

PROBLEMS INVOLVED IN THE ORGANIZATION AND CONDUCT
OF DAY-UNIT VOCATIONAL AGRICULTURE CLASSES

by

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Some of the State Supervisors that have aided materially in this study are L. B. Poltom of Kansas, Verd Peterson of South Carolina, H. C. Fetterolf of Pennsylvania, and E. B. Matthew of Arkansas. Professor I. L. Plank of Winfield, Kansas aided in formulating the questionnaire and tests used on the Day-Unit classes.

INTRODUCTION

In keeping with the revolutionary changes in vocational education, day-unit vocational agriculture has had a phenomenal growth during the last five years. The enrollment has increased from 1534 in 1923 to 8090 in 1928. This type of school has been one of the easiest to organize in the small rural districts to meet the requirements for state and federal aid under the Smith-Hughes Law.

In 1923 there were 53 classes organized and working under this plan. This number had increased to 261 in 1927, scattered in 19 States. This work, carried out on the itinerant plan, was the first vocational agricultural teaching done in several of the states. Many of the states have finally, in some form or other, adopted some itinerant or unit course work. It has often been used as a forerunner of full time work. There has been very little cooperative effort on the part of the various states to standardize this work. There has been little organized study by the workers in the day-unit field in the definite and purposeful attempts to solve the limiting problems of day-unit work. In this study of the problems involved in the organization and conduct of day-unit vocational agriculture classes, the writer

is using two years of experience with these classes as a basis for interpreting the many contributions offered by others. Mr. Verd Peterson, a state supervisor, is now making a similar study. An effort has been made by the writer to profit by the wide experiences gained by men in the field of day-unit education.

SCOPE OF THIS STUDY

In determining the scope of this study the writer has been careful to consider as far as possible only problems that are peculiar to day-unit classes. In general, the problems considered differ greatly from those of full-day classes. This is brought out in a letter, Pollom (3/18/28): "My observations while visiting your classes have led me to believe there are great possibilities in day-unit courses. I also recognize the fact that there will be many problems and difficulties to overcome." In gathering data and information on the problems, conditions under which day-unit agriculture classes work in Kansas and the central west were given first consideration by the writer.

Due to various interpretations by the different states of the provisions of the Smith-Hughes Law for conducting day-unit classes, there has been considerable variation in the organization and conduct of these classes. Each of these several types have their peculiar problems as explained

under the minor heading of types of Day-Unit Vocational Agricultural classes. This again has made it necessary for the writer to limit this study to problems peculiar to the "satellite" type of classes or those grouped around a full time vocational agricultural school.

Most of the data collected is from southern and eastern states but a review of the contributing states shows that a broad field of study has been organized and used in this study.

OTHER SIMILAR STUDIES

Until very recent years there was very little interest in day-unit classes among the workers in vocational agriculture except in Pennsylvania and South Carolina. Hence, there has been little incentive for such studies until Georgia, Arkansas, and other states, especially in the South, organized these classes on a more effective basis. The report to Congress on these schools by the Federal Board for Vocational Education has been mere statements and short lists of data until very recent years. Short studies and recommendations have been made by the state departments of Nebraska, Pennsylvania, and South Carolina. A short preliminary study was made by J. W. Jarrott, 1927. Mr. Verd Peterson, South Carolina State Supervisor of Agri-

culture, is now making a study of day-unit work as it is being carried on in this country. No other purposeful studies of the problems involved in the day-unit classes in Vocational Agriculture have been found by the writer in this study.

BRIEF HISTORY OF DAY-UNIT CLASSES

The Smith-Hughes vocational agriculture instruction is a division of the teaching day in connection with the plan of the federal government to make the farming of country more efficient. It is interesting to know that the plan had its outgrowth from a scheme of Pennsylvania started in 1921 by which she used to teach the trades. The Vocational Board in Pennsylvania wanted to extend trade work in addition to the full day program, part-time program, and evening school so they developed this idea of day-unit instruction. After they had shown its success in trade, the agricultural people conceived the idea of using it in communities that could not afford the full time or half day agricultural teacher.

In Arkansas the work is confined to rural schools. The instructor goes from a central school to a rural school two days a week for a period of 90 minutes. The students to enroll are to be 14 years old. The student in day unit counts one half of a student toward making the central

school's quota of a minimum of 30 students. The high school must enroll 30 students in Vocational Agriculture to get state and federal aid in Arkansas. Each teacher will handle usually two or three rural schools in addition to his half day class in a high school. Some instructors do not have any central high school, but do all their teaching in rural schools. The work to be taught in a community depends upon the needs of the community. In most sections poultry and cotton projects form the basis of teaching instruction. The instructors meet day-unit classes twice a week during the entire session of the rural schools. Mr. Elliott, an agriculture instructor in Arkansas, says, "The greatest benefit to be derived from day-unit instruction in rural schools will be the selling to the communities the idea of consolidated schools, thus making possible full day vocational agriculture schools. In addition to this, the plan will sell vocational agriculture to the rural boys and they will enroll in high school for advance training. Most of the boys in rural schools being taught in day-unit are over-aged."

North Carolina looks upon the day unit plan as one where a teacher conducts a class in Vocational Agriculture in another school from one which is his central school. The instructor must teach at least one period of 90 minutes a

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week for a period of six months. The students in these day-units are usually over-aged. While boys are being taught agriculture, the girls are taught home economics. This is in advance of other states. This work is based upon the needs of community and these needs vary in that state so that no set units are taught state-wide. The need of the community is always considered to determine what enterprises are to be used in these day-unit classes. In some it is cotton and tobacco, while in others it is sweet potatoes and poultry. The people in charge of the work feel that the greatest good is to come from preparing rural boys for the agricultural courses which are offered in the state's high schools. The teacher who does this work in rural communities in North Carolina uses the equipment of the central school. He will take this equipment out as it is needed. This saves the rural community an expense in way of equipment. This same arrangement for equipment is used to a certain extent in New Mexico and Kansas.

Dr. C. V. Williams, of the Kansas State Agricultural College, helped organize the day unit scheme in New Mexico in the year of 1919. The plan here was to build a circuit of five schools where the instructor would spend one-half day in each school. This was done around Las Cruces, New

Mexico in the irrigation district. Mr. C. W. Foard was first teacher of this circuit. Colorado uses a similar plan of putting rural schools on a circuit. This plan of circuit would allow the teacher to do more work in more schools than any other scheme.

In Georgia, these schools are known as all-day short unit course schools. They have increased rapidly in number during the last few years. The classes are taught by an itinerant teacher or a centrally located half-day teacher.

In Oklahoma day-unit classes in the white schools have given way almost entirely to full day work. It is being continued in the schools for colored farm boys. Farm practice supervision and follow up work has been a serious problem in conducting these schools in Oklahoma. Mr. E. B. Helms, State Supervisor for Oklahoma, says, "Day-unit courses should be used only for schools that cannot provide for enough of the teacher's time to provide an all day course."

South Carolina under the supervision of Mr. Verd Peterson established day-unit vocational agricultural classes as early as 1918 and in the words of Chief C. H. Lane, "has been as satisfactory as any that could be cited." Verd Peterson says, "In South Carolina day-unit schools in agriculture have served their purpose. Since the larger

percent of our farm boys can now attend full-fledged high schools, unit course work in our state is on the decrease."

It is interesting to note that South Carolina and Pennsylvania began the day-unit work of the states along two distinctly different lines. Pennsylvania using the "circuit" or itinerant teacher method that has been followed by several states, while South Carolina used the central high school method that is being followed by many more of the states, especially in the South. In the Pennsylvania circuit system, the county itinerant teacher and supervisor of vocational agriculture is a member of the staff of the county superintendent of schools. In 1923 five states had started day-unit schools. Arkansas had 15, Florida 9, Maine 4, Pennsylvania 12, and South Carolina 13. In 1924 (Federal Report P. 104) there were 3063 boys enrolled in day-unit classes where there had been only 1,534 in 1923. This showed a larger enrollment than that in part time schools for 1924. In 1925 Maine decided to develop day-unit schools instead of all-day classes in high school agriculture because the former were showing a more economic return especially in the more strictly rural districts.

In 1926 the total expenditures of federal, state and local for day-unit agriculture work in the United States was \$81,622.00. This type school was being widely used to promote new all day departments. In the 1928 report (Federal

Board for Vocational Education; we read, "The same rate of increase has existed in enrollment for all-day and in day-unit agricultural schools from 1923 to 1928." Table I shows the growth in enrollment in this work by states during the last two years.

TABLE I¹

Year	State and Number of Pupils Enrolled						
	S.C.	Penn.	Maine	Ark.	Fla.	Ala.	Ga.
1927	303	687	56	474	92	536	282
1928	643	746	107	730	347	796	1405

TABLE I (Continued)

Year	State and Number of Pupils Enrolled						
	Md.	Miss.	Nebr.	N.J.	N.Mex.	N.Y.	N.C.
1927	52	38	19	369	66	48	290
1928	120	330		139	63		537

TABLE I (Concluded)

Year	State and Number of Pupils Enrolled						
	Wis.	Utah	Iowa	Va.	W. Va.	Conn.	Tex.
1927	77	43	232	626	31	29	
1928	67	13	936	762	31		280

The growth of enrollment from 1534 pupils in 1924 to 8090 in 1928 makes it all the more important that those engaged in vocational agricultural education be alert to the limiting problems of these schools discussed in this study.

¹ 1928 Annual Report to Congress by Federal Board for Vocational Education.

PURPOSE OF THIS STUDY

With the improvement of roads, the increased area of trade territories, and the increased speed of transportation in the United States, our territory and scope of agriculture teaching are changing. A review of the history of day-unit schools of agriculture in the various states firmly bring out two facts. First, day-unit classes are very effective in promoting the vocational agricultural program in a large community or trade territory and lead into the establishment of new all day departments. Second, there is much need of information and standardization of the organization and conduct of these agricultural classes. These classes give promise of being effective forerunners of half-day and full-day departments in many small rural communities, especially of the north central and western part of the United States. Before they can do this most effectively, however, the purpose of this study will have to be realized by those developing these classes. The purpose of this study is not to cite the merits of day-unit vocational agricultural classes or to compare or contrast these with other vocational classes. Neither is the purpose to attempt to solve day-unit problems for all or any communities of Kansas or the mid le west. The writer has attempted by four separate and

distinct procedures to gather, summarize, and present true and important information leading to a clearer understanding and possible solutions of the problems involved in the organization and conduct of day-unit vocational agricultural classes. It is the writer's purpose to aid and encourage others in providing effective agricultural training to the thousands of interested farm boys not now being reached by vocational education as it is now organized under the full-day or half-day programs.

THE FIELD OF DAY-UNIT CLASS PROBLEMS

In keeping with the present trend of farming, vocational agriculture in order to be economically efficient must be done on a basis of large units. Costly overhead due to excessive transportation expenses, small classes, short periods, few periods, and expensive equipment make up most of the field of day-unit problems included in this study. The different systems of organization and conduct of these classes being used can almost be numbered as equal to the number of states carrying on this work. Each system has its peculiar problems, most of which fall into the group mentioned above.

Some State Programs and Problems

In order to give a clearer foundation for the consideration and understanding of the problems of day-unit work, the writer wishes to introduce at this time some pertinent statements of the field of day-unit work and the basis of the problems involved in the study. A state program states: "Unit course schools are organized for farm boys who are enrolled in small high and rural graded schools who do not have access to the all-day classes in the regular high school. The work is carried on after the same plan as the all day classes except that fewer enterprises are taught and the supervised practice work is more limited. The majority of the unit course work is done in rural graded schools located in the area of some high school. A unit course class should not be organized unless at least five pupils can be enrolled in it. Each pupil should be given at least twenty lessons in vocational agriculture and should carry on acceptable supervised practice on the home farm, supervised by the agricultural teacher." The organization in one state where the "circuit" type of day-unit work has proven very successful is summarized in the following: "The county itinerant teacher and supervisor of vocational agriculture is a member of the staff of the county superin-

tendent of schools. Salary and travel expenses are paid by state and federal funds, while the county provides the office and necessary equipment. The teacher gives instruction in approximately six high schools of the county. All boys have projects. The instructor is on the job twelve months." One state supervisor speaks of them as all-day short unit course schools and says: "The agricultural course given in such schools should, in all probability, be confined to one enterprise each year, when the teacher meets the class only once or twice each week. Requires ninety minute periods and six months projects. These classes are as uniform in character as any class in our rural high schools. This uniformity makes this group more attractive to work with than other vocational groups.

"The ninety minute period fits into the small high school program more easily than does the vocational half day. Small faculties and requirements leave little flexibility in arranging for those not preparing for college. The last period of the day prevents lateness to other classes. To have a field study or demonstration under way that requires being cut short in order for students to change clothes and get to the next class on time makes for inefficient teaching and a loss of teaching time."

Another interesting development with different problems in another state is: "The Stat School of Agriculture, in cooperation with boards of education of selected high schools, will conduct a program of itinerant teaching of vocational agriculture. This plan is designed primarily for those high schools located in communities where, because of small number of farm boys in attendance, a four-year curriculum in agriculture may not be justified. It is also proposed to extend the plan to include certain selected high schools in which it is desired to demonstrate to the community that there are sufficient numbers of pupils interested in a vocational agricultural curriculum to warrant the employment of a teacher of agriculture on a full-time basis."

A stat supervisor said: "Our feeling is that there is a place for day-unit work in our schools that has not been very well cared for yet, that is, with the boy who either lives in a community with a small high school or does not have time in the larger high school to take the complete vocational agricultural course."

Objections. Western states say: "Day-unit work has proven rather unsatisfactory as compared to the full-time classes." "The greatest difficulties are directly involved in the question of how to best keep the students properly employed during the absence of the agricultural teacher."

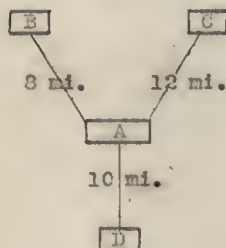
"In most cases I will say that it served as a good selling device for full-time vocational Agriculture and eventually resulted in the installation of such classes." "My observations while visiting your classes have lead me to believe there are great possibilities in day-unit courses. I also recognize the fact that there will be many problems and difficulties to overcome."

Types of Organization of Day-Unit Agriculture Classes

Figure I and Figure II show two communities where day-unit classes in neighboring high schools are being taught by a full-time instructor of the central high school. Figure III shows a circuit of five schools taught by an itinerant teacher that spends four and one-half hours at each school once each week.

DAY-UNIT CLASSES BEING TAUGHT FROM A
CENTRAL FULL-TIME DEPARTMENT
FREDERICK, MARYLAND PLAN

Figure I



By this system 79 farm boys are given a total of twelve hours agricultural instruction by one instructor each week. Five full-time classes are taught and three day-unit classes.

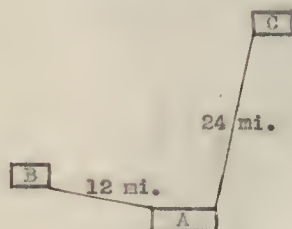
Key:

- A. Frederick Consolidated High School half-day class of vocational agriculture of 36 boys.
- B. Walknsville High School day-unit class of 13 boys.
- C. Liberty High School day-unit class of 16 boys.
- D. Adamstown High School day-unit class of 14 boys.

Instructor's Schedule:

- A. Monday - A.M. Frederick
P.M. Liberty
- B. Tuesday - A.M. Frederick
P.M. Adamstown
- C. Wednesday- A.M. Frederick
P.M. Walknsville
- D. Thursday - Frederick
- E. Friday - - Frederick

WINFIELD, KANSAS PLAN

Figure II

By this system 46 farm boys are given a total of $22\frac{1}{2}$ hours instruction each week.

Key:

- A. Winfield High School half-day class of vocational agriculture of 20 boys.
- B. Oxford High School day-unit class of 14 boys.
- C. Cambridge High School day-unit class of 12 boys.

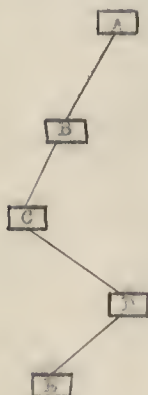
Instructors Schedule:

- | | |
|--------------|---|
| A. Monday | A.M. - Winfield
P.M. - Oxford |
| B. Tuesday | A.M. - Winfield
P.M. - Cambridge |
| C. Wednesday | A.M. - Winfield
P.M. - Oxford |
| D. Thursday | A.M. - Winfield
P.M. - Cambridge |
| E. Friday A | A.M. - Winfield
P.M. - Cambridge
or Oxford. |

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DAY-UNIT CLASSES BEING TAUGHT ON THE
CIRCUIT ORGANIZATION
LAS CRUCES, NEW MEXICO CIRCUIT

Figure III



Key:

- A. Las Cruces day-unit class
- B. Mesquite day-unit class
- C. Vado day-unit class
- D. Berino day-unit class
- E. Springer day-unit class

Instructors Schedule:

- A. Monday 9:00 to 2:30-Las Cruces
- B. Tuesday 9:00 to 2:30-Mesquite
- C. Wednesday 9:00 to 2:30-Vado
- D. Thursday 9:00 to 2:30-Berino
- E. Friday 9:00 to 2:30-Springer

Las Cruces is the headquarters of the instructor from which he takes most of his equipment for instruction in the day-unit classes. The total distances between the five schools is thirty miles. The instructor spends from 9:00 A.M. to 2:30 P.M. of each of the school days in the five day-unit classes in consecutive order each week, retracing his route the next week in the return direction.

On days the vocational agricultural instructor is absent a resident instructor gives 45 minutes of instruction

in agriculture.

Each of these two distinct types of day-unit classes have the problems of lack of continuous effort, unity of class work, lack of time for worth while accomplishment, transportation expenses, small enrollment, effective farm practice supervision, limited equipment, and other peculiar problems to solve in order to become effective and economically efficient.

Pupils and Equipment

Truly the biggest problem in day-unit work is teaching boys not agriculture. In the small high school it is often impossible to have as select and uniform group of boys to work with as in the larger all-day schools. The most desirable group is one taken entirely from one of the upper high school grades. This gives fair uniformity of age, mental ability, learning, and purposeful interest. In the day-unit class it is often necessary to include boys from two or more grades.

Enrollment Classes. Records show (see P. 89) that more of these boys will be lost from the small schools than from the larger schools before graduation. For this reason it is necessary to give the day-unit work in the first two years of the four-year high school in order to

reach the boys that need the work most. In several states the work is given in the seventh and eighth grades largely because many of these boys do not continue their education in high schools. This arrangement seems especially true of the southern states. Day-unit vocational agricultural instruction in the various states is being taught in various grades ranging from the fourth grade to the twelfth grade. This is only another example of the great lack of uniformity or standardization in the day-unit effort. It seems certain however that the nearer the vocational training is given to graduation or the time when the boy will use it in his life's work the more effective it will be and the more interest the student will show.

Equipment. In the problem of equipment we have necessarily a very variable factor. For effective day-unit work most of the shop tools and other job equipment used should be as nearly the same as the modern equipment used on the average farm of the community. In many cases the instructor hauls equipment from the central high school in order to have ample equipment to do effective teaching of the laboratory, field or shop work. Several instructors report no shop work is taught and others that only simpler shop work is taught because of a lack of shop equipment. Many use tools and equipment furnished by farmers or local people.

The equipment and tools should be as high in quality and completeness for the size of the class as that for full-time work.

Purposes as Affected by the Problems

Day-unit vocational agricultural instruction attempts to fit boys for better farm citizenship and more efficient and permanent farming by providing instruction and supervised experience in these things.

Minor Problems. Many minor problems such as composite grading necessary where the shop work is done under another instructor should not be confused with the major problems. The proper allotment of credit for the class, shop, and supervised farm practice work on a basis in keeping with other high school subjects is a problem also of purely local nature. Some give a composite grade of all phases of the work together. Others grade the project as a separate unit from the class and shop work. These and many similar problems do not necessarily affect the main purposes of day-unit work.

Major Problems. The writer is convinced that the success or failure of this work depends largely on the state's ability and the instructor's ability to solve the larger problems of organization and conduct of the classes.

The writer with the view point of the instructor of both full-time and day-unit classes on the background of boyhood experience more nearly that of the day-unit school boy is convinced that the purposes are the same for both types of schools. In order to compare favorably with full-time instruction it seems imperative that day-unit work be more carefully organized to insure faster teaching methods and a larger percent of student participation and farm practice with comparatively less personal supervision.

Each state using day-unit work is honestly attempting to solve these problems of organization and conduct in the most effective ways possible for her immediate conditions. In this study the writer expects to consider only those problems that the experiences of administrators and instructors of the various states have shown have a direct effect on attaining the main purposes for which day-unit work is being taught to farm boys.

PROCEDURE OF THIS STUDY

In planning the method of procedure for a study of day-unit class problems it was necessary to secure the opinion and experiences of as many specialists and instructors working directly with day-unit classes as possible. It must be understood that in order to interpret statements

of possible solutions and experiences from the men engaged in this work in the various states the history and organization of day-unit work in that state had to be carefully studied. A complete list of instructors of day-unit classes was secured from each state using this work.

The Questionnaire. By means of a letter and questionnaire of twenty-four pertinent problems, data and definite information on the solution of these problems were collected from thirty-five states that have used or are now using day-unit classes. Thirteen state supervisors of vocational agriculture and forty-seven instructors sent in properly answered questionnaires. Eleven other supervisors or specialists in this work contributed valuable information in letters and literature.

Writer's Experience. The writer has attempted to study and determine solutions for many of these problems under Kansas conditions by teaching day-unit classes for two years in two small high schools. It was largely from these two years of experience that the major problems used in the questionnaire were collected. During these years comparative studies were made and results recorded on thirty-nine full-time vocational agriculture pupils and forty-five day-unit vocational agriculture pupils taught by the writer over a two year period.

Literature. A thorough study has been made of state and federal publications dealing with the problems of day-unit classes. A similar study has been made of the meager offerings of independent authors and authorities on these classes. An honest effort has been made to weigh and record all information available in this field of study that has any bearing on the solution of the problems experienced in this work.

Kansas Plan. The plan is in the experimental stage in this state. It is hoped that this plan will be the means of giving the small rural high school an efficient agricultural teacher which they would not otherwise have, due to the expense in employing one and due to their small enrollment. This plan will be a saving to school boards in equipment, housing, and supervision. In half-time schools the agricultural teacher has been forced to teach half a day of academic subjects. Under the day-unit plan, he teaches agriculture all of the time in more than one school. The school board is able to hire an academic teacher for academic classes cheaper than they can employ a vocational agricultural teacher and allow him to spend one-half of his time teaching academic subjects. The day-unit is the best means of serving the small rural high school.

The experiment in Kansas is under the direction of John Lowe of Winfield who has carried on the work in Oxford and Cambridge high schools for two consecutive years. Classes in agriculture have been held at Oxford on Monday and Wednesday afternoon for 90 minute periods. The same work has been done at Cambridge during afternoons of Tuesday and Thursday. This leaves Friday free for trips so that on one Friday the class at Oxford makes a field trip or does class work under Mr. Lowe's instruction and on the next Friday the class at Cambridge. Thus, the Friday trips alternate throughout the entire year. In addition to the afternoon classes he teaches a half-day vocational agricultural class at Winfield every morning and uses Saturday for project supervision. On the days Mr. Lowe is at Cambridge the manual training teacher at Oxford teaches the day-unit class farm shop work and vice versa. The agricultural classes will go to study hall on other class days should Mr. Lowe fail to be present. The enrollment at Oxford was thirteen the first year and fifteen the second year and at Cambridge the enrollment was ten and twelve for the two successive years. The people of the community are enthusiastic over the arrangement. The success of these schools will lead to the organization of others in similar communities.

Basic Facts. Some basic facts in the organization and conduct of these classes:

1. The work is strictly vocational and not prevocational.
2. Only boys of over fourteen are admitted to class.
3. The units of instruction are organized on the job and project basis.
4. Less related science and information is taught.
5. The two periods of 90 minutes each week for nine months meet the requirements of the Kansas State Board for Vocational Education for the class room instruction.
6. The instructor teaches two or three times a week for a period of 90 minutes.
7. The day-unit provides small rural high schools with efficient agricultural teachers and supervised farm practice work.
8. School boards are able to hire academic teachers to teach all the academic subjects cheaper than to allow the vocational teacher to spend any of his time teaching academic subjects, hence affecting a saving.
9. The day-unit work tends to foster a closer relationship between communities, hence developing more friendliness within a trade territory.

10. The day-unit idea is spreading into many states.
11. Day-unit classes have been very effectively used in several states for promoting and preparing a community for half-day or all-day vocational agricultural classes.
12. The state and community get full advantage of the trained agricultural teachers.

Interpretation of Data from Questionnaire

In organizing and selecting the questions used in the questionnaire no local or personal problems were considered. No teaching method questions were used except those having a direct bearing on class organization and conduct. Methods of grading, equipment, class number, and housing were omitted as less important and of a local nature. No attempt was made to compare the day-unit classes with any other type of vocational classes in interest, work accomplished, or general effectiveness in the community except as a means of gaining information on day-unit problems. Personal opinion or observations were not asked of any inexperienced persons. Questionnaire used is as follows:

Dept. of Vocational Agriculture
WINFIELD HIGH SCHOOL
Winfield, Kansas

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Dear Fellow Workers:

I am this year, teaching the first day-unit schools of Vocational Agriculture in Kansas.

These schools seem to offer a method of providing Vocational Agriculture training to many small high schools, but to make these schools a success and adapted to all sections of Kansas, we need more definite information on organization, course content and methods that you have probably proven by experience to be adapted to day-unit work. Will you kindly fill out the following questions and return them to me as soon as convenient in order that we may study and organize this material for use next year?

Very sincerely yours,

John Lowe.

UL/CB

PROBLEMS OF DAY-UNIT VOCATIONAL AGRICULTURE SCHOOLS

1. (UNDER THIS GROUP WRITE THE ONE OR ONES YOU USE. IN CASE MORE THAN ONE IS USED BY YOU PLEASE NUMBER IN THE PARENTHESES THE ORDER OF YOUR PREFERENCE AS (1), (2), or (3).)

A. The method you use in advertising to a school or community day-unit work. How do you make them want it in a new prospective community: () Through the school board, () through the local press, () by talking with prospective students and their parents, () by demonstrating and talking at community gatherings, or () by _____.

B. The method you use in securing the type of student that will be benefitted most: () The course is selected by any boy of the proper grade that can fulfill the project and other requirements, () Free enrollment of farm boys, () The course is made a requirement, () The course is limited to a certain number of boys that are hand picked, or () By _____.

C. How do you acquaint yourself with each boy's individual farm problems: () Class room questioning, () While visiting his individual project, () By talking with his parents, () By planning with the boy for his home practice work, or () By _____.

D. For a high school day-unit class that the agriculture instructor meets twice each week, the length of period you advise is () 90 minutes, () 120 minutes, () 180 minutes, () the vocational half-day, or () _____.

E. Considering your above answers, how many of the following enterprises would you advise including in the Animal Husbandry year if taught on an enterprise basis: Dairying, Beef Production, Swine production, Horse production, Sheep production, Poultry production, Veterinary practice and Sanitation, Marketing, or others _____.

F. How do you take care of the supervision of individual projects: ☐ By visits to the boys' home on Saturdays or after school is dismissed, ☐ By class discussions of project problems, ☐ By the aid of another instructor, or ☐ By _____.

G. In general which of these do you advise and practice: ☐ Limiting the scope of study on many enterprises, or ☐ Limiting the number of enterprises.

H. Where only four afternoons each week are available for this work which of these do you advise: ☐ To use four schools and spend one period each week at each school, or ☐ Use two schools to be visited twice each week.

I. Considering your answer to (G), a fair way to divide the teaching expenses between the day-unit schools would be: ☐ To have each pay the same amount for salary and for transportation and project supervision, ☐ Each school pay the same amount for salary but pay on a mileage or pupil basis for transportation and supervision, or ☐ What method does your community use_____.

J. Only students from the ☐ 9th, ☐ 10th, ☐ 11th, ☐ 12th, grades in high school should be enrolled for the first year's work in day-unit work, or others that should be enrolled ☐ _____.

K. The best place to work the agriculture period into the high school day is: ☐ The first period or periods in the morning, ☐ The last period before noon, ☐ The first period after noon, ☐ The last period of the school day, or ☐ _____.

L. On what basis do you organize the course of day-unit work: ☐ Job basis, ☐ Project basis, ☐ Enterprise basis or ☐ _____.

M. How are the assignments for study supervised: ☐ By the agriculture instructor, ☐ By other instructors, ☐ Not supervised, or by ☐ _____.

H. Who teaches the farm shop work: () The Vocational Agriculture instructor, () A Manual Training or other instructor, () Either or both of these, or () _____.

G. Is the manual training teacher adequately trained to handle farm shop and farm mechanics organized under your direction () Yes, () No.

F. How is the class, shop or project work carried out on the days the vocational agriculture teacher is at other schools: () By a resident agriculture teacher, () By a manual training teacher, () By science or other teacher, () Does not meet as a class, or () _____

Q. Underscore the ways you believe day-unit schools should differ from regular day vocational agriculture schools:

1. Have fewer students in the class.
2. Have a more select group of students.
3. Be organized on a different basis.
4. Require less study and more practice.
5. Have more and better projects.
6. Have fewer or smaller projects.
7. Do more shop work.
8. Do less shop work.
9. Do more notebook or written work.
10. Do less notebook or written work.
11. Be given more definite assignments.
12. Be quizzed and checked up on more carefully.
13. Be given more credit for project and home practice work.

II. UNDER THIS GROUP PLEASE ANSWER BY SHORT OR FINITE STATEMENTS.

A. With an average of twelve miles between schools, how many schools should each instructor have (providing the roads are good and the classes average fifteen students each)? _____.

B. How many years of day-unit work should be offered?

C. How do you avoid having the agriculture period often spoiled by other high school activities such as general assemblies, athletic or other programs? _____.

D. Where the agriculture instructor meets the class only once or twice each week there is a loss of unity. What is your methods of assigning work or of organization that tends to unify and connect up the work of a week or an enterprise? _____.

E. Is it feasible to attempt class projects? If not why? _____.

F. How do you arrange for carrying on supervision of Home Practice work? _____.

G. Underscore the following phases of farm mechanics that you teach in day-unit work: (1) Adjustment, operation, and repair of farm machinery, (2) Farm plumbing, (3) Gas engines and tractors, (4) Power transmission. What plans do you use for adequately teaching these? _____.

H. What is the cost of your day-unit work figured on a basis of per student hour? _____ cents. As compared with the regular day vocational agriculture instruction costs for your state this is higher or lower? _____.

Respectfully submitted,

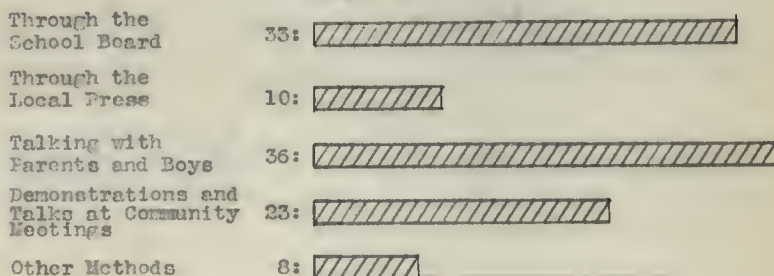
Title _____
School _____

Promotion Methods and Their Order of Preference. Question A (The method you use in advertising to a school or community day-unit work. How do you make them want it in a new prospective community: Through the school board, through the local press, talking with prospective students and their parents, by demonstrating and talking at community gatherings, or by _____.) was for the purpose of determining effectiveness of promotion methods. Table II shows a summary of opinions on four standard methods used.

TABLE II

Method Used	Order of Preference and Frequency				
	1st	2nd	3rd	4th	5th
Through the School Board A	24	9	5	1	1
Through the Local Press B	3	7	10	5	1
Talking with Parents and Boys C	20	16	6	3	
By Demonstrations and Talks at Community Meetings D	7	16	6	5	
Other Methods E	5	3	1	3	4

CHART II



This table and chart show the summarized preferences based on the effectiveness of promotion methods given in their first and second choices.

Average indication order of preference of the uses that have a majority of first or second places:

C - - - - 1.36

A - - - - 1.11

D - - - - 1.28

This shows general agreement on the effective means to use in promoting a new department, even though there must be a selection made to meet local conditions. Some other methods suggested were athletics, agricultural contests and junior work at fairs, the school principal, the superintendent of schools, talks before the entire school, call a meeting of boys interested, and store window advertising.

It must be granted that while there is wide agreement on the effectiveness of using the school board and personal talks with boys and their parents, these and the other factors will vary in relative influence and the effectiveness in the various communities.

Pupil Enrollment Methods. Question B (The method you use in securing the type of student that will be benefitted most: The course is elected by any boy of the proper grade that can fulfill the project and other requirements,

preenrollment of farm boys, the course is made a requirement, the course is limited to a certain number of boys that are hand picked, or by _____.) was for the purpose of deciding how best to secure good and sufficient enrollment. The first phase of the question is to have scope and the maximum interest and pupils as a program basis. The other phase is to bring into the course only those who will benefit more from it than other courses offered. Table III summarizes methods used in securing pupils.

TABLE III

Method Used	Order of Preference & Frequency			
	1st	2nd	3rd	4th
The course is elected by any boy of the proper grade that can fulfill the project and other requirements A	43	3	1	1
Preenrollment of Farm Boys B	9	10	1	
Course made a requirement C	6	5		
Course limited to a certain number of boys that are hand picked D	3	3	2	
Other methods E	6	1	1	

CHART III






Course Elected by Eligibles	46:	
Preenrollment	19:	
Requirement	11:	
No. Limited and Hand Picked	6:	
Other Methods	1:	

Table III and Chart III show the order of rank of practices used in securing enrollment for day-unit classes as given in their first and second choices.

The average indicated order of preference of the practices that have a majority of first and second places:

A - - - - - .93

B - - - - - .52

C - - - - - .26

D - - - - - .25

This shows uniformity as to the practices in securing enrollment. This appears to be a divergence from practices used in the full-time schools. Hand picking and preenrollment seem to be desired but impossible in most cases. The course is a requirement mainly in the seventh and eighth grades and in very small high schools. The classes seem to be able to take care of all that are eligible and to date have sought numbers instead of making the group a select one. Suggestions given on this question: "Enroll

only ones interested, hand pick only if class is too large, hand picking and requirement are rigorous, enroll on opinion of the father, and stick to ninth and tenth grades.

How Instructors Become Acquainted with Pupils' Farm Problems. The direct purpose of question C (How do you acquaint yourself with each boy's individual farm problems: Class room questioning, while visiting his individual project, by talking with his parents, by planning with the boy for his home practice work, or by _____.) was efficiency in supervision of farm practice where the instructor is not a resident in the immediate community. It is conceded that a thorough understanding of the boy's farm problems as well as those of his parents will do much to make for efficiency in supervision. Table IV summarizes the practices now used by instructors in acquainting themselves with their pupils' farm problems.

TABLE IV

	Order of Preference & Frequency				
	1st	2nd	3rd	4th	
Class Room Questioning	5	9	9	10	
While Visiting Own Project	29	15	5		
By Talking to Boys Parents	8	13	19	3	
By Planning with Boy for his Home Practice Work	12	16	11	4	
Other Practices	3	1	1	1	

CHART IV



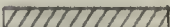


While visiting boys project	44:	
By planning with boy for his home practice work	28:	
By talking with boys parents	21:	
Class room questioning	14:	
Other practices	4:	

Table IV and Chart IV show the order of use of these practices by the instructor in getting acquainted with the boy's farm problems as given in their first and second choices.

The average indicated order of practices having a majority of first and second places:

B - - - - - 1.23

D - - - - - 1.55

E - - - - - .22

In these practices there is a tendency to use indirect methods or by depending on the boys' judgment. The two methods depended on mainly for this valuable information were both incidental to other jobs the instructors were doing at that time. Most of those questioned secure this information while visiting the boys' projects. Many more do it while planning with the boy for his home practice program. The decisions and plans of the boys seem to be

wanted in preference to those of the parents on the boy's farm problems. Suggestions given on this question were: "Use of complete farm surveys", "By family visits and community services," "Conference with father and son at home in every case", "Class room questionnaire".


Length of Class Period Advised for Day-Unit Work.


Recommendations on question "D" (For a high school day-unit class that the agriculture instructor meets twice each week, the length of period you advise is 90 minutes, 120 minutes, 180 minutes, the vocational half-day, or _____.) were limited to the high school classes and to two class periods under the agricultural instructor each week. This took the question out of the personal experience of some instructors that have worked only with seventh and eighth grades. The direct purpose of the question was to attempt to determine the most effective and popular length of day-unit period. This has been a much discussed point in all vocational agricultural classes in which there has been a general tendency toward longer periods. This question was of special importance due to the tendency to hold shorter periods for all classes in the small high schools. Table V summarizes the recommendations as to the length of the day-unit class period.

TABLE V

Length of class period of H.S. day-unit classes that meet agricultural instructor twice each week.	Frequency of Preference			
	90 min.	120 min.	180 min.	Half-Day
	50	6	0	4

CHART V

Those using 90' period 50: 

Those using 120' period 6: 


Those using half-day period 4: 

Table V and Chart V show the order of use of the various length periods by the sixty answering this question. In length of time preferred for class period there is unusual uniformity. This is due no doubt to two reasons. First, most of the states require a minimum of ninety minutes for the class work. Second, most of the small high schools use the forty-five minute period, which gives the day-unit class double or ninety minute period.

In the answers was expressed a strong tendency toward favoring a longer period if such were possible. Seventeen favored longer than a ninety minute period if such could be arranged in the high school schedule of classes. Suggestions included were: "Use the last part of school day as it is best for field trips," "Use as long a period as

will fit into school schedule", "I am now teaching three, forty-five minute periods in a nearby rural school". A state supervisor said: "The major problem is that the instruction may be so limited that it is not worth the effort put upon it. Itinerant teachers give instruction for two 90 minute periods each week to vocational pupils regularly enrolled in the high school. In addition, a long term plan of supervised practice is conducted by each pupil. The plan so far seems to be unusually satisfactory."

Number of Enterprises Being Taught. In order to determine the present practices in regard to the thoroughness of the teaching within an enterprise and the scope as to the number of enterprises included in one year of day-unit teaching, question B (Considering your above answers, how many of the following enterprises would you advise including in the Animal Husbandry year if taught on an enterprise basis: Dairying, beef production, swine production, horse production, sheep production, poultry production, veterinary practice and sanitation, marketing, or others.) was asked. This question was also based on high school classes that meet twice each week. There is reason for choice among the various enterprises according to the ones common in a community. There should be agreement however on thoroughness within the enterprise, which should tend to standardize the

number taught within one year. Table VI summarizes the recommendations as to number of enterprises to be included in one year's teaching of animal husbandry.

TABLE VI

Frequency Used	Number of Enterprises to be Taught in Animal Husbandry in one Year					
	1	2	3	4	5	6 to 8
	6	16	11	6	7	6

CHART VI

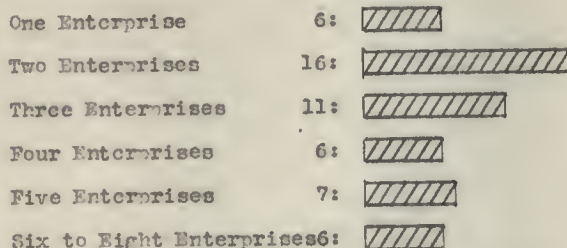


Table VI and Chart VI show the frequency of scope in enterprises being taught during one year of animal husbandry instruction.

The use of but two or three enterprises in teaching animal husbandry by twenty-seven of the fifty-two answering this question correctly will certainly be an interesting check up for those that are teaching over the whole field of six or more enterprises in one year. This shows a definite tendency to teach thoroughly the enterprises in which the community is specializing. The horse enterprise and others not of special community interest were generally

recommended to be treated as related or minor enterprises. Some pertinent suggestions were: "The general feeding problems should be included regardless of enterprises", "Care must be taken not to skim the entire field the first year thus spoiling the following year", "Never teach veterinary jobs or marketing as separate enterprises", "Amount of time given and number of enterprises taught must depend on the specialization of the community".

Methods of Individual Project Supervision. Perhaps the general criticism of day-unit projects is due to improper methods or lack of personal supervision. Those questioned were asked in question F (How do you take care of the supervision of individual projects: By visits to the boys' homes on Saturdays or after school is dismissed, by class discussion of project problems, by the aid of another instructor, or by ____.) to denote from among three or more standard methods of project supervision the ones they personally used. Owing to the limited amount of field and demonstration work possible in the short class periods proper home practice supervision seems even more important in day-unit work than in full-time work. Table VII summarizes the practices and recommendations of the group of day-unit classes studied.

TABLE VII

Methods of Supervising Individual Instruction	Frequency of Use
By visits to project after school or on Saturday	58
Class discussion of project problems	45
By summer supervision	5
By aid of another instructor	4
Individual conferences at school	1
By a student organization	1
By students' project plans	1

CHART VII

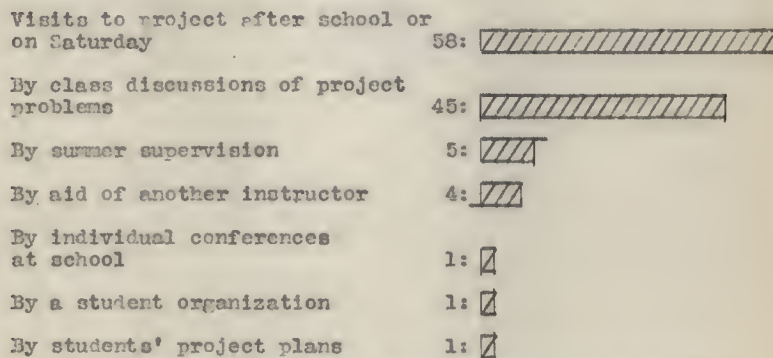


Table VII and Chart VII show the frequency of the methods used in the supervision of day-unit projects. These practices show uniformity of practice in the supervision of farm projects and a strong tendency to favor personal visits with the boy at his project. Pennsylvania depends more on


summer supervision than any other state.

The Correlation Between Number of Classes and Number of Weekly Visits. One of the most vital problems in organizing day-unit classes is whether to have the centrally located instructor teach a few class periods in several schools or more periods in fewer schools. This may be influenced by the number of schools available as is the case in most of the Great Plains Region. A limited program can be established over a larger territory, thus giving larger numbers and promotion work to a larger territory or a much more thorough job can be done in fewer and more accessible schools. Question H (Where only four afternoons each week are available for this work which of these do you advise. To use four schools and spend one period each week at each school, or to use two schools to be visited twice each week.) was used to gain opinion on this problem. Table VIII summarizes the preferences between scope and thoroughness in regard to numbers of classes and class periods to use for best results.

TABLE VIII

Number of Classes and Periods	Frequency of Preference
Use four classes with one period each week	19
Use two classes with two periods each week	44

CHART VIII

Use four classes with one period each week 19: 

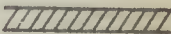
Use two classes with two periods each week 44: 

Table VIII and Chart VIII show frequency of preference as to the proper number of classes for each instructor and the number of class periods each week. These preferences again show a strong tendency in day-unit teaching toward more intensive work with fewer classes. True to expectations, the states organized on the "Circuit" or county supervisor basis are in favor of four or more classes for each instructor. In the "Circuit" organization the instructor does not have a full time class at a central high school as this question designated. An important suggestion from one answer: "One period per week does not hold continuous interest." A state supervisor said: "We think very well of this type of instruction provided it is given as often as three times per week."


Financing Day-Unit Classes. Organization of the school districts into a cooperative and fair method of financing the teaching and transportation of day-unit classes offers a variety of problems. This is especially true where the work is not financed under county unit systems or by the state. The purpose of question I (Considering your answer to (C) a fair way to divide the teaching expenses between

the day-unit schools would be: To have each pay the same amount for salary and for transportation and project supervision, each school pay the same amount for salary but pay on a mileage or pupil basis for transportation and supervision, or the method does your community use.) was to secure definite data on financing of this work. Table IX summarizes the approved methods being used to divide the necessary expenses among the participating schools.

TABLE IX

Basis for Financing	Frequency of Preference
Each school pay an equal part	14
Pay same salary but transportation according to number of pupils and mileage	33

CHART IX

Each school pay an equal part 14: 


Each school pay according to number of pupils and mileage 33: 

Table IX and Chart IX show a summary of methods used in financing day-unit classes. This shows a substantial preference in favor of distributing the expenses of the schools on a service participation basis. There is much variation, however, in the various states due to the differences in their general school systems. In Arkansas, Connecticut, Maryland, Minnesota, Pennsylvania, and Virginia, all of the salary and transportation is paid by

state, federal and county funds. This is a very desirable arrangement in that it makes the work available to many small or isolated communities that otherwise could not finance the work. In Georgia and Texas the day-unit classes are taught merely as a part of the community program of the full time school instructor. In some instances the central Chamber of Commerce or the instructor pays the transportation expenses.

School Grade Preferences for Enrolling Day-Unit Pupils.

There is much lack of agreement of authorities as to the best age or stage of the educational process to start the true vocational training of the student for his life's work. Question J (Only students from the 9th, 10th, 11th, 12th, grades in high school should be enrolled for the first year's work in day-unit work, or others that should be enrolled ____.) was asked to gain preferences on this problem. There are two phases on which authorities tend to agree. First, the most effective time to give true vocational training is at the time that training is being used. Second, prevocational training should begin at an earlier date. There is also agreement that vocational agriculture should be vocational and not prevocational. Table X summarizes the findings as to the best school grade to start the boy's vocational agricultural training in day-unit classes.

TABLE X

	Grade Preferred and Frequency						
	7th	8th	9th	10th	11th	12th	Over 14 years
Grade to enroll in first year day-unit class.	2	15	37	32	15	10	5

CHART X

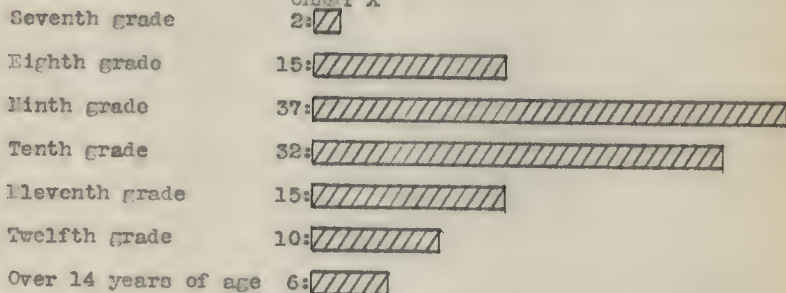


Table X and Chart X shows a summary of the grades preferred and order of frequency chosen. This summary adds to the data tending to show that much of the day-unit work being taught is either of a prevocational nature or is being offered too soon in the boys' education to be most effective.

The ninth and tenth grades of the senior high school are the grades most desired by those questioned, for starting the boys' vocational training. In general, there was a strong tendency expressed to disregard the school grade but to have the work come as near the end of his school training as possible. Some practices are: "We use from fourth to eighth grades.", "Draw no line on grade but have class of

similar mental development", "Never omit a boy because of school grade", "Disregard previous schooling", "Any interested boy that can qualify", "Make work elective for as mature boys as possible".

Data on Time of Class Period. Due to the longer periods required for doing effective vocational agricultural teaching, especially field and laboratory work, than for other high school subjects it is important to have the class meet at a desirable time. To determine preferences on this problem question K (The best place to work the agriculture period into the high school day is: The first period or periods in the morning, the last period before noon, the first period after noon, the last period of the school day, or ____.) was asked. Where the half-day period is used this problem is largely avoided. The general used ninety-minute period makes it necessary to hold other classes immediately before or after the day-unit class period. Table XI is a summary of the findings as to the best place to work the agricultural period into the high school day.

TABLE XI

Period Used	Order of reference and frequency			
	1st	2nd	3rd	4th
First period of day	A 20	2	2	1
Last period before noon	B 6	10	2	1
First period after noon	C 8	8	3	0
Last period of day	D 21	6	2	2

CHART XI

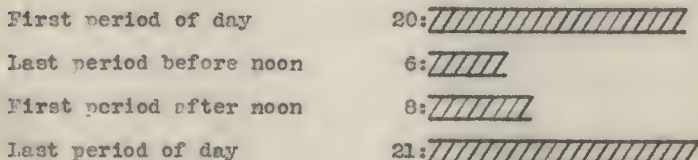


Table XI and Chart XI show the summarized preference based on period given in first choices.

Average indication order of preference of the period that has a majority of first place:

D-----,78

A-----,56

This division of the study shows two desired periods of the school day because of two definite problems encountered. First, in many of the schools it is necessary to hold class or laboratory work in a room where other classes are held the preceding or following periods. By using the first period in the morning the agricultural instructor is enabled to assemble and set up laboratory or demonstration equipment for class use or by previous arrangement to meet

the class earlier than class time for extended field work. The pupils are fresher and better fitted for the 90 minute period of work. Second, by selecting the last period of the day field, shop, or laboratory work can be finished without abruptly stopping to allow pupils to prepare for a following class. Regret was expressed by several that they are required to use other periods because of adverse schedules.

Basis on which Course Content is Organized and Taught.

The writer feels that day-unit classes should be organized to insure as effective teaching and as rapid learning as possible, therefore, the basis for organizing and teaching is an important problem. In order to study the methods being used question L (On what basis do you organize the course of day-unit work: Job basis, project basis, enterprise basis or _____.) was asked. Table XII is a summary of the practices being used for organizing course content and teaching day-unit classes.

TABLE XII

Basis for Organizing Course	Frequency of Use
Job Basis	15
Project Basis	12
Enterprise Basis	32

CHART XII

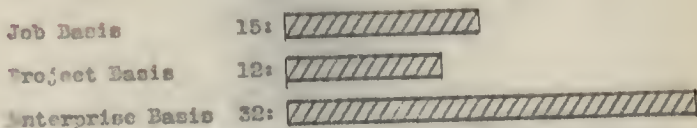


Table XII and Chart XII show a summary of bases used for organizing and teaching the course content of day-unit classes.

These uses show that a majority of day-unit teaching is done largely on an enterprise basis. Several report a combination of two or all three methods while others express a preference for the job or project methods but use the enterprise method because more close study supervision and farm practice supervision are necessary to make the job or project methods succeed. Time and distances of travel do not permit this necessary supervision in day-unit work.

This again tends to favor more thorough methods through closer supervision of work on a less extensive scale. State supervisors say: "The instruction in this work is based largely on supervised farm practice. This work has been very successful compared with full time classes." "Base all of the instruction on the problems that are involved in the supervised farm practice." "The class instruction is so closely related to the problems that are being carried on the farm that the farm problems keep up the interest."

"Personally, I believe that the major problems for classes of this kind, so as to be effective and practical, should be based entirely on supervised farm practice or project work. It is only by this means that we can hope to get the instruction on a 100% functioning basis."

Methods of Supervising Study. Question M (How are the assignments for study supervised: By the agriculture instructor, by other instructors, not supervised, or by ____) was asked to determine present practices for supervised study. In order to make for efficiency of instruction and farm practice the way in which the study periods for agriculture are supervised is important. However, the short periods of resident instruction of the agricultural instructor makes this a difficult problem. Table XIII summarizes the methods in use for supervising the study period.

TABLE XIII

Methods of Supervising Study	Frequency of Use
By agricultural instructor	45
By other instructors	9
Not supervised	9

CHART XIII

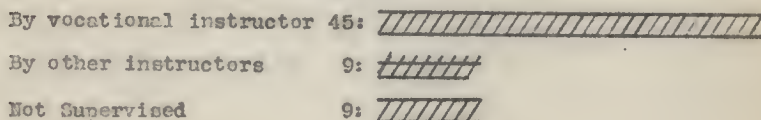


Table XIII and Chart XIII show a summary of practices for supervising study of day-unit assignments.

These practices show that most of the study is supervised by the agricultural instructor who is conceded to be in the most effective position to do this work when this arrangement is possible. For him to do this supervising, however, usually takes away part of his already short period for class work. In the cases cited where the agriculture instructor did not do this supervising it was either done by other teachers in a study hall or the study was done at home or without any supervision. These practices show need for definite arrangements whereby the agriculture instructor will supervise the study on agriculture work.

Methods Used to Teach Shop Work. The teaching of practical farm mechanics and shop work has been an authorized part of the federal and states' plans for the teaching of vocational agricultural classes. An organization of the day-unit work whereby this shop work can be effectively taught has been a problem in day-unit work. Question N ("Who teaches the farm shop work: The Vocational Agriculture instructor, a Manual Training or other instructor, either or both of these, or _____.") was used to determine present practices. This has been the most difficult problem to solve in the two years of the writer's experience teaching

day-unit classes. Table XIV is a summary of the practices used for teaching shop work in the day-unit classes studied.

TABLE XIV

Methods of Teaching Shop Work	Frequency of Use
Taught by vocational instructor	49
Taught by manual training instr.	3
No shop taught	9

CHART XIV

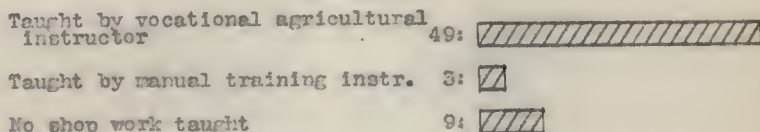


Table XIV and Chart XIV show a summary of methods used to teach farm shop in day-unit classes.

These returns show that even though the teaching of farm shop requires much valuable time, most of it is being done by the vocational agricultural instructor. In two or more states no shop work is being taught in day-unit classes. In some districts the shop work is laid out by the instructor and done at home under the supervision of the boy's father.

With so much of the shop work being taught by the agricultural instructors during their short period, there is reason to see why one state supervisor said: "With such variety of effort, the instruction may be so limited that it is not worth the expense and effort put into it."


Qualifications of Manual Training Instructors for Teaching Farm Shop. Question O (Is the manual training teacher adequately trained to handle farm shop and farm mechanics organized under your direction?) was asked to determine the qualification of manual training instructors for teaching the farm shop work of the day-unit class on days the agricultural instructor was teaching other day-unit classes. This arrangement if effective would give more time for both the teaching of agricultural work and the shop work. Table XV and Chart XV is a summary of opinions as to the qualifications of resident manual training instructors for teaching the shop work of the day-unit class.

TABLE XV


	Yes	No
Is the manual training instructor qualified to teach farm shop planned by agricultural instructor.	7	18

CHART XV

Manual training instructors are qualified to teach farm shop

7: 

Manual training instructors are not qualified to teach farm shop.

18: 

Much of the manual training work in small and rural high schools is slowly being replaced by farm mechanics and repair work. The writer has attempted to have manual training instructors teach the farm shop work in four classes of

of day-unit work. The results were not satisfactory. This arrangement would give the agricultural instructor time to do a more thorough job of his class room and farm practice teaching. Many reported no resident manual training instructor while others reported their manual training instructor well qualified to teach the skills but lacked the farm boys' view-point.

Caring for Day-Unit Classes in the Absence of Agricultural Instructor. With the belief that it is hard to keep interest and there is considerable loss of time by any high school class that does not meet as a class each school day, question P (How is the class, shop or project work carried out on the days the vocational agriculture teacher is at other schools: By a resident agriculture teacher, by a manual training teacher, by science or other teacher, does not meet as a class, or ____) was asked. Many day-unit agricultural instructors are with the class only once or twice each week therefore the organization for caring for the instruction of the class on the other days is of importance. Table XVI summarizes the practices used to provide work for the day-unit class when the agricultural instructor is absent.

TABLE XVI

How Class is Cared for in Absence of Agricultural Instructor	Frequency of Use
By resident agricultural instructor	3
By manual training instructor	3
By science or other teachers	1
Class does not meet	38
Other practices	6

CHART XVI

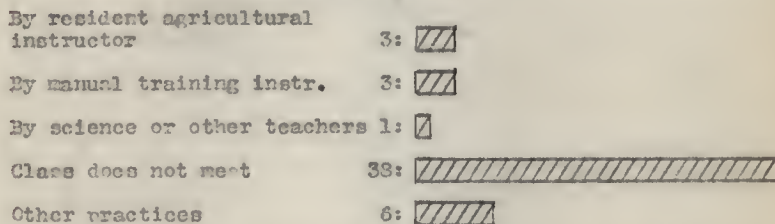


Table XVI and Chart XVI show a summary of the practices used for caring for the day-unit classes in the absence of the agricultural instructor.

This summary shows up as a problem of importance and one that is being inefficiently provided for in most schools. There are comparatively few classes that meet at all. This means a ninety-minute study period for the class in most cases for from three to four days each week without any direct supervision by anyone familiar with vocational agricultural methods of study. It is evident that some effective means of filling this gap must be provided before day-unit work can be made as efficient as full-time work.

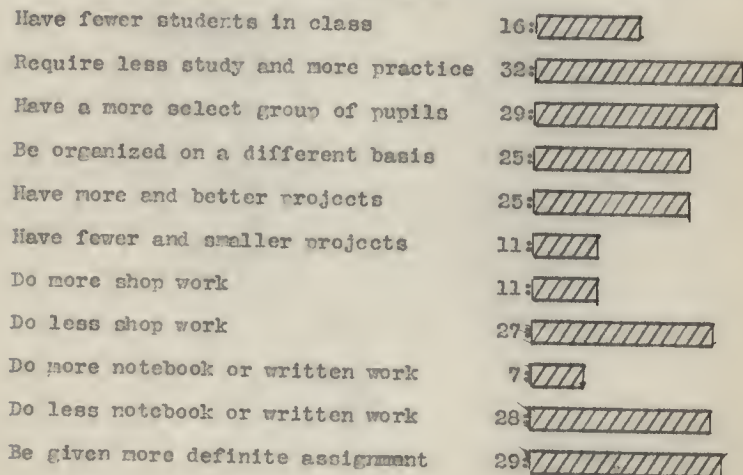
Common answers were: "Boys are sent to study hall", "They work by themselves on previously planned work", "Work under general agricultural teachers unsuccessful because they do not understand vocational methods".


Ways Day-Unit Work Should Differ from Full-Time Vocational Agricultural Work. A day-unit instructor with shorter and fewer class periods cannot expect to accomplish as much or make the work as effective as the full-time work. However, it may be possible to make it as truly vocational within a limited scope. In order to determine the necessary differences in these two types of classes, question Q (Underscore the ways you believe day-unit schools should differ from regular day vocational agriculture schools: 1. Have fewer students in the class. 2. Have a more select group of students. 3. Be organized on a different basis. 4. Require less study and more practice. 5. Have more and better projects. 6. Have fewer or smaller projects. 7. Do more shop work. 8. Do less shop work. 9. Do more notebook or written work. 10. Do less notebook or written work. 11. Be given more definite assignments. 12. Be quizzed and checked up on more carefully. 13. Be given more credit for project and home practice work.) was asked. Table XVII is a summary of the recommended ways that day-unit work should differ from full-time work.


TABLE XVII

Ways Day-Unit Should Differ from Full-Time Vocational Agricultural Work	Frequency of Choice
Have fewer students in the class	16
Have a more select group of students	29
Be organized on a different basis	25
Require less study and more practice	32
Have more and better projects	25
Have fewer or smaller projects	11
Do more shop work	11
Do less shop work	27
Do more notebook or written work	7
Be given more definite assignments	29
Do less notebook or written work	28
Be quizzed and checked up on more carefully	12
Give more credit for project and home practice	28

CHART XVII



Be quizzed and checked more carefully 12: 

Be given more credit for farm practice work 28: 

This summary seems to recognize that day-unit instruction is a less united, more loosely organized type of work than the full-time vocational agricultural work. The answers, therefore, favor more definite lines of operation. Things that are operative and easily measured are stressed. Recommendations are for use of more select pupils, less study and more practice, more stress on farm shop work in proportion to that included in the full-time work. Some suggest: "Give one-half unit on supervised farm practice alone if it is standard," "I organize 200 junior projects in this work each year."

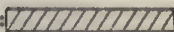


Number of Day-Unit Classes a Central Instructor Should Teach and Number of Years of this Work to Offer. An attempt was made to determine approved practice in regard to the number of day-unit classes each centrally located instructor should teach when he is ~~teaching~~ a full-time vocational agricultural class one-half of each school day in the centrally located school. To get this information question A under Division II (With an average of twelve miles between schools, how many schools should each instructor have, providing the roads are good and the classes average fifteen students each?) was asked. To determine the number

of years work being offered Question B (How many years of day-unit work should be offered?) was asked. Table XVIII summarizes the approvals of those questioned in regard to the number of classes an instructor so situated should teach and the number years of work to offer.

TABLE XVIII

	Section A					Section B			
	No. Day-Unit Classes for Each Instructor					No. Years of Work to Offer			
	1	2	3	4	5	1	2	3	More than 3
Frequency of Preference	2	26	14	9	3	4	30	2	11

CHART XVIII
Section A

One day-unit class per instructor	2:	<input checked="" type="checkbox"/>
Two day-unit class per instructor	26:	
Three day-unit class per instructor	14:	
Four day-unit class per instructor	9:	
Five day-unit class per instructor	3:	<input checked="" type="checkbox"/>

Section B



To offer one year of work	4:	<input checked="" type="checkbox"/>
To offer two years of work	30:	
To offer three years of work	2:	<input checked="" type="checkbox"/>
To offer more than three years of work	11:	

Table XVIII and Chart XVIII show that if an instructor has a full time class one half of each school day in a

centrally located high school the number of day-unit classes he should teach in addition has been rather definitely agreed upon. Two or three day-unit classes each week is preferred. The number of years of this work to be offered has been even more uniformly agreed upon as two. The variations from the general agreement on two classes visited twice each week in these summaries is due to the practices of teaching only one period a week in each of several schools or of making the instruction largely of a class room nature with little time given to community programs or supervised farm practice. The variations from offering two years of the work seem to be due to the practice of using only one class period for each day-unit class each week, thus making it necessary to spread the work over three or more years to cover the enterprises of interest to the community. Distances from the central school to the day-unit classes were reported from six miles up to twenty-five.

Disturbed Periods. In an attempt to solve the problem of having the regular agriculture class period shortened or in other ways disrupted by extra curricular activities, Question C (How do you avoid having the agriculture period often spoiled by other high school activities such as general assemblies, athletic or other programs?) on this

problem was asked. The replies were: "Avoid class on Friday P. M.", "Meet class on Tuesday and Thursday", "Avoid assembly day", "Can't be avoided", "Use morning periods", "Use last period of day", "Compromise", "Have boys add to these programs", "By consent of executive to excuse agriculture boys from such meetings", "Change program to fit", "Arrange to use another period on such occasions". Many other similar solutions were offered but in most cases the solution depended on previous arrangements with the principal to protect the vocational agricultural period by keeping it intact.

Maintaining Unity in the Work. Where the agriculture instructor meets the class only once or twice each week there is a loss of unity. Question D (Where the agriculture instructor meets the class only once or twice each week there is a loss of unity. What is your methods of assigning work or of organization that tends to unify and connect up the work of a week or an enterprise?) was asked to determine practices on this problem. Representative answers as to methods of organization or of assigning work in order to avoid this loss were: "Teach a complete job each day", "By connecting up the jobs," "Have boys give a summary of previous lesson orally," "By assigned readings", "By connect-

ing up jobs in seasonal sequence", "Not a problem if class meets twice each week", "Assign job analysis to be worked out", "Require plenty of home practice for class credit", "By continuous projects", "By reports and reviews on project problems", "Make the work interesting", "By job basis and supervised study". A summary of these would be better teaching methods and more thoroughness. They favor definite assigned problems and farm practice of material taught. The unity and carry over must be effected by keeping interest and actual practice on the part of the boy.

Class projects. The writer believes class projects are very valuable in any program of vocational agricultural instruction and in an attempt to determine their adaptability to day-unit teaching, asks Question B (Is it feasible to attempt class projects? If not, why?) Thirty-seven of those answering said "no" while nine said "yes". Some of the reasons given why the class project is not feasible in day-unit work were: "Cannot be properly supervised", "Not dependable to borrow or rent tools and horses", "Lack of responsibility", "Not together enough or sufficiently organized", "Scattered effort, hard to put over", "Absence of leadership", "Interferes too much with project and home work", "Too many factors preventing cooperation", "Not

enough class contact", "Hard to get fair distribution of work and credit", "Demands daily supervision", "Not productive projects", "Too speculative", "Lack of equipment", "Not in a diversified community". Without continuous supervision of a resident instructor the class project seems not to be desirable. Close supervision and check up on the responsibility of those doing the work of the project seem absolutely essential. There also seems to be a strong sentiment in favor of directing all effort toward individual responsibility by use of individual projects. It seems very doubtful if class projects will become an important factor in day-unit teaching.

Supervising Home Practice Work. (Owing to the fact that the individual home projects are scattered over such a wide territory in many instances in day-unit work, the proper supervision of these projects becomes a problem. To determine the practices being used in this phase of the work Question F (How do you arrange for carrying on supervision of home practice work?) was asked. A summary of the answers were "By personal visits", "Project score cards", "Aid of local teachers", "Report sheet from parents", "Conferences in winter, visits in summer", "Project planning", "Parent supervision", "While out with class or while on community work", "Case studies", "Visits supplemented by letters",

"By appointment afternoons, Saturdays and summer", "On Saturday, Sunday, and vacations", "Mainly in summer", "Average one visit every two weeks", "I visit 300 projects several times each year", "By printed directions and visits", "by visits and keeping record books at school", "Boys' oral reports", "Three visits a year", "Not much supervision during school year", "Same as for full-time class". A summary of these practices shows a strong preference for personal visits previously arranged. It also shows that many livestock projects, especially in winter are insufficiently supervised. Very few projects are supervised by anyone other than the agricultural instructor. There also seems to be very little confidence placed in attempting to supervise by printed forms or checking up on project records. Many require the signature of the parent on written records of home practice before credit is given.

Phases of Farm Mechanics Taught. The writer had been led to believe that much of the farm mechanics taught was of an elementary nature. In order to determine the nature of shop work taught those questioned were asked in Question 6 to indicate if (1) adjustment, operation, and repair of farm machinery (2) farm plumbing (3) gas engines and tractors (4) power transmission were taught.

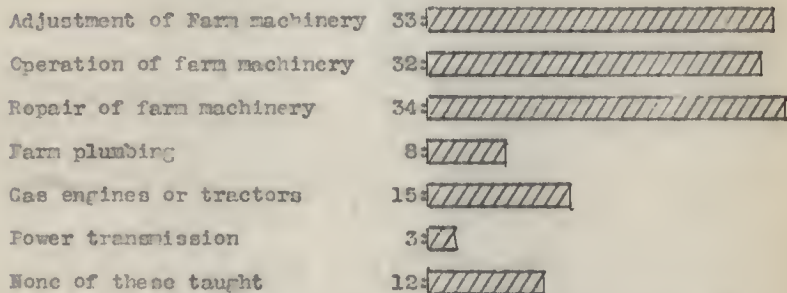
Table XIX shows a summary of practices in

teaching these shop jobs.

TABL XIX

Advanced Jobs Taught in Farm Mechanics	Frequency Taught
Adjustment of farm machinery	33
Operation of farm machinery	32
Repair of farm machinery	34
Farm plumbing	8
Gas Engines or tractors	15
Power transmission	3
None of these taught	12

CHART XIX



These summaries show that of the forty-six answering this question correctly thirty-four teach farm machinery repair and nearly as many teach adjustment and operation of machinery. Fifteen of this number teach gas engines or tractors, depending to some extent on the type of farming in the community. Very few teach power transmission or farm plumbing. This seems to be a worthy showing for day-unit classes due to the general lack of equipment and tools in

small high schools for teaching these jobs.

The methods used and the scope and quality of this shop teaching are suggested in the following accompanying quotations: "No shop or equipment for teaching these jobs", "Carry my tools to day-unit classes and do mainly farm construction jobs", "We visit farms and implement dealers", "We collect machines at a farm and work for a half day", "By job analysis", "Assisted by farmer or mechanic", "Taught in boys projects", "By job sheets and actual machines", "Taught with cross work", "Repair tools and machines both brought to our shop by the boys", "In my tractor school for adults and the boys", "Aid of salesmen and charts on real jobs", "These are taught as a separate enterprise".

Cost of Instruction. The progress and spread of day-unit vocational agricultural instruction in the future may depend in the future to considerable extent on the cost of instruction per pupil hour. This is difficult of figure accurately in any school because of the varied nature of the instruction and the many phases of community work that must be considered as hours of instruction.

In order to determine the range of cost of this instruction per student hour and to get a comparison of this cost with that of full time vocational agriculture question it was asked: (What is the cost of your day-unit work



figured on a basis of per student hour? Is this higher or lower than the cost of full-time vocational agricultural work? Table XX and Chart C are a summary of the costs of day-unit instruction per student hour and a comparison with full-time work as the cost.

TABLE XX








Cost of Instructor per Student Hour.	Cost Compared with Full-Time		
	Higher	Lower	Same
	10	12	1

Frequency of Occurrence							
Under 30¢	Cents 31-40	Cents 41-50	Cents 51-60	Cents 61-70	Cents 71-80	Cents 81-90	Cents 91-100
6	1	1	2	0	1	2	2

CHART XX
Section A

Day-unit costs higher than full-time 10: 
 Day-unit costs lower than full-time 12: 

Section B

Classes costing under 30 cents per student hour 6: 
 Classes costing 31-40 cents per student hour 1: 
 Classes costing 41-50 cents per student hour 1: 
 Classes costing 51-60 cents per student hour 2: 
 Classes costing 61-70 cents per student hour 0:
 Classes costing 71-80 cents per student hour 1: 
 Classes costing 81-90 cents per student hour 2: 
 Classes costing 91-100 cents per student hour 2: 

This summary of costs per student hour instruction proved difficult to determine correctly due to the division of expenses. In general the costs per student hour of instruction are higher than full-time work in the sparsely settled regions but lower in the thickly settled regions.

Large classes organized on a circuit basis are cheaper than classes organized on any other basis. The great variation in cost of instruction is not due to differences of salaries paid.

In most reports where the instruction cost over sixty cents per student hour this instruction had been unfairly charged with expenses of community and short course or evening school work. In one system in which the instructor taught a full-time class in the central high school and two day-unit classes twice each week in neighboring high schools, the cost if charged entirely to the number of pupils were \$74.73 per pupil in the full-time class \$41.62 for one day-unit class and \$46.03 per pupil for the other day-unit class.

Writer's Experiences with Day-Unit Classes

The writer has taught day-unit classes in the high school of Cambridge, Kansas and Oxford, Kansas for the last two years (1927-28 and 1928-29). An attempt will be made

to give the methods followed in the organization and conduct of these classes with special emphasis on the writer's reactions on the problems covered by the questionnaire used in gathering data and materials embodied in this study.

Organization and Conduct Methods. Each of the two day-unit classes were organized of tenth grade students. The course was made elective. One unit of high school credit was given for satisfactory completion of one year of the work including a home project. Definite cooperative arrangements were agreed to by the participating schools as shown by the agreement shown in Figure IV.

FIGURE IV A G R E E M E N T

It is hereby agreed by and between the Kansas State Board for Vocational Education, the Winfield, Kansas, Board of Education and the boards of education in the two day-unit agricultural schools adjacent to Winfield as follows:

That the Winfield Board of Education shall pay $\frac{5}{9}$ of the salary of Mr. John Lowe, for teaching vocational agriculture for the year beginning August 1, 1929 and ending August 1, 1930.

That each of two schools participating in day-unit courses in vocational agriculture taught by Mr. Lowe shall pay in equal monthly installments, $\frac{1}{12}$ each month, $\frac{2}{9}$ of said salary for that period.

That the Winfield Board of Education and the boards of education in the two other school participating in Mr. Lowe's services shall pay \$300 on monthly installments

for doing sufficient project and other supervised practice work to insure effective instruction. This amount to be distributed among the three schools on the same basis as the salary.

That Mr. Lowe shall conduct a class in vocational agriculture in the Winfield High School between the hours of 8:00 A. M. and 11:00 A. M. on each of the regular school days.

That from 1:00 P. M. to 4:00 P. M. on four school days per week Mr. Lowe shall meet day-unit agriculture classes in vocational agriculture in two participating day-unit schools.

That each of the participating day-unit schools shall so organize its program of work that not less than ten boys shall be available to receive instruction in vocational agriculture for ninety consecutive minutes two days each week.

That it shall be so arranged that Mr. Lowe may take boys either individually or in groups for the balance of the afternoon for project planning and instruction when Mr. Lowe deems such individual or group instruction necessary.

That the one afternoon per week, not heretofore accounted for shall be used by Mr. Lowe either in the supervision of project work or other farm practice work or in making plans and preparation for effective instruction in said day-unit schools.

That upon execution of the above plan of work the Kansas State Board for Vocational Education shall reimburse the Winfield Board of Education, and the boards of education in the two participating day-unit schools as follows.

The Winfield Board of Education at the regular reimbursement periods, 5/18 of Mr. Lowe's salary up to \$2800.00.

The boards of education in each of the two day-unit schools, 2/18 of Mr. Lowe's salary up to \$2800.00.

That this agreement is not binding after August 1, 1930.

(Name) _____

Executive Officer Winfield Bd. of Ed. _____

(Name) _____

Executive Officer Oxford Bd. of Ed. _____

(Name) _____

Executive Officer Cambridge Bd. of Ed. _____

Director, Kansas State Board for Voc. Ed.

This agreement has proven satisfactory except as to transportation. The central school is paying more than its share of transportation while the one day-unit class 24 miles from the central school is paying less than its share.

Even though the class periods are only ninety minutes in length at the day-unit classes, the instructor spends the entire afternoon of each school day in individual conferences, project supervision, 4-H Club work or other community work in connection with the class taught. The afternoons are alternated between the two day-unit classes.

Friday afternoon of one week being spent at one school and the next Friday afternoon at the other school. Farm shop work has been taught by manual training instructors on the days the agriculture instructor was at the other school. In each case the course of shop work has been organized and directed by the vocational agricultural

instructor. It has been necessary for the agricultural instructor to spend about one day of each month with the class and teacher in the shop in order to demonstrate phases of shop work unfamiliar to the teacher. The shop work has been the most unsatisfactory feature of the whole organization due largely to failure of the manual training teachers to gain a farm shop viewpoint or assume the necessary responsibility to make the work effective.

The class work has been taught on a combined job and project basis with about half of each class period being spent in supervised study and notebook or job analysis work. An average of one ninety-minute period each week has been spent on field trips and supervised farm practices with the whole class. It has been much more difficult to promote and hold interest in crops work and projects than livestock. This has been due, the writer believes, largely to the fact that more of the operative jobs and supervised farm practices can be carried out directly as studied with livestock than with crops.

The home project requirements have been the same as in the full-time classes. The projects have been used more for instructional purposes than those of the full-time classes. The project record books have been kept at the

school and entries made daily. These records were graded and corrected twice each month. Home work of an improvement nature or the carrying into practice by the boy of improved methods taught have been graded on a job completion basis and additional credit given. All phases of the work have been graded on a point system based on a standard set up which allows a definite number of points credit for each approved job complete.

The classes were first organized by selling the idea to the superintendents and school boards of the day-unit classes. A meeting was held where representatives of the three school boards met and worked out an agreement of regulations with the State Director of Vocational Education. Publicity was given the new classes through the local press and prospective students were visited and enrolled by the vocational agricultural instructor and superintendent of schools before school opened. Each boy and his parents were interviewed at home by the instructor and all phases of the work thoroughly explained before the boy enrolls. Tentative plans were also made at this time for the boy's project work. Projects and jobs in crops and soils were worked out one year and those in animal husbandry the next year. The boys were urged to take two years of the work.

The first period afternoon and the last period of the day have been used. The last period has been much more satisfactory and is to be used in both schools next year.

The writer believes the course should be organized more strictly on a job and project basis than full-time work and a larger proportion of the credit given should be on project and actual performance than in case of the full-time work. Less class or written work is given. The assignments are more definite and the classes are examined more carefully on what is studied.

The writer believes two day-unit classes visited twice or three times each week is more efficient than five classes having one period each week. Under the ninety minute period and two or three classes each week there is ample reason for three years of day-unit agriculture to be given, preferably in the tenth, eleventh, and twelfth grades of high school. By short reviews, carry over problems and individual assignments the writer has met with a degree of success in his attempt to build and hold a class spirit of unity that tends to unify the work of a season or enterprize. There is a loss of interest and unity in day-unit classes not present in full-time classes.

Comparative Studies on Day-Unit and Full-Time Classes.

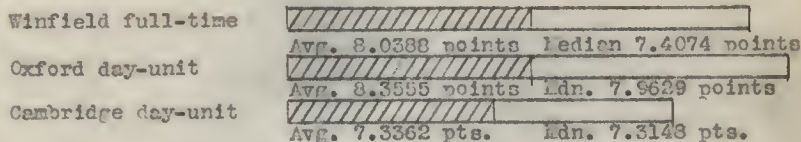
In order to get some more definite results on the extent to which the problems involved in the organization and conduct of day-unit classes limit the effectiveness of this type of instruction comparisons have been made with full-time classes. The day-unit classes of Cambridge and Oxford in these comparisons were taught by the same instructor as the full-time classes at Winfield. The system of grading work done by all classes was the same. A point system¹ standardized for each acceptable completed effort was used. The boys studied in all classes were in the tenth grade, from experienced, from fifteen to eighteen years of age and of similar intelligence quotients.

Comparison of Points Earned. Table XXI and chart XXI show a summarized comparison of the average number of points earned by the students per hour of instruction given day-unit and full-time classes in the year 1928-29.

Classes Studied	Average Number		Median Number	
	Points earned		Points earned	
	One Year	Per Hour	One Year	Per Hour
Winfield--full-time	2170.5	8.0	2000	7.4074
Oxford--day-unit	1136	8.3686	1075	7.9529
Cambridge--day-unit	990.4	7.3362	987.5	7.3148

¹ Thesis N.E.A.C., 1927, "The School Mark" by Prof. I.L. Blank

CHART XXI



This tends to show a greater difference between the individual day-unit classes than exists between the full-time and day-unit methods of teaching. Nearly twice as many points are earned each year in the full-time work as in the day-unit work but the number earned per hour of instruction is very nearly the same.

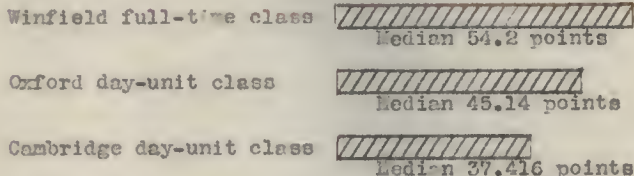
Scores Made on Objective Tests. Table XXII and Chart XXII show a summary of average and median scores made by the day-unit and full-time classes on three objective tests over definite phases of the poultry and sheep enterprises and farm shop work.

TABLE XXII

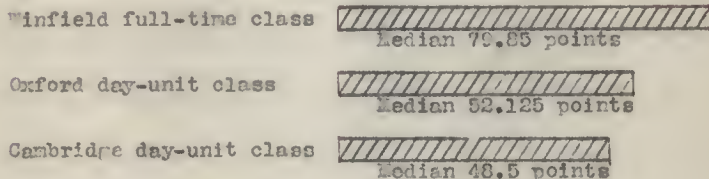
Students Studied	Average Score Made			Median Score Made		
	Poultry Sheep Shop			Poultry Sheep Shop		
	Sec. A	Sec. B	Sec. C	Sec. A	Sec. B	Sec. C
Winfield full-time class	62	87.5	142	54.2	79.85	138.6
Oxford day-unit class	47.6	56.61	87.3	45.14	52.125	86.47
Cambridge day-unit class	40.2	54	97.42	37.41	48.5	94.5

CHART XXII

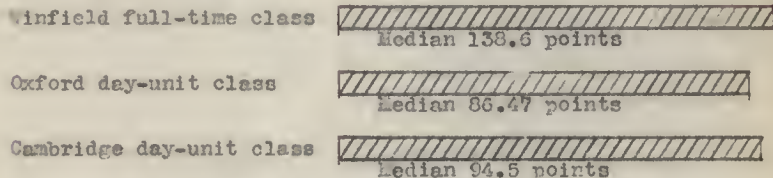
SECTION A: POULTRY



SECTION B: SHEEP



SECTION C: FARM SHOP



These three test summaries over materials taught all three classes by the same instructor may give a comparative idea of the effectiveness of day-unit instruction as compared with full-time work. In the day-unit classes all subject matter was taught on a job and project basis while that of the full-time class was taught on a job and enter-

prise basis. Practically twice the number of hours of instruction were given the full-time class as the day-unit classes on these enterprises.

Grades Earned. Table XXIII is a summary of the distribution of grades of the three classes on a percentage basis for the school years ending in 1928-1929.

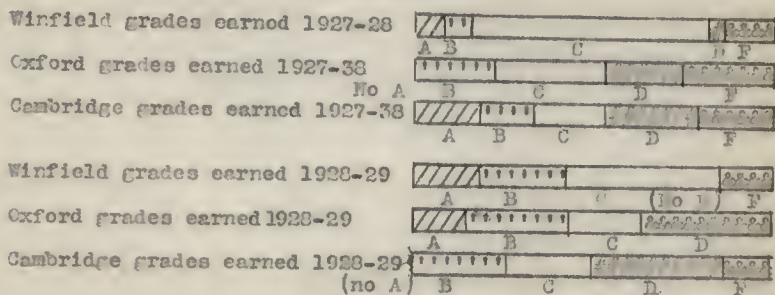
TABLE XXIII

Classes Studied	Distribution of Grades Earned 1927-28				
	% A	% B	% C	% D	% F
Winfield full-time	11.11	11.11	61.11	11.11	5.56
Oxford day-unit	00.00	16.66	33.32	33.32	16.66
Cambridge day-unit	8.33	8.33	33.32	35.32	16.66

TABLE XXIII (Cont'd)

Classes Studied	Distribution of Grades Earned 1928-29				
	% A	% B	% C	% D	% F
Winfield full-time	7.14	21.42	64.26	0.00	7.14
Oxford day-unit	9.09	18.18	27.27	36.36	0.00
Cambridge day-unit	0.00	22.22	22.22	44.44	11.11

CHART XXIII



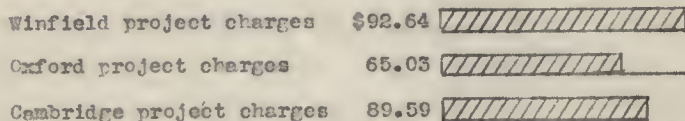
This summary of letter grades determined from the median grade of the classes for each year tends to show a more even distribution of grades, according to the normal curve of learning, for the full-time classes than for the percentage of (A), (B), and (C) grades to be higher in the full-time classes than those of the day-unit classes. If grades are a fair measure of the accomplishment of purpose then we must infer that in these classes, day-unit work was not as efficient as full-time work.

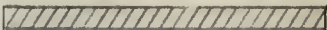


Success of Projects. In order to get a comparative measure of the effectiveness of the supervised home project work of day-unit and full-time classes the medians of five important divisions of the projects of 1927-28 are compared in Table XXIV and Chart XXIV.




TABLE XXIV




Classes Studied	Medians for 1927-28				
	Total Charges	Total Credits	Net Profit or Loss	Self for Labor	Hours Spent
Winfield full-time	\$92.64	\$139.84	\$47.20	\$7.30	\$36.50
Oxford day-unit	65.03	105.65	40.62	6.35	31.75
Cambridge day-unit	89.54	108.64	19.05	6.26	31.33

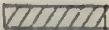


CHART XXIV



Winfield project credits	\$139.84	
Oxford project credits	105.65	
Cambridge project credits	108.64	

Winfield project profit	\$ 47.20	
Oxford project profit	40.62	
Cambridge project profit	19.05	

Winfield project paid labor	7.30	
Oxford project paid labor	6.35	
Cambridge project paid labor	6.26	

Winfield project labor hours	36.50	
Oxford project labor hours	31.75	
Cambridge project labor hours	31.33	

A study of Table XXIV and Chart XXIV shows that the project work of the full-time class was carried on a little higher plane throughout than either of the day-unit classes even though project work was emphasized more in proportion to the other phases of the work in the day-unit classes than it was in the full-time class. When the projects for 1928-29 are completed the writer believes those of the day-unit classes will compare much more favorably with those







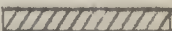

of the full-time class than do those of 1927-28. This vast improvement in the day-unit projects of 1928-29 seems to be due to experience gained by these boys in 1927-28. It will be noted that the Winfield class carried projects of larger scope as shown by total charges. This, of course, made for more efficiency of labor and a larger net income. However, this did not hold true for the two day-unit classes. There also is a direct proportion between the net profit for each school and the amount of personal supervision given the projects. Those of Cambridge received much less supervision than those of Winfield and Oxford. The extra time spent on the Winfield projects seems to show almost in direct proportion in the net income. The investment of time and money in the Oxford projects seems to show much more efficiency than in case of the Cambridge projects.

Comparisons of Costs. After having compared the efficiency of the various phases of day-unit instruction with those of full-time work, it is of importance to compare the costs of these types of instruction in Kansas. Table XXV and Chart XXV show cost comparisons of day-unit work with the full-time department at Winfield and average costs for full-time departments of Kansas.

TABLE XXV

1927-28 Costs of Instruction	Schools With Instruction Costs			
	Winfield Full-Time	Kansas Average Full-Time	Oxford Day-Unit	Cambridge Day-Unit
Per 180 minutes of instruction	\$17.50	29.47	12.00	12.00
Cost per unit of credit	35.00	58.92	34.28	53.33

CHART XXV

Winfield cost 180' instruction	\$17.50	
Kansas average cost 180' instruction	29.47	
Oxford Day-Unit cost 180' instruction	12.00	
Cambridge Day-Unit cost 180' instruction	12.00	
Winfield cost per unit of credit	\$35.00	
Kansas average per unit of credit	58.92	
Oxford day-unit cost per unit of credit	34.28	
Cambridge day-unit cost per unit of credit	53.33	

These summarized costs are misleading in that they charge all costs of the entire vocational agriculture departments whether full-time or day-unit up to the actual time spent in the agriculture classes. This, however,

should not prevent it from being a fair comparison of the two systems of agriculture instruction. These summaries show that the two classes of day-unit agriculture are, when compared on a common basis, being operated much more economically from a salary standpoint than are the full-time vocational agricultural classes of the state. It will be noted that on cost per unit of credit the Winfield school as well as others in the state is operated at a lower salary cost than the day-unit class at Cambridge. This is due to the comparative small enrollment in this day-unit class.

Opinions as Expressed in State and Federal Reports

It is only within the last five years that state and federal authorities have given considerable time and thought to the problems of day-unit work. In general it has been a less attractive field than the full-time work. In day-unit work we are working with smaller units in smaller schools and communities where the problems are more difficult and it is harder to make as impressive showing of results. Most of the larger high schools that want full-time work now have it and the states are beginning to turn their attention to the day-unit classes in vocational agriculture. Many such statements from state and federal authorities within the last year show the trends of development in this work: Maine (1929), "We feel that a more economic return can be secured from now on in developing day-unit instead of full-time classes, particularly in the more rural districts." Federal Report to Congress (1927 P. 13), "A gratifying increase shows in provision made through day-unit courses." South Carolina, "Many of the states are now coming to use day-unit class in order to reach their strictly rural communities. There is also a place for it in larger schools where boys do not have time to take a full-time course." Federal Report (1928), "The same rate of increase has existed in enrollment for all day and day-unit agricultural schools from 1923 to 1928." Connecticut (1929), "This is a

type of instruction that seems to be growing and is reaching boys in communities that are unable to put on a full-time or even a part-time teacher in vocational agriculture and incidentally developing sentiment in favor of the organization of full-day work." Oregon (1929), "We hope to get into this field in the near future." Connecticut (1929), "Day-unit classes are well adapted where students need instruction in specialized enterprise but have no interest in other types of farming." By teaching day-unit classes in two or more neighboring towns will most efficiently occupy full time of the teacher with the most effective service to the community in which he works." "Day-unit courses are designed for exactly the same group of students as the all-day courses." Alabama, "Our plan of having itinerant teachers give instruction for two ninety-minute periods each week, supplemented by a long term plan of supervised practice so far seems to be unusually satisfactory." C. H. Land (1928), "Some of the day-unit classes of vocational agriculture have been rather academic. They can be made and kept on a real vocational basis." Oklahoma (1928), "Day-unit courses should be used only for schools that cannot provide for enough of the teacher's time to provide an all-day course. This work has been only fairly satisfactory. The supervision and follow up work has been rather weak." Massachusetts (1929), "We are considering

introducing this type of instruction in our best agriculture county. The instructor will spend two ninety-minute periods a week at each of four outlying high schools." Pennsylvania (1929), "Our instruction in this work is based largely on the supervised farm practice. This work has been very successful compared with full-time classes." Virginia (1928), "There are thirty of these classes in the state. We think very well of this type of instruction provided it is given as often as three times per week." Alabama (1929), "The enrollment in these classes is very gratifying and the results are satisfactory." Colorado (1929), "In our experience it has proved rather unsatisfactory as compared to the full-time classes. It did serve as a good selling device for full-time vocational agriculture." Kansas (1928), "There are possibilities in day-unit work. I also recognize the fact there will be many problems and difficulties to overcome." A general summary of these reports shows that to date day-unit work has been more satisfactory in the south and east than in the west and central part of the country.

SUMMARY

A summary of the findings of this study on problems involved in the organization and conduct of day-unit

schools must necessarily contain the results obtained from the three divisions of the study. Results from the questionnaire, the writers experiences, and experiences as expressed by state and federal authorities show:

1. Few departments are best established by selling the idea to the school board then to the boy and his father.

2. In most cases the course is made elective by all that are eligible.

3. Instructors become acquainted with the boys' farm problems mainly by visiting their projects and by planning their home work.

4. The ninety-minute period is favored over any other.

5. Twenty-seven selected two or three enterprises as the maximum to teach in one year.

6. Methods of project supervision in order of preference were by personal visits - 53, and by discussion and project problems - 45.

7. Forty-four prefer two classes of two periods each week while 19 prefer four classes with one period each week.

8. Thirty-three prefer financing classes on pupil and mileage basis while fourteen favor each school paying an equal amount.

9. School grade preferences showed 37 favoring the

ninth and 32 the tenth grades for a large majority.

10. Out of 55 answers, 20 favor the first period of the school day for agriculture while 21 favor the last period.

11. Of the 63 answers, 42 prefer and use the agriculture instructor for the supervision of all agricultural study.

12. Of the 59 answers, 33 teach day-unit work on an enterprise basis while 15 use job basis and 12 the project basis.

13. In most cases the farm shop work is taught by the agriculture instructor. In a few cases it is taught by another instructor or no shop work is taught.

14. In a large majority of cases the manual training instructors are not considered desirable for teaching farm shop.

15. In most schools the class does not meet on days the agricultural instructor is not present. In a few schools it meets under another instructor.

16. In organization a majority favor having day-unit classes organized on a different basis from full-time classes and requiring less study but more practice doing less note book work, being given more definite assignments, and being given more credit for project and home practice.

17. Two day-unit classes was the number selected by a large majority as the proper number for an instructor that spends half of each day teaching a full-time class in a centrally located school.

18. As to the number of years to offer day-unit work the majority was very close between two years and three years.

19. A large majority favor using the last period of the day and previous arrangement with school authorities to prevent having the agricultural period broken into by school activities.

20. There is no definite agreement as to methods of gaining and holding class and learning unity in these classes.

21. In a very large majority of schools the supervision of home practice work is done almost entirely by personal visits by the agricultural instructor. Letters, parents, and other instructors are used with a few classes.

22. Adjustment, operation, and repair of farm machinery and either gas engines or tractors are taught in the shop work of a large majority of cases of day-unit classes.

23. In sampling, objective tests over three major divisions studied by a full-time class and two day-unit classes all taught by the writer, the median score of the full-time class was 82.10, above that of the day-unit class. The full time class had received twice the number of hours of

instruction on the divisions used in the tests.

24. The cost of instruction figured on the basis of per student hour varied from six cents to ninety six cents with a median cost of 32 cents. In a small majority of cases day-unit instruction costs were reported to be lower than the costs of full-time instruction.

25. The answers in the form of questionnaires and letters as well as the statements in recent literature show a new growing interest in day-unit classes. These classes are rapidly spreading into other states and the problems peculiar to day-unit classes are beginning to be more generally studied.

CONCLUSIONS

This study of the problems involved in the organization and conduct of day-unit vocational agriculture classes shows:

1. The procedure in organizing these classes is similar to that used for full-time classes.

2. Day-unit teaching has been extensively used to introduce full-time work. It is primarily for small rural communities.

3. Day-unit work has evolved into two distinct types

of organization, the central type and the circuit type.

4. There has been very little purposeful effort by the states or individuals toward standardization of day-unit work.

5. Day-unit classes have been organized on a lower plane for effective teaching in many states than has the full-time work.

6. Instructors in general agree on the methods best adapted for solving the problems of organization and conduct of day-unit classes.

7. Fewer schools per instructor with more class periods each week makes for more efficient instruction and lower costs.

8. The instruction in subject matter, shop work, and farm practice should be done only by the vocational agriculture instructor in person.

9. All instruction must be in short complete units with a maximum of student participation and farm application.

10. The first or last period of the school day should be used for this work.

11. At least two years of this work should be taken by the boy in order to complete the course.

12. There is a loss of unity and interest in day-unit classes not present in full-time classes.

12. Class projects are of doubtful importance in day-unit work.

14. In a majority of schools day-unit work is less expensive than full-time work figured on the basis of per student hour of instruction.

15. Large classes not scattered over too large a territory make for profitable projects and low salary costs.

16. Full-time students made a higher percent of good grades and a lower percent of poor grades than do day-unit students.

17. The projects of full-time students are more successful than the projects of day-unit students.

18. Nearly twice as many points or scores are earned yearly by full time students than by day-unit students but the number earned in each type of school per hour of instruction is about the same.

19. Day-unit instruction will spread and increase in effectiveness in this country in direct proportion as these limiting problems are solved by instructors and administrators.

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