positive relationship between the per cent of poultry lessons taught and the number of field trips taken.

The most common field trip was made to commercial poultry farms. Nineteen or 52.7 per cent of the departments included this trip in their teaching plans. The least common field trip was made to turkey farms. Only four departments or 11.1 per cent of the departments participated in this trip.

Poultry Activities

Judging Contests

Pictorial Contests. A number of popular poultry publications have sponsored an annual pictorial poultry judging contest for a number of years. The contests have been divided into different age and interest groups and many agriculture leaders have utilized such contests as teaching devices.

Twelve departments representing 33.3 per cent of the total reported using the pictorial contests in their work (Table VII). Two districts, the Coastal and Eastern Oregon, reported no participation in pictorial judging.

County Judging Contests. Five departments or 14.8 per cent reported participation in county poultry judging contests. The very low per cent taking part in judging

TABLE VII

DISTRIBUTION OF JUDGING CONTESTS AND POULTRY EXHIBITS BY COUNTIES AND DISTRICTS

Counties	Pictorials	Judging Contests County 1/	State	Total	Per Cent Partici-pation
District I					
Clackamas	2	4	3	9	75.0
Washington	1	--	1	2	25.0
Multnomah	0	--	1	1	50.0
Yamhill	0	--	2	2	25.0
Polk	1	--	1	2	100.0
Marion	1	--	0	1	24.0
Linn	1	--	0	1	16.6
Lane	2	--	2	4	50.0
Columbia	1	--	1	2	100.0
Total	9	4	11	24	
Average					51.8
District II					
Clatsop	0	--	0	0	0.0
Tillamook	0	--	0	0	0.0
Total	0	--	0	0	0.0
Average					0.0
District III					
Douglas	1	--	0	1	50.0
Jackson	0	--	0	0	0.0
Josephine	2	--	1	3	75.0
Total	3	--	1	4	
Average					41.6

TABLE VII (Cont'd)

Judging Contests (Cont'd)

Counties	Pictorials	County 1/	State	Total	Per Cent Participation
District IV					
Wasco	0	--	0	0	0.0
Umatilla	0	1	1	2	33.3
Deschutes	0	--	0	0	0.0
Crook	0	--	0	0	0.0
Malheur	0	--	0	0	0.0
Total	0	1	1	2	
Average					5.5
Grand Total	12	5	13	30	
Average of Study					42.2

Poultry Exhibits

District I				
Clackamas	3	3	6	75.0
Washington	0	0	0	0.0
Multnomah	0	0	0	0.0
Yamhill	3	2	5	62.5
Polk	1	1	2	100.0
Marion	--	1	1	33.3
Linn	1	0	1	25.0
Lane	2	0	2	25.0
Columbia	1	0	1	50.0
Total	11	7	18	
Average				41.2

TABLE VII (Cont'd)

Counties	Poultry Exhibits			
	County 1/	State	Total	Per Cent Participation
District II				
Clatsop	1	0	1	50.0
Tillamook	1	0	1	50.0
Total	2	0	2	
Average				50.0
District III				
Douglas	0	0	0	0.0
Jackson	0	0	0	0.0
Josephine	2	0	2	50.0
Total	2	0	2	
Average				12.5
District IV				
Wasco	0	0	0	0.0
Umatilla	0	0	0	0.0
Deschutes	1	0	1	50.0
Crook	0	0	0	0.0
Malheur	0	0	0	0.0
Total	1	0	1	
Average				8.3
Grand Total	16	7	23	
Average of Study				31.9

1/ Counties not sponsoring poultry judging contests or poultry exhibits are designated by a --.

contests at this level was primarily due to the very limited number of contests held at the county level. Only two counties reported holding poultry judging contests.

State Poultry Judging Contest. Thirteen departments representing 36.1 per cent of those reporting participated in the State Poultry Judging Contest. Eleven or 84.6 per cent of those that entered the contest were from the Willamette Valley district.

Of the three previously mentioned types of judging contests, the cooperating departments reported participation in 42.2 per cent of all possible contests listed in the questionnaire. Two districts, the Willamette Valley and Southern Oregon, reported participation in 94.4per cent of all judging contests that were available to the departments.

Poultry Exhibits.

County Exhibits. Sixteen or 44.4 per cent of the departments reported poultry exhibits at the county level (Table VII). Eleven or 78.0 per cent of the total exhibits were from departments located in the Willamette Valley district. No separate listing was made for different types of poultry exhibits.

State Exhibits. Seven departments or 19.4 per cent of those reporting exhibited poultry at the State Fair.

All of the participating departments were located in the Willamette Valley district. When the total possible participation is considered, only 23 or 31.9 per cent of the total possible exhibits were shown.

Cooperative Chapter Poultry Projects

Six departments or 16.6 per cent reported cooperative poultry projects. The projects were divided into three broiler projects and one each of laying hens, hatching eggs and broiler barbecues. Three of the cooperative projects were reported by departments in the Willamette Valley district and one each from the remaining three districts. None of the reported projects were considered an economic size but they furnished valuable interest and learning situations.

Production Contests

Three departments reported a poultry production contest within their enrollment. This represented 8.3 per cent of the total departments.

Two of the reported production contests were concerned with egg production projects and the other one with broiler birds. The departments reporting production contests were located in three different districts, indicating that location was not a factor in determining where such contests are sponsored.

Demonstrations

Six departments reported that poultry demonstrations were given by students in their departments. This represented 16.6 per cent of the reporting departments. All of the six participating departments were located in different counties and five of the six departments were located within the Willamette Valley district.

Shopwork

Twenty-nine departments reported that poultry equipment was constructed in the school shop. This represented 80.5 per cent of the reporting departments. The per cent of departments within districts that reported poultry equipment work in the shop varied from 40 to 100.

Related Information

Adult Classes

Four departments representing 11.1 per cent of the departments reported having conducted adult classes in poultry. Three of the classes were reported from departments in the Willamette Valley district and the other from the Southern Oregon district. Two of the classes were reported from the same county.

Cooperation from Poultry Organizations

Seventeen departments or 47.2 per cent of those that returned questionnaires reported that they received cooperation from some organized poultry group. Sixteen or 44.4 per cent did not receive any such cooperation. Three departments failed to indicate an answer to the inquiry.

When the data were compared on a district basis, the per cent of schools within a district reported such cooperation varied from 100 per cent in the Southern Oregon district to 33.3 per cent in the Eastern Oregon district.

Poultry Training of Instructors

There were nine instructors of the thirty-six reporting that indicated that they completed more than the first course in poultry science at college level. Seven or 77.7 per cent of those that had more than one course were teaching in the Willamette Valley district. Only one teacher from five counties in the Eastern Oregon district had taken more than one course in poultry.

Poultry Projects

A total of 151 poultry projects were conducted during the period of this study by students attending departments cooperating in the study (Table VIII). This represented 63.4 per cent of all the poultry projects reported in the

TABLE VIII

POULTRY PROJECTS, SIZE OF PROJECTS, LABOR INCOME PER DEPARTMENT AND LABOR INCOME PER PROJECT REPORTED BY COUNTIES AND DISTRICTS

Counties	Number Projects	Scope	Labor Income Per Dept.	Income per Project
District I				
Clackamas	12	3,605	$ 656.79	$ 53.89
Washington	16	5,199	1,019.87	63.74
Multnomah	3	160	215.30	71.77
Yamhill	14	29,374*	1,347.55	96.25
Polk	3	760	291.15	97.05
Marion	13	3,229	2,647.42	203.65
Linn	3	174	299.04	99.68
Lane	32	3,999	2,087.68	65.24
Columbia	8	667	571.58	71.45
Total	104	47,187	$11,773.80	
Average			$ 490.57	$113.21
District II				
Clatsop	2	355	1,649.00	820.00
Tillamook	5	475	359.16	71.83
Total	7	830	$ 1,999.16	
Average			$ 999.58	$285.59

TABLE VIII (Cont'd)

Counties	Number Projects	Scope	Labor Income Per Dept.	Income per Project
District III				
Douglas	0	0	0	0
Jackson	5	4,514	48.96	9.79
Josephine	6	2,265	910.37	151.73
Total	11	6,779	$ 959.73	
Average			$ 279.83	$ 15.05
District IV				
Wasco	4	715	$ 136.38	$ 34.10
Umatilla	10	1,186	2,105.27	210.53
Deschutes	3	830	-522.50	-174.16
Crook	9	611	844.68	93.85
Malheur	3	176	51.85	17.28
Total	29	3,518	$ 3,138.18	
Average			$ 523.03	$108.21
Total of Study	151	58,294	$17,348.47	
Average of Study				$114.89
Average per school in study	4.19	1,619	$ 471.90	$112.63
Total for state	238	66,272	$16,873.73	
Average per school in state	3.8	1,051	$ 272.16	71.62

* This figure includes a very large individual broiler project.

state. The average number of poultry projects per department for the study was 4.2 and the average for all departments in the state was 3.8. The average number of projects per department when computed on a county basis varied from zero to a high of nine. Both extremes represented counties with a single department reporting. The average number of projects in the different districts ranged from a low of two to a high of 4.3 with the largest average district representing the Willamette Valley district and the lowest compiled in the Southern Oregon district.

One department reported 16 poultry projects which was the greatest number in both the study and the state. One department failed to report any poultry projects.

The greatest number of projects reported from one county was 32. The Willamette Valley district reported the greatest total number of projects and the Coastal district the smallest. The total number reported from the districts was related to the number of departments within the district and does not directly indicate that the performance per department within the district was similar.

A total of 66,262 birds were included in the projects reported by cooperating departments and average 1619 birds for each department. This accounted for 88 per cent of the birds reported in all poultry projects in the state.

The average number of birds per project was 386 for all departments and varied from a low of zero to a high of 9419. The exceptionally large average size project from one department was heavily influenced by a large broiler project. The average number of birds per project on a district basis varied from a low of 119 in the Coastal district to a high of 616 in the Southern Oregon district (Table IX). When averages of the project size in different counties were compared, the range varied from a low of 52 to a high of 2098 birds per project. Both the outer ranges were reported from counties in the Willamette Valley.

One of the most interesting measuring scales for farming projects is the labor income from the labor and investment. A total of $17,348.47 labor income was reported on poultry projects conducted by the cooperating departments. Only one department reported a minus labor income which totaled $522.50 on three projects involving 830 birds. This was an average loss per bird of 62 cents.

The average labor income for all departments in the study amounted to $471.90 which was substantially higher than the state average of $272.16 for all poultry projects in the state. It would appear that the departments included in the study were not representative of the state but as in the procedure set up for this study, the selec-

TABLE IX

AVERAGE NUMBER OF POULTRY PROJECTS PER DEPARTMENT, BIRDS PER DEPARTMENT, BIRDS PER PROJECT AND INCOME PER BIRD-REPORTED ON A COUNTY BASIS

Counties	No. Projects	Birds per Dept.	Birds per Project	Labor Income Per Bird
District I				
Clackamas	3.0	901	300	$ .18
Washington	4.0	1299	81	.20
Multnomah	3.0	160	52	1.36
Yamhill	3.5	7444	2098	.05
Polk	3.0	760	253	.38
Marion	4.3	807	248	.82
Linn	1.5	87	58	1.72
Lane	8.0	999	125	.52
Columbia	8.0	667	83	.86
Average	4.3	965	454	.25
District II				
Clatsop	2.0	355	178	4.52
Tillamook	5.0	475	95	.76
Average	3.5	415	119	4.08
District III				
Douglas	0.0	0	0	0
Jackson	5.0	4514	903	.01
Josephine	3.0	1133	378	.40
Average	2.0	1695	616	.14
District IV				
Wasco	4.0	715	179	.19
Umatilla	5.0	593	119	1.77
Deschutes	3.0	830	277	- .62
Crook	9.0	611	68	1.38
Malheur	3.0	176	59	2.94
Average	4.0	586	121	.89
Average of Study	4.2	1619	386	.30

* Influenced by broiler projects

ted sampling was weighted in favor of the more densely populated areas which are also the major poultry areas of the state.

The average labor income per project when computed on a county basis varied from a high of $820.00 to a low of a minus $174.16. The range in labor income per project on a district basis varied from a low of $15.05 per project in Southern Oregon to $285.59 per project in the Coastal district.

Average labor income per bird is another commonly used measuring device when comparing different poultry enterprises. The average labor income per bird for all departments in the study was 30 cents and varied between counties from a minus 62 cents to a high of $4.52. The average labor income per bird in different districts ranged from 14 cents to $4.08 with the Southern Oregon district having the lowest average return and the Coastal district the largest labor income.

Instructors Opinions Regarding Poultry Projects

In response to the question, "Do you consider poultry a satisfactory project?", 33 or 91.6 per cent of the instructors reported in the affirmative, one or 2.7 per cent answered in the negative and two cooperators did not answer the question. This would indicate that

vocational agriculture instructors consider that poultry is a satisfactory type of supervised farming project.

In response to the question, "Would you recommend over 300 birds in a laying hen project?", 19 or 52.7 per cent reported yes and 13 or 36.1 per cent reported no. Four cooperators did not check an answer.

Obstacles to Successful Poultry Projects

Instructors cooperating in the study were requested to rank nine listed obstacles in the order of importance as barriers to the successful conduct of poultry projects. The list of obstacles was arbitrarily selected by the writer as the most common ones encountered by teachers supervising agricultural projects.

A rank order number for each listed obstacle was obtained by totaling the rank numbers assigned by the respondents. The lower the number, the more important the obstacle was in the opinions of the instructors. The relative rank by counties, districts and the study are shown in Table X.

The most common obstacle ranked by instructors was a lack of interest on the part of students. This was very closely followed by the obstacle listed as too small a margin of profit. Two other obstacles that ranked third and fourth in importance by respondents were lack of parental interest and lack of physical facilities

TABLE X

DISTRIBUTION OF RANKINGS OF OBSTACLES TO POULTRY PROJECTS
BY COUNTIES AND DISTRICTS

Counties	Student Interest	Parental Interest	Physical Facilities	Not adapted to farm	Lack of Market	Small Margin	Too Confining	Contests	Financing
District I									
Clackamas	2	3	4	5	7	1	6	8	6
Washington	2	4	1	5	7	3	6	9	8
Multnomah	5	6	3	1	6	2	4	9	8
Yamhill	1	5	2	5	4	6	3	7	8
Polk	1	2	3	5	6	4	7	9	8
Marion	2	3	1	4	6	3	5	7	5
Linn	3	1	6	8	5	4	2	7	6
Lane	1	2	6	8	5	3	4	7	9
Columbia	1	3	4	6	8	7	5	9	2
Rank Order	1	2	3	6	7	4	5	9	8
District II									
Clatsop	4	2	5	6	7	1	8	9	3
Tillamook	5	2	3	4	6	1	7	8	9
Rank Order	4	2	3	5	7	1	8	9	6

TABLE X (Cont'd)

Counties	Student Interest	Parental Interest	Physical Facilities	Not adapted to farm	Lack of Market	Small Margin	Too con-fining	Con-tests	Finan-cing
District III									
Douglas	2	3	8	4	7	1	5	9	6
Jackson	3	4	2	8	9	1	7	5	6
Josephine	6	7	4	5	3	1	8	9	2
Rank Order	2	3	3	4	5	1	6	7	3
District IV									
Wasco	2	1	4	3	5	7	8	9	6
Umatilla	3	2	1	4	4	2	3	5	6
Deschutes	5	4	3	6	1	2	7	8	9
Crook	3	4	6	8	1	2	5	9	7
Malheur	1	2	3	5	4	6	9	7	8
Rank Order	2	1	4	6	3	5	7	9	8
Rank Order of Study	1	3	4	5	6	2	7	9	8

respectively. The obstacle rated as least important was a lack of contests, followed in order by lack of finances and too confining an enterprise.

Areas of Poultry Production

An analysis of the data in Table XI, concerned with areas of poultry production, revealed that 7.09 per cent of the total farm income in the state was obtained from the sale of poultry and poultry products. The area of greatest concentration of poultry was in the Willamette Valley where approximately 78 per cent of the poultry income of the state was produced. This same area accounted for 32.4 per cent of the total agricultural income in the state. The per cent of farm income obtained from poultry in the counties included within this study varied from 21.3 to .56. Six counties or 16.6 per cent of the number in the study obtained 15 per cent or more of their farm income from poultry. Four counties or 11.1 per cent obtained less than one per cent of their income from poultry.

The importance of poultry as a source of farm income in the different districts as used in the study varied from a low of 2.6 to a high of 13.2 per cent of all agricultural income.

Another measure of the importance of poultry on the farm is the frequency with which it is found on the

TABLE XI

INCOME FROM POULTRY, TOTAL AGRICULTURE INCOME AND PER CENT OF FARM INCOME FROM POULTRY

Counties	Income from Poultry	Rank	Total Agricultural Income	Per Cent Farm Income from Poultry
District I				
Clackamas	$ 4,554,301	1	$ 17,516,331	20.3
Washington	2,516,493	4	16,287,918	15.4
Multnomah	809,457	9	10,117,525	8.0
Yamhill	3,217,220	2	15,125,825	21.3
Polk	631,972	10	10,971,683	5.8
Marion	2,669,099	3	26,573,259	10.04
Linn	1,792,781	6	18,803,033	9.0
Lane	2,352,752	5	13,669,260	17.2
Columbia	482,660	12	4,186,219	11.5
Total	$19,026,735		$133,251,053	
Average				13.16
District II				
Clatsop	$ 295,227	15	$ 1,776,148	16.0
Tillamook	31,106	19	5,509,146	.56
Total	$ 326,333		$ 7,285,294	
Average				8.28
District III				
Douglas	$ 1,017,701	7	$ 5,924,102	17.2
Jackson	576,727	11	10,589,421	.56
Josephine	302,300	14	4,753,864	8.1
Total	$ 1,896,728		$ 20,267,387	
Average				8.62

TABLE XI (Cont'd)

Counties	Income from Poultry	Rank	Total Agricultural Income	Per Cent Farm Income from Poultry
District IV				
Wasco	$ 88,441	18	$ 9,008,001	.98
Umatilla	892,787	8	26,966,656	3.31
Deschutes	418,693	13	3,623,634	11.50
Crook	43,759	17	4,921,950	.88
Malheur	272,225	16	25,907,764	1.05
Total	$ 1,803,146		$ 70,428,005	
Average				2.56
Grand Total	$23,052,942		$231,231,739	
Study Average				9.97

farms. Within the counties studied, 12,414 farms or an average of 28.9 per cent of all the farms reported the sale of poultry or poultry products, Table XII. The per cent of farms reporting poultry sales varied within the counties from a low of 13.8 to a high of 34.4 of all farms in the counties. The average per cent of such farms on the district level varied from a low of 19.4 in the Coastal district to a high of 30.4 in the Willamette Valley district.

A farther breakdown was made as to the number of farms and the per cent that were classified in the Agricultural Census, 1954, as poultry farms. These farms were placed in this classification because poultry constituted their major source of income. A total of 2,426 farms or 5.6 per cent of all farms were classified as major poultry farms. The per cent of farms classed as poultry farms varied from zero to 10.4 within the counties studied.

It was shown by the data that poultry was a common farm enterprise on farms in the 19 counties included in this study. It was also the most frequently found farm enterprise on the farms as reported in the Agricultural Census. More recent data, personal communication (12) concerned with the number of farms reporting poultry sales, numbers of laying birds on hand and total numbers of birds in Oregon, indicate that the overall poultry

TABLE XII

TOTAL FARMS, FARMS SELLING POULTRY, POULTRY FARMS AND PER CENT FARMS WITH POULTRY BY COUNTY AND DISTRICT

Counties	Total Farms	Farms Selling Poultry	Poultry Farms 1/	Per Cent Farms Selling Poult.	Per Cent Farms Poultry Farms
District I					
Clackamas	5,605	1,765	470	31.5	8.3
Washington	3,676	1,199	260	32.6	7.1
Multnomah	1,668	360	70	21.6	4.2
Yamhill	2,473	813	257	32.9	10.4
Polk	1,491	433	60	29.0	4.0
Marion	4,541	1,563	260	34.4	5.7
Linn	3,103	1,027	135	33.1	4.4
Lane	4,235	1,165	355	27.5	8.4
Columbia	1,786	355	50	19.9	2.8
Total	28,578	8,680	1,917		
Average				30.4	6.7
District II					
Clatsop	684	181	45	26.5	6.6
Tillamook	857	118	5	13.8	.6
Total	1,541	299	50		
Average				19.4	3.2
District III					
Douglas	2,155	611	170	28.4	7.9
Jackson	2,602	608	120	23.4	4.6
Josephine	1,494	334	65	22.4	4.4
Total	6,251	1,553	355		
Average				24.9	5.7

TABLE XII (Cont'd)

Counties	Total Farms	Farms Selling Poultry	Poultry Farms 1/	Per Cent Farms Selling Poult.	Per Cent Farms Poultry Farms
District IV					
Wasco	805	270	15	33.5	1.9
Umatilla	1,885	541	48	28.7	2.5
Deschutes	1,076	324	41	30.1	3.8
Crook	387	123	0	31.8	0.0
Malheur	2,448	624	0	25.5	0.0
Total	6,600	1,882	104		
Average				28.5	1.6
Grand Total	42,970	12,414	2,426		
Average of study				28.9	5.6

1/ Classified as poultry farms by Agricultural Census

enterprise has maintained its position as an agricultural enterprise in the state.

Relationships between poultry lessons, poultry projects, poultry income and other related factors

An assumption made in this study was that the importance of the poultry enterprise as a source of farm income would influence the other items measured. In order to determine the relationship between the importance of poultry as a source of income and the lessons taught, the coefficient of correlation was calculated and found to be a positive .23.

In order to observe if more poultry lessons were taught in the counties in which it was an important farm enterprise, a comparison was made between the five counties of the study having the greatest per cent of income from poultry and the five counties with the smallest per cent of income from poultry. The five counties of greatest poultry income averaged 18.4 per cent of the farm income derived from poultry and reported an average of 76.3 per cent of the lessons taught. The five counties with the least per cent of poultry income obtained an average of .84 per cent of the farm income from poultry and reported 50.8 per cent of the lessons taught.

The coefficient of correlation between the amount of farm income obtained from poultry and the number of

poultry projects was a minus .13. An "r" value of this size indicates that there was little relationship existing in this study. In order to observe casual relationships between the five counties with the highest per cent of farm income from poultry and the five counties with the lowest per cent income from poultry, the average number of poultry projects per department was calculated. The five counties of greater poultry income reported an average of 3.3 projects per department with an average of 540 birds per project. The five counties of low poultry income reported an average of five projects per county with 261 birds per project. The average labor income per bird was $1.05 and $1.09 for the high and low respectively.

Another comparison that was made between the high and low areas of poultry income included the per cent of field trips in the poultry curriculum. This was reported as 36.6 and 13.3 for the highest and lowest areas respectively. This could have been greatly influenced by geographic location and types of poultry facilities and operations within visiting distance of the counties included within the two groups. This could logically be related to the relatively minor part that poultry fills in the least important area.

Another comparison was made between the two areas as measured by the per cent of laboratory and demonstra-

tion lessons included in teaching poultry. The high poultry income area reported 35 per cent and the low income area reported 10 per cent of the laboratory and demonstration lessons as a part of their programs.

A comparison of the per cent of instructors within the two areas of poultry income that had taken two or more college level courses in poultry was made. The per cent of instructors from the more important poultry areas which had taken two or more poultry courses was 46.3, while none of the instructors in the areas of low poultry income had taken more than one poultry course. The number or per cent of courses taken after receipt of their initial degree was not obtained.

Two other comparisons were made that followed the pattern established by the other comparisons reported. All, 100 per cent, of the instructors from the high poultry income areas reported that poultry was a satisfactory project and 83.3 per cent recognized that flock size of 300 or more birds was desirable. In the areas of low poultry income, 80 per cent of the instructors considered poultry a satisfactory project and 60 per cent recommended 300 or more birds per project.

In order to observe if there existed a relationship between the opinions of instructors regarding the size of poultry project flocks and the number of projects conducted by students, the coefficient of correlation was

computed. The "r" value was a minus .005 which indicates that no relationship existed and within the scope of this study, instructors opinions regarding size of poultry projects did not influence the number of projects conducted by the students.

In order to determine if the per cent of poultry lessons included in the poultry curriculum influenced the other measurements obtained, the five counties reporting the highest per cent of lessons taught were compared to the five counties reporting the lowest per cent of lessons taught. The five counties teaching the most lessons reported 94 per cent of the listed lessons while the five counties teaching the least reported 39.2 per cent of the lessons in their curriculum.

The relationship between the per cent of lessons taught and the number of poultry projects appeared to be a negative one. The five counties reporting the most poultry taught had an average of 4.6 poultry projects per department and an average of 332 birds per project. The five counties reporting the smallest per cent of poultry lessons had an average of 5.8 projects per department with 544 birds per project. This indicated that within the area of this study, the amount of poultry taught did not favorably affect the number of projects conducted. The coefficient of correlation was calculated using all

respondents in the study and an "r" value of minus .35 was obtained.

Other comparisons between the upper and lower counties as measured by per cent of poultry lessons taught included labor income per bird. The average labor income per bird was $1.51 in counties where the most poultry was taught as compared to 59 cents in areas where little poultry was taught.

The per cent of field trips reported from the two groups, teaching the most and the least amounts of poultry, was 35.5 and 22.8 respectively. The per cent of laboratory and demonstration lessons were in approximately the same pattern with counties in the group teaching the most poultry, reporting 30 per cent, and the other group reporting 12.9 per cent.

CHAPTER IV

SUMMARY

The general objective of this study was to survey the poultry curriculum in its entity as conducted in selected departments of vocational agriculture in Oregon. More specifically, the objective was to determine the influence of various factors upon the amount of poultry included in the teaching plans, the variety of teaching methods used and the frequency and size of poultry projects conducted by students.

The study involved 36 departments of vocational agriculture located in 19 different counties. The sample was divided into four different geographic districts of the state, representing the Willamette Valley, Coastal, Southern Oregon and Eastern Oregon. The size of sample obtained from each district varied. The departments selected represented both large and small schools, rural and urban areas, instructors of different periods of experience and age levels, and areas representing a variety of farm enterprises.

A check-list type of survey blank was the instrument used to obtain information and a total of 97.3 per cent of the departments contacted did return completed questionnaires. The data were arranged into tabular form

for ease of interpretation. Comparisons were made between counties and districts on the measurements obtained.

The average per cent of poultry lessons taught by all departments was 75.6 and varied among different counties from zero to 95.8. There was a positive coefficient of correlation of .23 between the importance of poultry as a source of farm income and the per cent of the poultry lessons taught. There was a negative coefficient of correlation of .35 between the per cent of poultry lessons taught and the frequency of poultry projects.

The greatest emphasis on poultry lessons was given in the first or freshman year when 41.8 per cent of the lessons were taught. Only 3.9 per cent of the poultry lessons were taught in the senior year. Three lessons were taught by all but three departments. These three did not include any poultry lessons in their instructional program.

The three departments that did not teach any poultry were located in different counties. Two of the three were located in areas where poultry was of little economic importance and contributed less than one per cent of the farm income. The other department was located in a county in which nine per cent of the farm income was derived from poultry.

Lessons concerned with broilers were not as popular

as those concerned with laying hens and lessons concerned with turkeys were taught in only a few departments.

Teaching poultry skills through the use of laboratory and field demonstrations was not used by a majority of the departments. Only one skill, grading and candling eggs, was taught by half of the departments.

The greatest number of laboratory and field demonstrations were conducted in the second or sophomore year. There was no obvious relationship between the importance of poultry income within an area and the frequency of using these two systems of teaching. The reason or reasons why more lessons were not taught by the lab or demonstration method was not determined.

A total of 37.2 per cent of the nine listed field trips were taken by responding departments. One department participated in all of the trips and four departments did not include any of the field trips in their programs. The per cent of field trips did not appear to be related to the importance of poultry as a farm enterprise. In some counties it would be difficult and impractical to schedule a field trip to some of the facilities listed, whereas, in others, it would be relatively easy to have such facilities available. The availability of facilities did not appear to increase the per cent of trips.

Approximately one-third of the departments participated in magazine pictorial contests and the state poultry

judging contests. Only five departments entered county contests but it would be illogical to conclude that the lack of participation was due to interest as there were only two poultry judging contests held on the county level.

The majority of poultry exhibits entered in fairs were from departments located in the Willamette Valley. No distinction was made between different types of poultry exhibits.

Six departments reported cooperative chapter poultry projects conducted by members of the local chapter of the Future Farmers of America. The distribution of cooperative projects were in all districts and included laying hens, broilers, hatching eggs and a broiler barbecue. The size of units reported were not of an economic scale but offered a learning situation.

Three departments reported sponsoring poultry production contests. Two of these were concerned with laying hens and the other with meat production.

Six departments reported that students presented demonstrations with poultry subjects. All but one of the departments were located in the Willamette Valley.

A majority of departments reported that students constructed some farm equipment in their shopwork. The range of participation in shop-constructed poultry equipment varied from 100 to 40 per cent in the districts.

Four departments reported conducting adult classes in poultry management. All such classes were conducted in counties where poultry ranked as an important source of farm income.

Approximately one-half of the departments indicated that they received cooperation from organized poultry groups.

Nine instructors indicated that they had taken two or more courses in poultry husbandry at the college level. Seven of the nine were teaching in the Willamette Valley and all but two were instructors with ten or more years of experience.

All but one respondent indicated that they considered poultry a satisfactory project while only 19 indicated that they would recommend 300 or more birds per project.

The average number of poultry projects per department was 4.2 and varied from zero to 16. A total of 66,242 birds were included in all projects and averaged 1619 birds per department or 386 birds per project.

A total of $17,348.47 labor income was earned from all projects with an average of $471.90 per department. The labor income per project computed on a county basis varied from a loss of $174.16 to a high of $820.00. The average labor income per bird ranged from a minus 62 cents to a high of $4.52 and averaged 30 cents per bird. This

was substantially less than the labor income reported by commercial producers during the same period.

The importance of poultry as a source of farm income varied greatly in the different counties in this study. The per cent of farm income obtained from the sale of poultry and poultry products varied from .56 to 21.3 and averaged 9.97 for all counties. Six of the 19 counties obtained 15 per cent or more of the total farm income from poultry and four counties obtained less than one per cent of their farm income from poultry.

The number of farms that reported the sale of poultry or poultry products was 12,414 or 28.9 per cent of all farms in the counties included in this study. The per cent of farms reporting poultry sales varied in different counties from a low of 13.8 to a high of 34.4. Poultry was the most common farm enterprise reported in the Agricultural Census.

Instructors ranked nine reasons in the order of importance that were obstacles to the successful conduct of poultry projects by students. Lack of interest on the part of the student was ranked number one and the lack of contests was ranked as least important. Other reasons rating high in importance included the small margin of profit, lack of parental interest and lack of physical facilities.

Implications

The data concerned with the number of poultry lessons taught indicated that in areas where poultry was an important source of farm income, instructors tend to teach more poultry. This would appear to be in line with what authorities in the field of agricultural education recommend.

The number of poultry projects conducted by students appeared to be depressed with an increase in the amount of poultry taught. This might, at first, appear detrimental to the poultry industry. However, it could also indicate that students were more fully instructed as to the specialization characteristics and the need for economic size units in the enterprise.

The wide variation in the number of lessons taught by departments located in areas of relatively heavy poultry concentration might indicate that a suggested course of study would be helpful to some instructors. This was also indicated by several departments in areas of minor poultry income which taught more of the listed lessons than other departments in areas of high poultry income.

The general practice of teaching a majority of the poultry lessons in the freshmen year indicates that the emphasis was placed on production practices. It would

appear that more of the lessons, particularly those pertaining to management and the business aspects of poultry, should be taught in the latter years. This could assist in developing larger poultry units and stimulate interest in older students.

A slight majority of the field trips were taken during the freshman year, whereas a large majority of the lessons were taught the freshman year. It would appear that the lessons could be made more interesting and worthwhile if the field trips were taken in conjunction with the lessons.

The number of skills taught by the labroatory and demonstration method was not greatly emphasized. This might indicate that instructors do not have sufficient time to plan and prepare for such classes. It might be possible to increase interest if more skills could be worked into the teaching program.

Participation in poultry judging contests and exhibits appeared to be relatively low. Participation in both of these fair activities might be greatly increased if attention were given to making them more practical and rewarding. Many county fairs include classes and premiums for livestock classes that do not contribute as much farm innome as the poultry enterprise. A possible suggestion would be the initiation of production-type contests, climaxed with an egg laying derby for layers and a carcass contest for broiler projects.

There was a substantial number of poultry projects conducted but the distribution of projects in different areas was not in proportion to the frequency of poultry as a farm enterprise. This might account, in part, for the low labor income reported on many projects. However, labor income was better in departments reporting more poultry lessons taught and therefor, some method of assisting instructors in keeping up-to-date and working with them on their poultry problems might prove beneficial in making poultry projects more desirable.

The departments reporting larger labor incomes also included more field trips and demonstrations in their instructional program. This indicates that even greater efforts to include more field trips and laboratory demonstration periods might be beneficial in improving poultry projects.

In regard to instructors opinions regarding poultry as a supervised farming project, nearly all of them considered it a satisfactory project. However, only about half of the instructors reported that they would recommend 300 or more birds per project. Since size of unit is generally important in determining labor income, it would appear that greater emphasis should be given to encouraging more adequate size projects.

The rank order given obstacles to poultry projects by instructors indicated that it would be necessary to

create greater interest on the part of students and concentrate more attention on methods of improving the margin of profit before much increase in the number of poultry projects could be expected. Since the lack of parental interest was indicated as an important obstacle, it would appear that any program designed to accomplish the objective should include information for the parents. Lack of physical facilities was ranked relatively important and again it would appear that parents opinions would be of major importance before investments in real property were made.

Lack of student interest might have been influenced by the size of unit. In this writers opinion, it is doubtful that highschool farm youths would exhibit great interest in flocks of 50 to 100 birds. Interest could also influence labor income.

Need for Further Studies

This investigation suggests that a more detailed study concerned with comparing teaching methods to their influence upon the number and success of poultry projects would be desirable. Such a study could provide valuable information to both teachers and the teacher-training center.

A study concerned with the number of approved practices used in poultry projects and the success of projects as measured by labor income could determine those practices that are essential for successful projects.

A study of reasons why so few farm youths who attend college enroll in poultry courses could be of great value in determining ways and means of encouraging more young people to enter the poultry industry. This would be desirable in view of the employment opportunities and the need for young people in the industry.

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APPENDIX

Appendix A

Dear Ag Teacher:

This questionnaire is part of a study of the poultry enterprise in departments of Vocational Agriculture in Oregon.

The purposes of the study are:

1. To help determine where emphasis should be placed in teaching poultry to future teachers of vocational agriculture.

2. To define the problems of young people interested in poultry.

The questionnaire is being sent to about 45 departments representing a cross section of poultry production in Oregon. Your cooperation and opinions will be greatly appreciated as well as any other information that you think would be useful to the study or improvement of our poultry curriculum.

I hope that you will take a few minutes to check it and return it in the enclosed envelope.

Thanks for your considerate opinion and if I can assist you in your work, please let me know.

Sincerely,

Bill McCluskey
PV 206
Oregon State College

APPENDIX B

I. Please check the following jobs in Poultry Production included in your teaching plans and the year taught.

	Not Taught	Fresh.	Soph.	Jr.	Sr.
A. Egg production flocks					
1. Opportunities and requirements in the poultry field					
2. Selecting and ordering good chicks.					
3. Brooder houses and brooding equipment					
4. Preparation of the brooding facilities.					
5. Management during the brooding period.					
6. Brooding in batteries and sunshine brooders.					
7. Feeds and feeding systems for chicks					
8. Range rearing of pullets.					
9. Laying houses and equipment					
10. Housing the pullets					
11. Management of the laying flock. . .					
12. Feeds, feeding systems for layers .					
13. Culling modern-day strains.					
14. Lighting the laying flock					
15. Producing, marketing quality eggs .					
16. Producing hatching eggs					
17. Prevention and control of cannibalism					
18. Prevention and control of parasites and diseases.					
19. Keeping poultry records					
B. Broilers					
1. Selecting the breed or strain . . .					
2. Housing and equipment for broilers.					
3. Financing the broiler enterprise. .					
4. Feeds and feeding systems for broilers.					
5. How and when to market broilers . .					

	Not Taught	Fresh.	Soph.	Jr.	Sr.
C. Laboratory or Field Demonstrations					
1. Blood testing of chickens or turkeys					
2. Vaccination for fowl pox. . . .					
3. Debeaking and specking.					
4. Chemical caponizing of fowl . .					
5. Anatomy of the fowl					
6. Dubbing combs and wattles . . .					
7. Killing and dressing of chicken or turkey					
8. Grading and candling eggs . . .					
9. . . .					
D. Turkeys					
1. Brooding turkeys.					
2. Range or confinement rearing of turkeys					
3. Feeds and feeding requirements of turkeys.					
4. Marketing of turkeys.					
5.					
E. Field Trips					
1. Hatchery					
2. Breeder farm.					
3. Processing plant.					
4. Feed Mill					
5. Experiment station.					
6. Commercial poultry farm					
7. Broiler farm					
8. Turkey farm					
9. Egg market					
10. . . .					
11. . . .					

II. Please check the following poultry activities participated in by students in your department.

1. Judging contests--pictorials (annual magazine contest). . . .	
State contest.	
Others	
2. Exhibits (birds or products) State Fair. .	
County Fair .	
Other	

II. Continued

3. Cooperative Chapter Projects
   - Broilers . . . . . .
   - Laying hens . . . .
   - Turkeys . . . . . .
   - Barbecues . . . . .
   - Others. . . . . .

4. Production contests--egg production. . .
   - meat production . .

5. Demonstrations . . . . . .

6. Shop work (building poultry equipment. .

7. Others . . . . . .

III. Please rate the following in order of importance as factors limiting the number and/or scope of poultry projects in your department. Rate the most important as number 1 and others in decreasing order of importance by successive numbers.

1. Lack of interest on the part of students .
2. Lack of interest on the part of parents. .
3. Lack of physical facilities. . . . . .
4. Poultry not adapted to home farm . . . . .
5. Lack of a market outlet . . . . . .
6. Margin of profit too small. . . . . .
7. Too confining an enterprise . . . . . .
8. Lack of contests in which to participate .
9. Can not finance . . . . . .
10. . .
11. . .

IV. Miscellaneous----Please check Yes or No.

		Yes	No
1.	Have you had an adult class in poultry? .		
2.	Do you receive cooperation from any poultry organization or group in your area?		
3.	Did you take more than one poultry course in your undergraduate program?.		
4.	Do you consider poultry to be a satisfactory project?		
5.	Would you recommend more than three hundred birds in a laying hen project?.		

Name_____

GEOGRAPHIC DISTRICTS OF STUDY

District I - - -Willamette Valley

District II- - -Coastal

District III - -Southern Oregon

District IV- - -Eastern Oregon