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THE AGRICULTURAL EDUCATION MAGAZINE

Missouri Future Farmer

Gives Radio to Chapter. (See page 78.)

"Doing is the great thing. For if, resolutely, people do what is right, in time they come to like doing it."—Ruskin

The Agricultural Education Magazine

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Editorial Comment

Co-operation

PROGRESS in agriculture depends to a large extent on the widening area of co-operation of the farmers. As Dr. Bode puts it, "Progress means shared interests—co-operation." Considerable emphasis in vocational agriculture has been given in both a state and a national way to this element of *co-operation*. The ambition of every young teacher is to train for co-operative effort in his local chapter. Co-operative effort in many of the local Future Farmer chapters very often takes the form of a group or class project. Many of these group projects have been failures and a few have been successful. A successful group project may be considered a real accomplishment.

The record in training in co-operation by group projects by Mr. Lester Schmutz, instructor in the Wakefield Rural high school of Wakefield, Kansas, is a credit to his community, a shining light in the state, and an example to the rest of the country. Mr. Schmutz, over a period of seven years, 1928–1935, conducted 25 group projects varying from one to six projects per year. This period included the dreadful years of the depression. But in spite of this fact, 80 percent of these group projects showed a net profit. These group projects were very interesting from the fact that there was a great variety of enterprises represented, including: fattening beef, production of meat birds, production of pullets, accredited poultry flocks, feeder hogs, breeding sheep, etc. The income from these projects was used in many cases by the boys to buy new equipment which would make it possible to do group buying and selling in the Wakefield Chapter of Future Farmers. Mr. Schmutz is to be congratulated upon this accomplishment and is deserving of the promotion which came to him as the Farm Manager of the Fort Hays State College, Hays, Kansas. Mr. Schmutz has set a real high mark in co-operative project work which will go unsurpassed possibly for a number of years. To those agricultural teachers who have been placing major emphasis on co-operation and are looking for specific help on co-operative effort, it is suggested that they examine the records of the Wakefield Chapter and "go and do likewise."—L. R. Humphreys, Utah.

[Editor's Note—On page 74 is given a very brief summary of the projects and the results attained. Also the account of one of these group projects.]

Pioneering in Part-Time Work

THOSE who first entered the field of vocational agriculture after Congress passed the Smith-Hughes Act, faced some difficult problems in starting a national program of vocational education in agriculture. A great number of the supervisors and teacher-trainers were selected because of achievements in other fields, not because they had demonstrated their ability in training and supervising teachers of agriculture. The teachers, likewise, were drawn from widely varying sources. Some of them were normal school graduates with farm experience; others were agricultural graduates with but little training in methods of teaching. At any rate, a beginning had to be made, so those in charge selected the best talent at hand and started to work. As an inevitable result, the program went thru various experimental stages, but out of that period of trial and error came tried methods and procedures which now are giving excellent results in our all-day programs. Of the successful methods in use today, many were first attempted by young teachers who had vision and courage, if not experience. Those ideas which worked were adopted by others; those which proved unsatisfactory were cast aside.

There are teachers who can vividly remember the day when it was decided that all boys studying vocational agriculture should carry on supervised practice if they were to be members of the agriculture classes. Those same men can also recall the arguments advanced to prove that it just could not be done. Today it is an accepted fact. When the F. F. A. was first proposed, a goodly number of teachers, and even super- tool with which we have to work. It is a certainty that without the F. F. A. vocational agriculture would never have made the strides which it has.

Most of us would say that we have passed the pioneer stage in all-day work and have reached the place where we may be inclined to feel that we are doing a pretty good job of teaching vocational agriculture. In most instances we doubtless ARE doing creditable work with the all-day group, and in some states a fair job with evening schools as well. However, we have done very little *Part-Time Work*. The all-day and evening school work has sold our program to the public, but we have a fertile field yet to develop. At present we are reaching a bare one percent of the out-of-school young men who deserve and would welcome consideration and an opportunity for training. With the additional funds made available thru the George-Deen Act we are given an opportunity to do some more pioneering. Knowing the calibre of the workers in vocational education, I am confident that this new challenge will be accepted and that eventually we shall be able to point to real success in part-time work. Before that becomes an established fact, however, we must solve a new group of problems.

For example, we know but little of the characteristics of the average part-time boy. We suspect that he is between 18 and 19 years of age. We think that he has completed about nine grades in the regular school. We are quite sure that he has but little use for the regular academic set up, but that he does gravely need vocational training of some kind. Supposedly, he dropped out of school because of any number of reasons, among which lack of interest, lack of finances, work at home, trouble with teachers, failure to pass a grade, or lack of transportation appear to be dominant. If he is a farm boy there seems to be a fifty-fifty chance that he will be interested in farming. In all probability he is working at home or on a neighboring farm for wages or an allowance. Quite likely he is earning from $300 to $400 annually and has very little in the way of property or equipment. The chances are that he is unmarried. He reads a little, but his scope of reading does not go much beyond the local papers and a magazine or two of rather mediocre merit. For amusement he goes to dances, has an occasional date, and takes a mild interest in some form of more or less unorganized athletics. He may be a member of some social or religious young peoples' group, but he is more often than not little interested in such organizations. We should not be surprised to find that he is a trifle below the average in general intelligence or that he has rather vague plans for his future. Such are the impressions we have as to his characteristics, but we must do a lot of investigating before we can be sure of them. Our first big job, then, is to get to know the part-time boys better.

We must next determine the best ways to interest these boys in part-time work. The plan is new to them in most communities, and we are not at all sure that the tactics which have proved successful in all-day work will get results with this group. Must we rely on personal visits to gain their interest, and, if so, what line of approach should we use when making these contacts? Some men have secured good results thru personal letters and newspaper articles. Is it safe to employ this method alone? Our next big job is to discover how to sell part-time work to the extent that it becomes a recognized part of the school program.

Certain teachers have been able to get a group together but have been unable to hold them. Was this due to the personality of the teachers or to the methods of instruction? Perhaps they used a formal method of teaching when the conference plan would have been better. We are told that we should not lecture to such a group, but might there be a time when a lecture would bring good results? We are not just sure whether we should select some enterprise in which the majority is interested and teach most of the jobs in that enterprise, or whether we should take jobs from several enterprises. Should we perhaps start from the other end and discover the needs of each individual, helping him to solve his problems as they arise? All these ideas are being advanced, but which are the most efficacious? We might, for example, ask whether a unit course in farm mechanics is broad enough

A. K. GETMAN

Professional

R. W. GREGORY

Agricultural Planning and Agricultural Education

H. M. HAMLIN, Iowa State College

I

AGRICULTURAL planning is apparently with us to stay. We have had some planning for agriculture for a long time. Present developments are not exclusively New-Deal phenomena; their roots are deep in the past. Agricultural planning is a part of a general attempt to bring some order out of chaos, to use the native intelligence with which human beings have been endowed, to improve their living conditions. We can expect more and more planning as time goes on.

H. M. Hamlin

Individual farmers who have planned well have always had an advantage over those who have planned less well or not at all. Lately we have seen some of the advantages farmers may gain when they plan together, particularly if the government will help them in carrying out their plans. However, planning in agriculture is still limited to a very few phases; we may expect its application to many more.

The prospects for agricultural planning are particularly bright because we are evolving democratic planning procedures, suited to rural people, our firmest defenders and best practicers of democracy. Apparently it is no longer necessary to accept the idea that democracies must be planless or that farmers in order to be reasonably free must live in anarchy.

II

Agricultural education is very closely related to agricultural planning, so closely, in fact, that many people whose thinking is usually clear are confusing the two rather badly. Agricultural educators are going to have to live with agricultural planners for some time, probably permanently. On what terms can they live together?

Rightly conceived, the planning group is made up of the wisest and best representatives of all of the elements in the community, who are chosen with a minimum of political bickering and who serve for long terms. It has no legislative or executive authority. It views the community as a whole, evaluating the goals and projects of groups within the community and suggesting better goals and projects. It establishes its influence and prestige in the community, just as the supreme court of the United States established its influence and prestige, thru the wisdom and justice of its decisions.

agency because good planning makes possible definite aims for education. It is impossible to educate for the future unless one has some idea as to what the future is to be like. The planning agency helps the community to develop a vision of its possibilities; the school assists in realizing these possibilities once they are revealed.

The school can be of direct assistance to planning in at least six ways:

1. It can assist the community in determining whether it should have a planning agency and in getting such an agency established on a sati factory basis.
2. It can assist in gathering data and formulating proposed plans for consideration by the planning agency.
3. Its staff can provide expert advice regarding some phases of the work of a planning agency.
4. It can assist in getting proposed plans before the community and in getting public criticism of them.
5. It can assist in trying out and evaluating some of the plans proposed.
6. It can develop in the people of the community, young and old, some of the abilities and attitudes needed to carry out plans approved by the planning agency and accepted by the community.

III

It seems clear that the functions of planning and education are best performed when the agencies responsible for them are autonomous but co-operative. Making them autonomous does not reduce the possibilities of co-operation. In fact the only real co-operation is between those who do not have to co-operate.

Certainly if the school is to be trustworthy it must be free. A school which must always conform to the wishes of a planning group becomes an agency of propaganda.

It seems just as clear that the planning group should be separate from the school. Planning is likely to be a subordinate and neglected function if left to boards of education.

It is true, of course, that planning has always been implicit in the work of boards of education. Every educational objective and every educational project reflect the board's plans, however vague, for the community. But school boards have seldom, if ever, given adequate attention to setting up community objectives and plans. There will be plenty of work left for them if they surrender entirely their community planning functions.

Some teachers of agriculture have taken over in limited ways, the function of planning. Recognizing the need for planning and seeing that no one else is doing it, they have sometimes tried to consciously delegated its planning responsibilities to its teacher of agriculture or to any other community employee. The adults of a community reserve the right to determine their own ideals for their community. There is only sorrow ahead for teachers who try to do for the community what it wills to do for itself. Neither do teachers have a right to fashion children to fit into plans the school has made unless the community has approved these plans.

IV

Teachers of agriculture could, however, do much to establish planning agencies in rural communities. They are disinterested. They are public-spirited. They are concerned with the future. They have been responsible for much of the agricultural planning their communities have thus far done.

The need for planning can be discussed in adult schools. The adult school council may serve temporarily as an agricultural planning agency but it should relinquish its planning function as soon as a separate agency can be set up.

The school, since it is in touch with all elements in the community, is better able than any other agency to co-ordinate diverging groups and bring their representatives into common council.

V

Agricultural planning should not be organized separately from other aspects of community planning and community planning should not be wholly segregated from county, state, and world planning.

The most vital kind of planning is possible within a community. It is strange we have not had more of it. The county is an artificial unit adapted only in a limited way for planning. County agricultural planning programs have few of the possibilities inherent in community planning programs which include agricultural planning.

The doctrine has too long been preached that local objectives in public-school agriculture should be based solely on local community needs. Broadly interpreted this doctrine would be satisfactory, but too often the interpretation has been narrow. As a result, the 6,000 departments of vocational agriculture in the United States do not contribute as they might to the realization of important state-wide and nation-wide objectives. To a considerable extent they cancel each other's efforts thru lack of integration. It can be expected, however, that as the adults of our rural communities become more conscious of their communities' wider relationships they will wish to have their schools take a larger part in equipping their constituents for co-operation in the larger social groups.

VI

There has been a common tendency in setting up programs of agricultural

Cadet Fifth-Year Training Program in Hawaii

G. C. COOK, Assistant Professor of Agricultural Education, University of Hawaii

G. C. Cook

THIS is the first year of the fifth year agricultural program in the Territory of Hawaii. This program is sponsored by the University of Hawaii and the Department of Public Instruction. The work is divided into two parts: one semester at the University with advanced courses and the remainder of the twelve months doing probationary teaching and farm practice work. There are eight University of Hawaii graduates enrolled in the course which is required of them before being granted a degree to teach vocational agriculture.

Cadets Much Interested

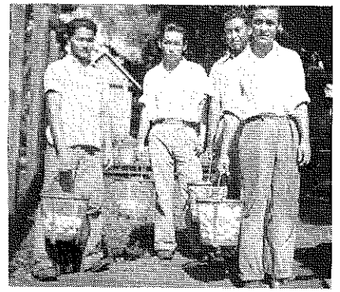
Seven of the eight cadets are Japanese and one is a Korean. They are a fine group of young men ranging in ages from 21 to 24. They are very much interested in their work and eager to make a success. They take kindly to suggestions and co-operate in every way with those in charge. The cadets plan their work exceptionally well and never go before a class without having well-worked out plans of what they expect to do. They not only have well-outlined plans, but they also "work their plans." They are a dependable group of young men who should make very good teachers of vocational agriculture for the Territory. Since the cadets know conditions of the islands and the language of the parents, they have a considerable advantage.

Farm Practice Work at Lahainaluna

The farm practice work is done at the Lahainaluna School since there seem to be the best facilities at this school for farm practice work at the present time. The Lahainaluna School is an old vocational school located on the island of Maui. This school was established in 1831 and has built a fine reputation for vocational work. The school maintains a poultry plant of 2,000 birds, a dairy herd of 30 animals, and a swine herd of animals; and tropical fruits consisting of bananas, papaias, and avocados are produced.

There are over 400 students enrolled in the school, 115 of which live in the boys' dormitories, eat at the school dining hall, and work on the school farm outside of school hours. The cadets receive considerable training in supervising student groups since they often take charge of a group of boys in the vegetable garden, the poultry plant, the dairy herd, etc. The cadets also have charge of the teaching of first year vocational agriculture.

The school employs two full-time teachers of vocational agriculture. Mr. Frank Murphy teaches third year vocational agriculture and has supervision of the dairy, swine, and forage crops. Mr. Harry Seebart teaches second year vocational agriculture and has supervision of the poultry, vegetables, and tropical fruits. These two teachers co-operate with the writer in helping cadets to receive training in numerous farm jobs.



Gathering Eggs

Butchering

Approximately five months of the year are spent by the cadets at Lahainaluna in receiving experience in doing many farm jobs. Some of these jobs are as follows:

Swine: Butchering, castrating, clipping wolf teeth, caring for sows at farrowing, feeding, tusking, trimming hoofs, vaccinating, and weaning.

Poultry: Caponizing, culling, feeding, brooding, incubating, grading eggs, banding, treating for lice, making post-mortem, killing and dressing, worming, and testing for B. W. D.

Dairy: Castrating, churning, breeding, calving, dehorning, milking, cooling milk, bottling, butchering, caring for calves, feeding, testing for T. B., testing for Bang's disease, treating for milk fever, and testing milk.

Vegetables: Controlling diseases and insects, fertilizing, seeding, transplanting, irrigating, harvesting, and marketing.

Forage: Preparing seed bed, planting, irrigating, hoeing, transplanting, cultivating, fertilizing, cutting, curing hay, and feeding.

Fruits: Laying out ground, propagat-

Teaching Honesty

BERT HEALTON, Teacher, Lakeport, California

THE public schools have already been concerned with the moral character of their pupils but this concern has been amplified many fold since the world war, and especially since the beginning of the economic disturbance from which we now seem to be emerging. Since we are experiencing a rising tide of resentment against corrupt practices in government and industry, and since it is generally understood that very little progress in character education can be made with adults, the burden of the badly needed character building program has been placed largely on the schools. It is true that there are other important agencies, such as the home and the church, which should also be awakened to this great need, yet it does not lessen the responsibility of the schools.

There are many evidences today that the schools have accepted this challenge, and it is indeed gratifying that our program in vocational agriculture offers an unlimited opportunity for progress in this important phase of our educational program. If it is important for the secondary school teachers in general to give special attention to the development of character in the boys and girls with whom they come in contact, it is doubly important for the teachers of vocational agriculture to accelerate their efforts in this direction; for teachers of agriculture deal with boys in relation to real life situations. This affords them an unusual opportunity to be of service to them in developing good habits of moral conduct.

Honesty is a product of many factors, and in dealing with dishonesty it is necessary for the teacher to be broad, tolerant, and sympathetic.

After all, what may be the truth for one individual may be far from the truth for another.

"Two men looked out from prison bars;
One saw mud, the other saw stars."

Two children of the same age were sent out to play in a beautiful garden. After playing for a few minutes they returned. Almost simultaneously, one exclaimed: "O mother, mother, all the roses have thorns." The other said, "O mother, mother, all the thorns have roses." Then there is the story of the three workmen, each of whom was asked the question: "What are you doing?" The first one said, "I'm chiseling granite;" the second, "I'm working for five dollars a day;" the third, "I'm helping to build this great cathedral." All of these stories show that our viewpoints differ; and so, in dealing with individuals, it is necessary to go beyond the acts themselves and to correct the causes.

The chief problem of the teacher, then, is not to wait for dishonest acts but to do what he can to correct the causes of dishonesty by giving his pupils the right point of view. One should be honest because it is one of the infallible laws which God has bequeathed to us that dishonesty inevitably leads to failure. One may seem to prosper for a time but disaster inevitably follows.

Methods

A. M. FIELD

Teaching Livestock Feeding by Problems

C. A. SPIDEL, Critic Teacher,
Waverly, Nebraska

C. A. Spidel

AN impressive part of the farmer's revenue is derived from livestock and their products. Among the problems of livestock production, correct feeding looms as one of the most important and involves a knowledge of the practical as well as the technical. It challenges the instructor's knowledge of subject matter as well as his teaching methods.

College Ways Are Not High School Ways

If the teacher is inclined to teach feeding to high school boys as he was taught in college, he should pause to contrast conditions. High school boys are an unselected group and not a few of them have serious scholastic shortcomings. Adeptness in common arithmetic is rare in younger high school boys and to many of them the correct placement of the decimal point is a never-ending cause of wonder. Their vocabulary is limited, and they have no knowledge of chemistry or related science. Despite these facts, they are the livestock feeders of the future and even today are serving their apprenticeships in the care of farm livestock.

It is obvious that a college course in feeding will not meet the requirements and capabilities of this group. This sets the problem, therefore, of choosing the most useful subject matter and the most effective teaching devices for the conditions outlined. Our objective is to train the boy to select and feed the best and most economical rations available in his situation. The college objective is broader, and college teaching of feeding includes much subject matter which is out of place in the vocational course. The vocational teacher is faced, therefore, with the elimination of certain technical material which was a part of his own training. Perhaps he will decide that he can attain his objectives without requiring his students to learn the names and symbols of the chemical elements of which feeds are composed. After a few attempts to teach the meaning and the computation of the "nutritive ratio" he may decide that the term "protein percentage" of a ration serves the same purpose and is more easily and quickly taught. In a word, the teacher will confine his instruction largely to the factors which will aid his students to solve the feeding problems they will meet in their supervised practice work now, and in

include such fundamentals as the names of the nutrients, their functions in nutrition, and the feeds thru which they are supplied. These facts will enable the students to understand results obtained from various rations and furnish a basis for the solving of feeding problems.

Problem Teaching With Real Problems

It is fortunate that the subject matter of this difficult phase of instruction lends itself so well to the problem type of teaching. The literature of experiment station feeding tests abounds with intensely practical information obtained in trials which insure its applicability over large areas. The directors of these trials draw their suggestions for experiments from the dominant feeding problems of the state, and it is precisely these problems which will confront the farmer of the future.

Getting Down to Cases

Most feeding trials involve a comparison: this feed and that, this method and that, this kind of livestock and that. Fortunately, comparisons are easily grasped and long retained.

To insure understanding and retention, however, the lessons should be presented in the problem form which is their natural setting, rather than as wordy summaries to be memorized. The title of the lesson will be stated as a problem and accompanied by a fitting approach. The student can be drawn into the active solution of the problem by presenting the essential data on a suitable mimeographed form. He carries out the necessary computations and from the outcome draws his conclusions. Somewhere in the lesson should be included a discussion of the significance of the problems in the community or region and the implications of the results.

Classification of Cattle-Feeding Problems

Problems in feeding involve concepts relating to variable factors in the livestock and to variable factors in the rations. Since cattle feeding is an important enterprise in our section of Nebraska, we tie up our initial teaching in feeding with the beef cattle enterprise. The feeding problems relating to variable factors in cattle head up under the following: 1. How important is type to the feeder? (Dairy steers vs. beef steers; quality steers vs. common steers.) 2. How do calves compare with older steers in economy of gains? 3. Do steers gain more economically in the early or later stages of the feeding period? 4. How do heifers and steers compare in economy of gains? 5. How do buying and selling prices affect cattle feeding profits?

Variable factors in the ration center around the following problems: 1. How does alfalfa compare with protein supplements in the cost of protein per pound? 2. Does it pay to feed linseed or cottonseed supplements? 3. Does it pay profitable to full-feed cattle being pastured on clover or alfalfa? 6. Does it pay to grind roughage?

Pure Science Not in Order Here

It will be noted that the nutritive and management problems intermingle and mutually condition each other. For example, experiment station data indicate that steers gain more economically than heifers, and against the fat heifers it can be said further, that they usually sell for less per hundredweight than steers. It does not follow, however, that they are unprofitable or less profitable than steers, since feeder heifers are usually bought at a lower price and afford a wider spread between the initial and final values. The mingling of the nutritive and management aspects of the problem lends a note of reality to the study which is conducive to effective learning.

In drawing up such problems for teaching feeding, it is well to use current prices. Certain important lessons can be taught, too, by comparing results at current prices with results at higher or lower feed prices. Thus the boy can be led to understand the seeming paradox that good profits often accompany high feed problems.

While this discussion has dealt with problems in the feeding of beef cattle, significant problems in the feeding of other kinds of livestock can be stated and emphasized as the importance of the enterprise in the region warrants.

Methods and Devices in Testing Milk

CHESTER LACY, Teacher,
Marathon, New York

IN THE dairy sections of our country probably no greater service can be given the dairy farmers than to have their boys, who are enrolled in vocational agriculture, weigh and test the milk from each individual cow and keep yearly records.

In large departments a problem arises on how to test the milk from all the cows in the boy's herd and do it quickly. I believe I have solved this problem to some extent by developing methods and devices that help to get the testing done quickly.

Our containers for handling the test bottles, sample bottles, and drying racks are made by the boys. All the equipment is painted with aluminum paint, which is very durable and does not show dirt easily. We found that a common lead pencil for marking the test bottles often was hard to read. This was due partly to poor figures but more often to the dark background of the completed test. A red marking pencil, which teachers use for marking papers, works fine for this purpose, and the mark is easily removed by the use of an ink eraser.

remove the top and clean with gasoline, then soap and water. Solder two ⅜ inch metal tubes in holes made in the can one inch from the bottom of the can. Put rubber tubing on each metal tube. Then take a ⅜ inch glass tube, hold over flame and draw to a point. Have one tube with a very small opening, about the size of a pin, and the other 1/16 inch in diameter. Use the tube with the larger opening for adding the hot water up to the base of the neck of the test bottle, and the tube with the small opening to bring the butterfat column into the neck. The five quart can of water can be heated with gas or an electric plate on a shelf above the tester. Pinch clamps on the rubber tubing will prevent the escape of the water.

If test bottles get dirty on the inside, put 50 or 100 shot in the acid measure and fill acid measure with washing solution and pour into test bottle. Rotate test bottle as tho you were mixing acid and milk. After this process the bottle will look like new.

Adjusting Teaching Plans for Individual Boys

SMITH BEILBY, Teacher,
Bath, New York

THE teacher of agriculture has a fine opportunity to help individual students in meeting their special problems.

There is great variation in boys. There is the boy who makes the splendid student, from the teacher's point of view, the boy with ability, who is co-operative, a natural leader, who also has a farm background, fine interest, and excellent vocational opportunity. There may also be the other extreme, the village boy lacking in farm experience or opportunity, and limited in ability and character. Between these two extremes are most boys, but all varying in abilities and opportunities. Some differences are easy to see, but many important characteristics of a boy may not be noted except by the student of boys.

Just as boys differ, so do their needs from the vocational course. One boy may need opportunity to get experience in leadership that he may become an expert farm leader. Another may need help and encouragement in finding some place vocationally where he can make the best use of the abilities he possesses. Some boys must learn to plan, to manage. Others may need farm practice, learn to work under direction. Most boys need help with personal and social problems that they may get along happily with others. There are larger differences in needs. Minor differences, very important, cannot be described. Each boy has a need peculiar to himself, and the teacher can help the boy largely in proportion to his understanding of him.

The teacher of agriculture has close contact with each boy. He knows him at school and at home. He knows the home farm business and the problems connected with it. He knows the parents, and other members of the family. All this helps in developing an understanding between the teacher and the boy.

The teacher not only has an opportunity to know the boy and his problems but to direct an activity that will help the teaching procedure must be standardized. The class plans may not only be adjusted according to the needs of the class, but the problems for each boy may be made suitable to him. The F. F. A. activities, the supervised practice program, the guide books, individual problems, and shopwork—all types of teaching procedure are flexible and may be arranged for the greatest good of the boy.

There can be the temptation for the teacher to be more ambitious to make a showing for the department than to make the department of greatest service to the boys. The teacher may want to eliminate the village or some other boys, not because his department may not help them more than some other department, but because they do not do the type of work that will show well for a department. In the same way, a teacher may drive boys into attacking problems or doing work too difficult or unsuitable for them. A teacher may do harm to a boy by selecting a job for him that may be appropriate and beneficial for another student of different ability. A teacher is justly proud of the achievement of the superior students, but his service may be just as great in the help he gives to some of those whose work is not so good.

The agriculture teacher has real opportunity for service in knowing individual boys and their needs and in choosing, adjusting, and directing the activities that will be most helpful to them.

Exchange Classes

SCOTT HOSKINSON, Instructor,
Big Sandy, Montana

WITH the purpose of better fitting students for economic and social participation in society, the Big Sandy vocational agriculture and home economics departments have exchanged students over a six-weeks period for the last four years.

The girls studied the following courses: practical home carpentry; care and repair of home electrical devices; glazing; furniture and room decoration, finishing, and refinishing; landscape gardening under dry land conditions; management of the family vegetable garden; production and care of dairy products; poultry management. Over the same period, the boys studied the subjects of dietetics; social customs and courtesies; selection and care of clothing; and food preparation.

The practice of exchanging classes between the two departments grew out of the needs of boys and girls who are living on farms or who will live on farms. It is necessary for farm women to handle some tools and in some cases manage the dairy, poultry, and garden enterprises, and the agricultural department which specializes in this work is best fitted to give them some training along these lines. The boys will usually farm as bachelors for a while. The selection and preparation of food of the proper kinds is vitally essential to their efficiency. The selection and care of clothing is essential to the welfare of their purses. As these are subjects in which the home economics department specializes, the boys can get this training best from the home economics department.

These classes are built on the needs, by having the students give constructive criticism in a written, unsigned paper, at the end of the course. Since the beginning of these exchange classes, there have been only two changes in the subjects offered. Each year sees an increasing demand to throw these classes open to the entire student body, but as yet the laboratory equipment is a limiting factor in the number that can be enrolled.

Boys Build Home Libraries

JOHN L. KIRBY, Teacher,
Crane, Missouri

IN THE fall of 1933 our vocational agriculture department set as one of its goals, a home library in every home of a vocational boy. We felt that one of the greatest things lacking in our program was a good source of reference for the problems that would come up after the boy was out of high school.

A boy taking four years of agriculture should be well trained on how to solve farm problems for himself and he should have a home library to help him solve these problems. We have found the library of great help to the boy in his supervised project program while in school.

The first week of school a new student in our department starts his home library and adds to this as he sees the need. The first material for his library is good state and federal bulletins, that serve as good references for his supervised project program. He also gets bulletins on the other enterprises on his farm. In the library the boys also include agriculture reference books, year books, other school books, and good story books.

A survey of 38 boys made recently shows a total of 3,122 state and federal bulletins, 133 agriculture books, 547 non-agriculture books, and 136 good magazines.

The advanced classes of juniors and seniors have much more complete libraries than the beginning classes. This group had an average of 140 state and federal bulletins, 5 agriculture books, 14 other books, and 4 magazines per boy while the boys of vocational agriculture one and two had an average of 48 bulletins, 3 agriculture books, 16 other books, and 4 magazines per boy.

Each boy also adds his permanent class notebook and project record books each year to his home library. Each boy has or builds in the shop a library

V. G. MARTIN Farmer Classes J. B. McCLELLAND

A Trip of Part-Time Students to the Texas Centennial

M. H. HAMILTON, Instructor,
Glenford, Ohio

THE Young Men's Farming Club was organized in March, 1936, as an outgrowth from a successful series of short course meetings. The charter members numbered 23 and since that time the roster has increased to 30. Officers were nominated and elected, committees appointed, a constitution adopted, and the other requisites necessary toward the proper function of an organization were taken care of.

After the termination of the short course sessions the group decided to meet every two weeks during the summer for recreational and social purposes altho short educational talks and practice in parliamentary procedure were on the program almost every meeting. Ball teams were organized, an ice cream social was held, and several parties contributed to the social part of the program.

Part-Time Pupils on Trip

Probably the peak of the club's activities was the trip to the Texas Centennial at Dallas. On August 10 a group of 12 of these young men started on this 14 day journey covering more than 3,000 miles. The journey down took them thru Cincinnati, Ohio; Louisville, Kentucky; Nashville and Memphis, Tennessee; Little Rock and Hot Springs, Arkansas; to Dallas. The airport at Louisville, the Parthenon at Nashville, and the famous summer resort at Hot Springs, were included in the many sights witnessed en route to Dallas.

The centennial surpassed all expectations of the boys and was superior to any exposition ever visited before. Four days were spent viewing the many exhibits and displays and even then several had to be omitted. The hall of Agriculture and Livestock Buildings, the Cavalcade of Texas, the Black Forest, the Hall of Electricity, the Federal building, General Motors, Ford, and Chrysler automobile displays, the Gulf Broadcasting Studios, the Globe Theater, and the Midway, would probably top the list of interesting sights.

The journey home was thru Shreveport and Baton Rouge, Louisiana; Gulfport, Hattiesburg, and Meridian, Mississippi; Tuscalusa, Birmingham, and Muscle Shoals, Alabama; Knoxville, of Mexico, looking over the capitol building and grave of the late Huey Long, visiting the Wilson Dam and Power Plant at Muscle Shoals, and the Blue Grass regions of Kentucky, were some of the high spots of the homeward trip.

Tents, cots, cooking utensils, and other necessary camping equipment were taken along, and a complete out-of-door life was thoroly enjoyed by everyone. As much foodstuff as possible was taken from home and this along with the camping made the trip possible at an average total expenditure of $32.50 per boy which included the $15.00 transportation cost.

This trip did much in bringing the boys closer together, and the educational value is far greater than many sessions in the classroom.

Part-Time Courses in Farm Management

RALPH E. BENDER, American Farmer and Teacher,
Anna, Ohio

THAT the whole is greater than any of its parts has been the assumption of the writer in attempting to offer effective teaching to part-time classes. A building contractor would not assemble a variety of materials and men for the purpose of erecting a building without, first of all, explaining to the men the kind of building he desired. So it is in agriculture, we must know what we are building and how we propose to build it. Therefore, in part-time teaching the whole agricultural problem should first be presented and then later the various enterprises that formulate the whole.

It has been my experience that very few young men and even adult farmers know very much about the agricultural situation as it exists and the factors that affect the labor income of the farmer. For instance do they have a working knowledge concerning economic and social problems such as: production and consumption of goods, foreign trade, tariffs, taxes, interest rates, prices, and so forth? And then, more specifically, have they analyzed their business to the extent that they know what enterprises are the most profitable and what enterprises ought to be eliminated or re-organized? In short, the problem is to develop in the student an understanding of the farm as a business, the factors affecting the business, the standards of efficiency, methods of analyzing the program, and ways and means of improvement.

During the last three years, three of the four part-time courses offered have been farm management courses; however, with a different emphasis each year. The first year I taught with the idea of analyzing the farm business as found in the community. A farm business account records served as the basis for the teaching. As a result of this study the group decided that they needed and would like to have a course in dairy management for the next year. In addition, because of the many changing conditions, a course in "Economic and Social Problems Affecting Agriculture" was given.

This year, a course of 26 meetings on "Farm Management" with emphasis upon soils was conducted. Twenty-nine young men enrolled with an average attendance of 21. Seven of the men were adult farmers and it was the wish of the part-time group that they remain in the class rather than organize an evening class. The adults because of their experiences contributed very liberally and added much to the course in interest and content of facts.

Topics discussed at the 26 class sessions were as follows:

1. Farm management, what it is and its importance.
2. Indicators of success in farm management.
3. Factors which affect labor income—relationships.
4. Farm accounting and its importance in farm management studies.
5. Type of farming.
6. Size and volume of business.
7. Balance of enterprises.
8. Labor efficiency.
9. Crop and livestock efficiency.
   a. Soils in relation to crop production.
   b. Legumes, their importance in the rotation and in the ration.
   c. Alfalfa culture.
   d. Soil acidity and liming.
   e. Organic matter—care and management of manure.
   f. Commercial fertilizer and its use.
   g. Permanent pasture improvement.
10. Marketing efficiency.
11. Efficiency in purchasing commodities and service.
12. Economic and social factors affecting a farmer's labor income.
   a. Prices and their relationship.
   b. Production and foreign trade policies.
   c. Land utilization policies.
   d. Farm credit.
   e. Rural electrification.
13. Summarization—our program in agriculture.

The following suggestions on teaching part-time classes are made as a result of my experience during the past three years:

1. The class should begin and stop on time.
2. The approach should be on a basis of specific problems with definite objectives in mind.
3. Use open discussion, leading questions, reports, debates, outside speakers. Do not lecture.
4. The instructor must always keep in mind his objectives and eliminate too much foreign material.
5. Utilize local, county, and state farm account and project analysis records.
6. Use practices of key farmers for illustrations.
7. Illustrative material should be used, film strips, blackboard, charts (let the students interpret the chart material).
8. Make use of demonstrations.
9. Be sure the objective is reached as far as possible in the classroom before leaving the lesson topic.
10. The relationship with the problem for the next lesson should be formed.

The real success of any course is not measured by the average attendance of

home farm as a result of the study. Whether or not a student carried to completion a project or supervised practice program determines if the course has been vocal agriculture or vocational agriculture.

The following list of improved practices to be followed by the students of my part-time class might be criticized because some of the practices are rather indefinitely stated and project record keeping of various enterprises should have been added.

	Number Conducting
1. Farm accounts	18
2. Reorganize the farm business	8
3. Rearrange farm fields	10
4. Modernize the farm home	15
5. Beautify the farmstead	19
6. Refinance the farm or farm business	1
7. Co-operative buying and selling	9
8. Improvement in livestock	
DAIRY	
a. Testing and record keeping	7
b. Culling and replacing unprofitable cows	17
c. Feed balanced rations	10
d. Produce a clean, wholesome product	22
SWINE	
e. Balanced rations	13
f. Sanitation program	18
g. Use purebred sires	17
h. Flushing	8
POULTRY	
i. Flock records	12
j. Balanced rations	21
k. Sanitation	19
9. Improvement in crops:	
a. Hybrid seed corn	2
b. Certified seed	9
c. Germination tests	24
d. Liming and fertilizing permanent pastures	5
e. Treatment for disease and insect control	15
f. Weed control	25
10. Improvement in soil:	
a. Soil testing	9
b. Liming	0
c. Increasing legume acreage	27
d. Inoculating legumes	11
e. Handle manure to conserve plant food	23
f. Use commercial fertilizer according to needs of soil and crop	27
g. Green manure crops	9
h. Prevent soil erosion	19
i. Drainage	17

Some suggestions for conducting supervised practice programs of part-time students are as follows:

1. Encourage the continuation of high school projects or the selection of other projects in which the boy may have financial participation regardless of whether they are related to the course.
2. Encourage students to keep cost accounts and production records in order to be able to analyze and improve their program.
3. Have each student elect projects and other supervised practice work as early in the course as possible in order to enable the teacher to teach by the project method.
4. Supervise and direct the practice
   A. By visits.
   B. Personal letters.
   C. Direct attention to printed matter related to enterprises.
5. Supervise and direct the keeping of records.
   A. A simple system should be used.
   B. Accurate records are necessary.
   C. Summarize, analyze, and compare in order to discover possible means of improvement.

How Many Evening Classes to Hold

L. L. PRICE, Instructor,
Ida, Louisiana

THE size of the school community and the organization of the area will

Then we find the agricultural interests in some communities more diversified than in others. This fact will determine, to a certain extent, the number of schools per year for a given center. The number of meetings necessary to complete a school will be determined by the topic under discussion, and the interest of the group.

Some teachers of vocational agriculture seem to fear the attempt of starting an evening class. It has been my experience, in every case, to find the adult farmers anxious to attend these meetings, if they are so organized as to cover the problem of most interest to the particular group with which you are dealing. It will be necessary to make a thoro survey of the local conditions in the community and the wants of the farmers. In this survey, the time of meeting should be given much consideration. One should remember always to make a meeting interesting and full of pep. A dry meeting will soon just dry up and blow away. The local situation will determine the methods to use in making the discussion interesting to all.

The past year the writer completed evening schools in four different centers. More farmers were reached than if it had been four different schools in one center. The time of meeting was at night. The method of instruction was very elastic. My work was so planned as to be able to use any method found to fit the particular occasion. The conference procedure was relied on most. I find the type of work to be put over will have much to do with your procedure.

Some of our classes were in connection with the soil conservation program. We got much better co-operation from the evening class members in this program than any other, as they understood the situation from more angles. A large acreage of winter cover crops was planted, as a result of our meetings.

The four schools may be summarized as follows: Center A, total enrolled, 56, and total reached, 84; Center B, total enrolled 55, and number reached 56; Center C, total enrolled 36, and number reached 45; and Center D, total enrolled 26, and total reached 40, making a total reached of 225. Total improved practices adopted were 246.

Extending School Opportunities

H. E. THROCKMORTON, Teacher,
Milton, West Virginia

REALIZING the need of providing greater vocational service to the citizens of Milton and its patronage area, our regular school class held a discussion on the subject of extending the services of vocational agriculture to more people in our community. Upon learning that out-of-school boys could return to school for the study of vocational agriculture only, the members of the regular school class began to give names of brothers and others who they thought might be interested in attending a part-time class. This discussion was held in November soon after the father and son banquet. Enthusiasm was quite high with the regular school boys so they told the out-of-school boys about the series of winter meetings to be held. A story was

date and place of the organization meeting.

Fifteen young men were present for the first meeting, and most of them attended the other meetings during the year. Since there are few social events for these people to attend, these meetings provided a social need, an educational need, and appealed to the money-making instincts of the boys.

Organizing into a club and electing officers appealed to these boys very much, because the boys in this part of West Virginia love an election from the time they can walk until they are too old to walk. Each one felt the responsibility of his office. This was especially true of the secretary who also acted as reporter. He was able to get some very good articles published in the daily paper. The president missed three meetings which disqualified him from holding office. A new president was elected who proved to be very proud of his office and finally developed the largest supervised farm practice program of all the boys.

Supervised Practice Work Interests Group

As soon as the election of officers was over the supervised practice program was explained and plans were made for the work for the coming season. The enterprises proved so many and varied that farm management was selected as an appropriate title for the series of meetings. The boys were very serious in their enterprise work; at times more than their teacher realized. Nearly every boy had started some type of supervised farm practice program before the series of meetings was completed.

One of the members of the evening class purchased 100 barred Plymouth Rock chicks which he raised in the house, much to the disgust of the other members of his family. He felt so keenly the responsibility of having an enterprise that he raised the chickens in this manner. This was done because he had no other suitable place, yet he wanted to get his chicks early. He brooded his chicks in a homemade brooder using a 50 watt electric light bulb for heat. The chicks did so well that the whole family became interested. On two or three mornings when the teacher called at the home of the boy, he observed other members of the family helping to carry the young chicks from an upstairs room to the lawn where they might spend the day in fresh air and sunshine. The chicks arrived on April 16 and on August 28, Charles gathered his first pullet egg (a bit undersize) and proudly brought it to the Vo-Ag class during the first week of school. It was something to be proud of because the pullet did this feat at the early age of four and one-half months.

Volley ball was used as a means of recreation. The principal very willingly assigned us one evening per week for the use of the gymnasium. Most evenings, however, the boys preferred to remain in the classroom and talk about farming rather than go to the gynasium and play.

It is these out-of-school groups that offer the great challenge to the Vo-Ag teacher. By serving the out-of-school group faithfully and well, the Vo-Ag teacher becomes the most valuable teacher. He also gives the school opportunities to more people and thus paves

L. B. POLLUM

Farm Mechanics

Suggested Topics for Articles for the Farm Mechanics Section

1. Methods of Determining the Content of the Farm Mechanics Course in a Given Community
2. Mechanical Trends in Farming and Its Effect on the Content of Farm Mechanics Courses
3. Paralleling Production Courses With Farm Mechanics Versus a Separate One-Year Course in Farm Mechanics
4. Organizing for Efficiency in the School Shop
5. Teaching the Mechanics Principles Underlying Shop Skills
6. Keeping the Farm Mechanics Course Balanced Between the Various Shop Enterprises and Skills
7. Use of Teaching Aids in Farm Mechanics
8. Effective Use of Reference Material in Teaching Farm Mechanics
9. Motivating Interest in Repair Work in Farm Mechanics
10. The Rural Electrification Program and Its Possible Effects on Farm Mechanics Courses
11. Applying Training in Farm Mechanics to Making the Farm Home a Better Place in Which to Live
12. Relative Importance of Operative Skill and Mechanical Knowledge in Teaching Farm Mechanics
13. The Farm Shop and the Individual
14. What Are Our Objectives in Farm Mechanics?
15. Relating the Farm Mechanics Work to the Boys' Program of Farming

An Electric Pencil for Marking Farm Mechanics Tools

CARL G. HOWARD, Teacher-Training, Moscow, Idaho

THE efficient management of a farm mechanics department demands that some means be provided for rapid identification of the tools belonging to the shop. This is particularly true of pliers, wrenches, and small tools which can find a way into the coverall pocket of some member of the class. Naturally there follows a loss, which is surprising when allowed to run over a period of time.

In order to meet this need the Agricultural Engineering Department of the University of Idaho worked out the details for making an electric pencil from old Model-T coil parts and some electrical supplies. The following process is recommended. A sketch (Figure 1) which illustrates the procedure and lists a material bill is given.

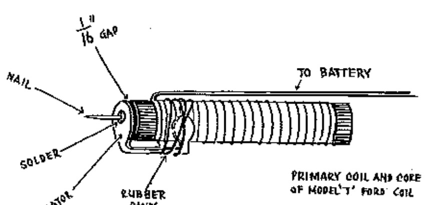
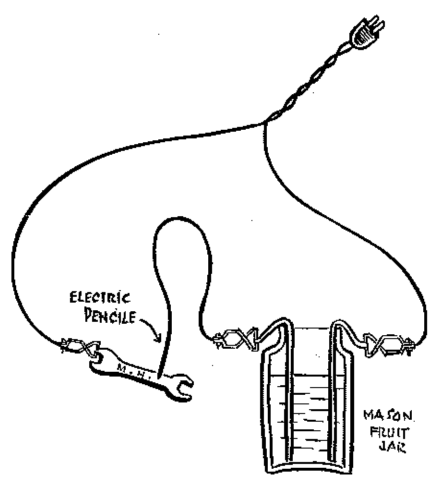


Figure 1

Bill of material: Primary coil and core of Model-T Ford coil; 3 No. 21A battery clips; one vibrator head; two lengths of No. 14 stranded wire; nail; tape; rubber band.

resorting to a battery for power. He suggested taking the juice from the regular 110-volt circuit as indicated in Figure 2.



Pencil in use with battery

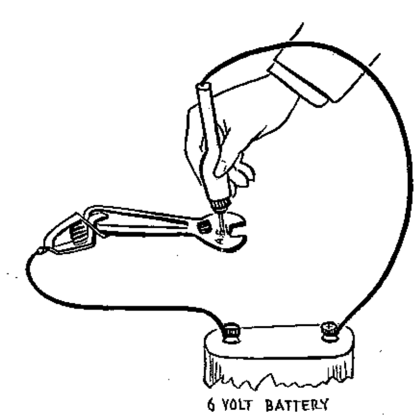


Figure 2

Pencil Construction

To the old Model-T Ford coil, three battery clips, and two short scraps of No. 14 stranded wire, each about two feet long, are added. Dismantle the coil enough to procure the primary winding core and the vibrator spring. Uncover and clean each end of the wire in the primary coil so that it is ready to be soldered. Heat the vibrator spring in the flame of a blow torch and bend the vibrator head 90 degrees with the tungsten point out. Next, bend the vibrator spring mounting to form an open V-crotch which will conform to the contour of the coil. Then solder a small nail (3d box) on the vibrator point as indicated. The vibrator point should be fastened to the coil so as to leave a gap of one-sixteenth of an inch between the vibrator head and the core of the coil. Next solder one piece of stranded wire to one of the exposed coil ends and solder the other exposed coil end to the vibrator. Mount the vibrator on the coil near one end by means of rubber bands as pictured. Wrap the whole with insulating tape and cover that with a paper tape so it will not be

been soldered to one end of the primary winding. Fasten a battery clip to each end of the other piece of stranded wire.

To use the pencil, attach it to the positive post of a fully charged 6-volt storage battery or a 6-volt hot shot battery and ground the tool being written upon by clipping the other wire to the tool and then to the negative terminal of the battery. Write with the nail held on the top side so that the circuit is broken by the magnetic pull. The nail becomes dull with use and unless it is kept sharp it will not work satisfactorily. It requires three to five amperes to operate the electric pencil.

Several farm mechanics teachers have made the pencils and marked their tools with them. They all report less loss thereby. At any rate, there is chance of identifying any shop tools thus marked as the displacement of molecules or ions or whatever they are, makes the filing off of the marks very difficult.

Agricultural Planning

(Continued from page 64)

separate land-grant colleges and separate extension services for rural people.

Perhaps arrangements like this had their place when they were set up. The interests of farmers were being disregarded by existing agencies. Farmers were clannish and demanded segregation. The unfortunate aspect is that these arrangements for separate agricultural education agencies have served to keep town and country people apart.

Agricultural educators will be interested in seeing that as planning agencies are set up they represent both town and country. Agricultural planning groups can be set up under these general planning committees with ample freedom of action.

VII

Community planning, broadly conceived, seems to be one of the certain and one of the most highly influential developments of the future. Rural communities are small enough and homogeneous enough so that planning is more easily possible in them than in urban communities. Most rural adults see the need for it and are willing to have their schools do what they can to promote it. No group is likely to be as effective as teachers of agriculture in bringing about rural community planning.

Progress will be slow. The first attempts at planning will be in limited, perhaps almost trivial undertakings. Some communities which undertake planning will abandon it. But planning will nevertheless survive and be extended. Teachers who are concerned with immediate results will not concern themselves much about it. Those who have the statesmanlike attitudes of educators will find in the planning movement an opportunity to build for years far ahead and for generations yet unborn which will satisfy their most

Such teachers will see, too, that with planning, education will take on new significance. Formal education can offer little in a society which does not know where it is going. A society standing still can perpetuate the social heritage without schools; most of the world has done so thruout history. But when societies envision great goals and see definite ways of attaining them, educators are the first to be summoned to assist.

The planning movement promises to help in doing away with the isolation of the school from community life. This must be done without making the school a propaganda agency for the planning group. Schools as isolated from the world outside them, as many American schools now are, cannot possibly make any important educational contribution.

Thru planning linked with education, our rural communities may regain their lost "souls". Unity of action, morale, and enthusiasm may be restored. Young people may be held in communities which are going toward objectives the young have helped to set up and which they wish to share in realizing. Life will take on new meaning and purpose for all, but perhaps most of all for the teacher of agriculture who becomes a vital part of the movement.

Society needs, as perhaps nothing else, a regrouping of functions which provides for effective planning agencies properly related to existing institutions. The teacher of agriculture who can work this out in the smallest rural community is contributing a social invention which may have universal significance. Society is looking for those who can make contributions of this type and will search them out wherever they may be found. There is no limit to the eventual accomplishments of one who makes a successful beginning, however humble, in this field.

Cadet Fifth-Year

(Continued from page 65)

Major Enterprises

Experiences in the two major enterprises in the Territory, sugar cane and pineapple, are provided at Wailuku and Haiku, Wailuku being located in a sugar cane section and Haiku in a pineapple section. The cadet, while teaching at Wailuku, takes his class on occasional field trips in which the students actually work in the cane fields, planting, weeding, irrigating, etc. While teaching at Haiku, the cadet must supervise his class in the pineapple fields doing farm jobs in connection with the growing of pineapples.

Probationary Teaching

As previously suggested, there are three centers for probationary teaching, namely: Lahainaluna, Haiku, and Wailuku. Each cadet does 15 weeks of actual teaching. Two full-time teachers have been replaced by the cadets. Consequently the cadet has full charge of his class for the period he is in the school and is responsible for all phases of the program. He teaches, supervises field work, files materials, visits home projects, coaches judging and student demonstration teams, holds parent and son get-togethers, F. F. A. meetings, etc. In other words, each cadet receives

have to carry out as a teacher of vocational agriculture. If it is found that a cadet is not adapted to teaching vocational agriculture, he will not be recommended for such a job next fall.

Fifth Year Training Advantages

There should be many advantages of this fifth year program, some of which are as follows:

1. It provides training on the job.
2. It provides practice work in doing farm jobs.
3. It gives the cadet a chance to show what he can or cannot do.
4. It gives those in charge an opportunity to point out to the cadet where he is weak and to try and help him to overcome this weakness.
5. It helps the trainee to find out if he is interested in the work.
6. It helps the supervisor and teacher-trainers to determine which phase of the training program needs strengthening.
7. It familiarizes the cadet with the different kinds of reports and how to fill them out for the Territorial office.
8. It helps the cadet to have a greater appreciation and attitude toward the work.
9. It gains the respect and confidence of employers.
10. It gives those in charge of the training program an opportunity to find out if the cadet should be recommended for teaching.

In the past some teachers of vocational agriculture have entered the job of teaching with a feeling of unpreparedness to do many of the farm jobs with which they would have to deal. All of us have often heard a teacher say, "I am expected to caponize chickens, make post-mortem examinations, castrate pigs, etc. Yet I never had any of that training in college." One of the purposes of the fifth year training is to give the student an opportunity, not only to observe how to do the various farm jobs, but to give him the experience of doing these jobs.

We have also heard teachers say that they had only a few weeks of practice teaching and consequently were not confident as to just what to do when they went out on a job of their own. Since the fifth year training gives the student an opportunity to have full charge of a class in agriculture for several weeks and to observe other cadets teach when he is not teaching, he develops confidence in knowing just what he is to do.

In the mind of the writer, the fifth year training program is exceedingly worth while and worthy of careful consideration by teacher-training departments.

Teaching Honesty

(Continued from page 65)

remain happy, and to prosper in an orderly community it is necessary for every individual citizen to so direct his conduct that it will not interfere with the happiness and progress of his associates.

In teaching honesty it is unnecessary and usually unwise to use the terms "honesty" and "dishonesty." The average boy has been advised so much on this subject that these words have become trite. But there are many other ways to obtain the same result. One of

expressed this great truth in beautiful language. Just before Laertes sailed for France, Pollonius, his aged father, gave him this advice:

"To thine own self be true;
And it will follow, as the night the day,
Thou canst not then be false to any man."

If our boys are true to themselves; if they are loyal to their school and to their Future Farmer organization, they will not be dishonest in their project records. Neither will they disregard the rules at our livestock and judging contests.

Thru the teaching of sportsmanship one has the opportunity to teach honesty in a way that appeals to the boy. To be honest is to be a good sport. It is to treat others as one would like to be treated himself. Honesty has a social basis; dishonesty a selfish one. One cannot be dishonest and at the same time be a credit to his team, whether it be a football team, judging team, a class, a school, or an organization. One of the best short poems on this subject has been given us by Edgar Guest and is called "Team Work." If we as teachers, can familiarize our students with the sentiment expressed in this poem and can get them to practice it in their Future Farmer activities, it will go a long way toward solving our problems of dishonesty.

"It's all very well to have courage and skill
And it's fine to be counted a star;
But the single deed with its touch of thrill
Doesn't tell us the man you are;
For there's no lone hand in the game we play,
We must work to a bigger scheme,
And the thing that counts in the world today
Is, "How do you pull with the team?"

They may sound your praise and call you great,
They may single you out for fame,
But you must work with your running mate
Or you'll never win the game;
For never the work of life is done
By the man with a selfish dream,
And the battle is lost and the battle is won
By the spirit of the team.

You may think it fine to be praised for skill,
But a greater thing to do
Is to set your mind and to set your will
On the goal that is just in view;
It's helping your fellow man to score
When his chances hopeless seem;
It's forgetting self till the game is o'er
And fighting for the team."

One cannot be loyal to his team and at the same time have dishonest motives. Emerson has said: "Whatever games are played with us, we must play no games with ourselves, but deal in our privacy with the last honor and truth. Speak what you think, be what you are, pay your debts of all kinds. This reality is the foundation of friendship, religion, poetry and art"—and I'm sure we vocational teachers would add "industry."

I think the greatest pleasure which teaching affords is to be found in the confidence of our pupils in our friendship for them. To gain this confidence we must be generous in our judgment, yet not shrink from responsibility. This responsibility includes the teaching of honesty thru loyalty, thru sportsmanship, and thru an adequate conception of one's relationship to his fellow men.

One of the greatest compliments that could be paid a teacher is found in the inscription at the southwest entrance of the track stadium on the University of California campus. It is a tribute to a

Studies and Investigations

E. C. MAGILL E. R. ALEXANDER

Group Projects in Vocational Projects

LESTER J. SCHMUTZ, Teacher,
Wakefield, Kansas

Editor's note: Below is given the summaries of the group projects directed by Mr. Schmutz during the period 1928-1935, and a typical report of one of these projects. Mr. Schmutz is now Farm Manager at The Fort Hays State College, Hays, Kansas.

Summary of Projects

Year	Kind and Quality of Livestock	Size	Profit	Loss
1928	Purebred Hereford Calves	12	$274.75	
1929	Choice Grade Hereford Calves	50	444.68	
1930	Good to Choice Hereford Heifers	35	9.25	
1930	White Rock Broilers	400	38.00	
1931	Choice Poland China Feeder Pigs	18	79.68	
1931	Choice Texas-Hereford Feeder Calves	30		$316.67
1931	Choice Cross Bred Pigs	32	94.01	
1931	Poland China Pigs	8	18.01	
1931	White Leghorn Pullets	100		4 01
1932	High Grade Angus Heifers	10		99.70
1932	White Rocks for Egg Production	110	64.55	
1932	Spotted Poland China Pigs	39		114.24
1933	State Accredited White Rocks	90	46.53	
1933	White Rock Chicks	300	40.34	
1933	Choice Hereford Steers	21	250.03	
1933	Medium Grade Dogie Steers	25	125.19	
1933	Good to Choice Shorthorn Steers	20	86.37	
1934	Angus-Hereford Cross Steers	13	97.91	
1934	Poland China and Durocs	36		34.36
1934	State Accredited White Rocks	166	13.92	
1934	White Rock Chicks	350	46.04	
1935	Poland China Gilts	3	19.19	
1935	State Accredited White Rocks	133	102.02	
1935	New Hampshire pullets and cockerels	300	63.00	
1935	Hampshire breeding Ewes	10	22.90	
	Net returns for the eight years		$1,936.37 $1,367.39	$568.98

EQUIPMENT owned and paid for out of project returns:

Twenty by forty foot straw loft, hollow tile, poultry house which cost $431.-35. Also brooder house which was given to the chapter thru the courtesy of the Sanborn Lumber Company, valued at $60.00. Other buildings and equipment was paid for out of district funds.

Choice Hereford Steers—1933

A. Kind and scope of project:
Twenty-one Hereford steers, deferred feeding plan. (Wintered well, grazed on grass three months, finished in dry lot.)

B. Factors entering into the selection:
1. The results at the experiment station showed that relative high priced feeder calves of choice quality could be fed more days using cheaper feeds in the form of silage, and grass during the summer, and the following fall finish in the dry lot selling at a time when choice beeves are usually higher in price due to the scarcity of grain fed cattle on the market at this season of the year.
2. Feeding more of the cheaper feeds would thus reduce the necessary selling price for high priced choice good beef production practice.
3. To note gains, finish, and general conditions in the feed lot where calves are wintered well, summer grazed, and finally finished in the dry lot.
4. To improve the quality of beef-feeding standards in the community.
5. To develop a convenient laboratory for beef instruction.

D. Quality of livestock used:
Choice Hereford steer calves, purchased on Kansas City Feeder Market.

Feeds	Total Feed Fed Pounds	Feed Fed Per 100 Pounds of Gain	Average Daily Gain in Pounds		
			Winter	Summer	Finish
Grain	43,804		4.42	12	16
Protein	3,030		.70	0	1
Alfalfa Hay	4,250		.00	0	5
Prairie Hay	1,400		.00	0	2
Silage	55,213		19.30	0	0

E. Organization and Procedure:
1. Financing. Co-operative finance plan arranged thru the school board and the Future Farmer chapter. Students performed all labor and management. Board furnished money. All losses were to be paid and a sinking fund of 25 per- money for labor and management.
2. Securing Feed. Fifteen acres of corn were bought in the field and made into silage by the boys in September. A silo was leased free of charge and approximately 25 ton of silage was made. Other feeds were purchased from farmers and local grain elevator.
3. Feeding and Care. The cattle were fed in open feed bunks. The winter ration consisted of corn silage, shelled corn, and cottonseed meal. The following table gives the feed consumed and the average daily ration for the entire period:
In order to get the cattle ready for an early fall market, it was decided to put the calves on a self-feeder on grass and give them access to ground corn chop. They were put on grass May 9, and left there until August 15, at which time they were brought in to the dry lot and finished on a self-feeder until sold on the Kansas City market, October 14, 1933.
4. Weight and gain data:

	Pounds
Length of feeding period in days	348
Average initial weight per calf	308
Average final weight per calf	894
Average total gain per steer	586
Average daily gain per steer, winter, grazing, and finishing periods	1.68

5. Financial summary:

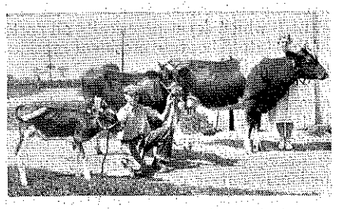
Feed cost to produce 100 lbs. gain, winter	$4.82
Feed cost to produce 100 lbs. gain, summer	5.15
Necessary selling price, at home	6.35
Necessary selling price at Kansas City	6.73
Actual selling price in Kansas City received	8.25
Total of all sales, pork credited	1,547.70
Total of all expenses, pork included	1,297.67
Total net returns	250.03
Total money paid project account	250.03

F. Results and conclusions:
1. The cattle carried a good finish and were sold on a good market.
2. This project demonstrated the opportunity for beef producers to feed a maximum of cheap roughage to young cattle, and still get good gains and market at a time

To What Extent

(Continued from page 68)

dairy cattle, swine, and poultry, supplemented with farm accounts thruout his entire vocational agriculture program. Richard's major interest, and probably his major improvement on the home farm, has been in the dairy business. During the spring of his freshman year he purchased a purebred, registered Guernsey heifer, just ready to breed, and had the good fortune of having her drop two nice heifers for her first two calves. The brood cow has also dropped a bull calf which has been sold at a very good price, and he now has an unusually nice bull calf dropped by his first heifer. The picture shows Richard's brood cow



and the offspring as indicated above. These cattle are replacing the original dairy stock on the farm, and Richard and his father have agreed upon the plan of Richard receiving all the increase in offspring and income received thru showing at county and state fair. Mr. Kuhn receives the milk from the cows, the cattle being fed from farm feed. Richard has turned all his income back into farm investments of one type or another, and this year his program consists of complete management and records on the dairy enterprise as stated above, full ownership and management of a purebred Spotted Poland China sow and litter, 100 hens and 500 White Leghorn baby chicks.

In addition to his livestock program he has seven acres of corn rented on the one-half-share basis away from home and has 16 acres of certified Franklin oats on the home farm, which he is cash renting from his father. The corn and oats provided thru his project program furnishes home grown grain for his swine and poultry and the dairy cattle are fed from other home farm feeds. Richard is not only establishing himself in farming thru his supervised farm practice program, but he has definitely improved the dairy cattle, hogs, and poultry on the home farm, is changing the quality of the crops grown, and is responsible for marketing more of the crops thru livestock.

Richard will enter the college of agriculture this fall on a scholarship he won thru competitive examination this spring. He will probably attend college during the fall and winter quarters and manage his farming operations during the summer months.

Case 4. Melvin Rings is an "American Farmer" having been awarded this degree a year ago, the result of a comprehensive and well-balanced program. His program has changed somewhat from that of his program when he graduated two years ago, but his present farming status bears a direct relationship to his earning from his supervised was in poultry, but this was supplemented with potatoes as a cash crop, hogs were introduced into the farm business, and both dairy production and farm account records were carried thruout his entire program. The returns from his program were invested largely in purebred registered Belgian breeding stock. He is the full owner of a registered Belgian mare which dropped a stud colt last season and will drop a foal again this season. Two brood mares furnish the horse power on the farm, she being one of them. In addition to the brood mare, he is half owner in a three-year-old registered Belgian stallion which he acquired thru earnings from his poultry work. The picture shows the stallion in which Melvin owns half interest.

He also owns a one-fifth interest in the dairy herd.

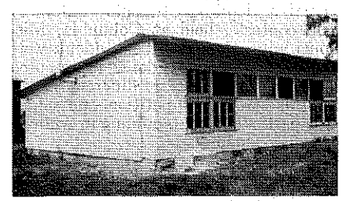
Melvin has a younger brother who entered the vocational agriculture department two years ago and, because of the limited opportunities for expansion of the livestock enterprises on the home farm, Melvin relinquished his interests in livestock in favor of his brother, used his project returns for equipment investments, and began renting land away from home. At this time a John Deere tractor and equipment was purchased in which he made one-half the investment to aid in furnishing power for the extra land he is renting. Last year he operated a sizable amount of land on a crop share rental basis and this year is crop share renting 60 acres of corn, 30 acres of wheat, and eight acres of oats.

Melvin attends the college of agriculture at Ohio State University during the fall and winter quarters and carries on his cropping program during the remaining six months of the year.

Case 5. Fourteen years ago this fall, Bob King entered the vocational agriculture department of the Hilliards High School. He is the youngest of a family of four children, being born and reared on a small farm of 50 acres. Corn, wheat, three or four cows, and approximately two dozen very mediocre hens made up the farming program of this small but productive farm. Bob's freshman project consisted of six acres of corn. Bob and his parents were quick to sense the opportunity and need for a poultry program as a means of balancing and intensifying the business on this small 50-acre farm, and during his sophomore year he very definitely started to develop a poultry program.

Money was none too plentiful for the starting of this enterprise, and we were faced with the problem of providing a brooder house for the rearing of 500 accredited White Leghorn chicks. The best bet seemed to be the corner room little cash out-lay very satisfactory brooding quarters were provided. The chicks gave us some severe headaches, but with Bob's unrelenting spirit and determination, and the encouragement of his parents, he had a nice flock of pullets underway before the summer was very far along.

We were now faced with providing desirable laying quarters, since the home farm did not have a suitable poultry house, and this little fellow of not more than 100 pounds in weight, and in knee pants, with his head set on success, borrowed $200, signed a note, and we set outselves at the task of building a 20′ x 30′ "Ohio Laying House." I helped him lay out the foundation and he and his father went to work. I helped him again when it



was time to cut and put up the rafters, and he and his dad carried it on to completion. In September he filled it with a flock of nice pullets, at the end of the year had a labor income of $232 plus, and paid off the note. The snapshot shows the poultry house on which he borrowed $200 to build, which successfully started him in the poultry business and has served as the basis for establishing him in the business of farming. Another house of the same size makes up his laying unit at the present time. This program was carried, of course, thruout the remainder of his supervised farm practice program, and at the close of his senior year his interest in poultry had reached the point where he desired to enter the college of agriculture and specialize in poultry. This he did. Bob lives a short ten miles from the university and during the four years he drove to and from the university taking care of his poultry, paying his college expenses on "egg money."

Since 1931, the time he was graduated from college, he has been on the home farm carrying on the program he started earlier and is farming some additional land. A year ago he purchased the home 50 acres on a land contract and today is its operator and manager. Bob owns all the horse power and equipment and has increased the milking herd to eight high grade Holstein cows. His cropping program on the home farm this year consists of corn, 7 acres; wheat, 10 acres; alfalfa, 6 acres; supplemented with 3 acres of tomatoes which is grown under contract to a seed company in Columbus, Ohio, and serves as an additional cash crop.

His poultry program has progressed in both intensity and size. For the last three years Bob has been giving his attention to the development of a high laying strain of Rhode Island Reds and at present is giving time to pedigree work. In addition to his poultry flock production work he has been doing some hatching work on a small scale. He started two years ago with a hot water

Future Farmers of America

L. R. HUMPHREYS

Sweepstakes Winners

J. L. PERRIN, State Supervisor,
Jefferson City, Missouri

AT THE twenty-third annual vocational agriculture students conference and contests, held at Columbia, Missouri, approximately 1,040 students were registered. These students represented 107 high schools on 314 different teams. In this strong competition one school was particularly outstanding in winning the major honors.

The Huntsville teams coached by John E. Hoff entered in all ten contests and won seven first place awards and two second place team awards in 1937.

For the fourth consecutive year the Huntsville school has won the sweepstakes award for scoring the most points in all contests. The sweepstakes trophy has been awarded only four years. The Huntsville teams have won more points than any other Missouri school during each of the past nine years based on the present method of selecting the sweepstakes winner. The Huntsville school started their continuous winning "stride" in 1929 with the present instructor as coach. Winning teams in the state contests beginning with that date are as follows:

1929—First places, entomology and field crops; Third place, poultry
1930—First places, entomology and poultry; Fourth place, field crops
1931—First places, entomology, field crops, beef cattle, horse and mule; Sixth place, poultry
1932—First places, poultry, field crops, entomology, animal husbandry including beef cattle, and F. F. A. public speaking
1933—First places, poultry, field crops; Second place entomology
1934—First places, poultry, field crops, entomology; Second place, farm shop
1935—First places, entomology, meat, field crops, farm shop, project planning; Second places, poultry, dairy products
1936—First places, entomology, poultry, field crops, farm shop, project planning; Second place, meat; Third place, dairy products
1937—First places, meat, entomology, Second places, horticulture, dairy production

With one exception the Huntsville School has represented Missouri with one or more judging teams in the national contests from 1929 to the present year.

This year four out of the five teams which will represent Missouri in the national vocational agriculture contests, held at Kansas City during the week of the American Royal Livestock Show, will be from Huntsville. The Huntsville boys will represent Missouri with the following teams: meat, poultry, milk, and dairy cattle judging.

This remarkable record made by the Huntsville Vocational Agriculture Department has not been duplicated at any time in Missouri and we doubt if any vocational agriculture department in the United States has equalled this record, where there are as many contestants as annually participate in the Missouri events.

The accomplishment of such a record has been unusual in view of the strong competition as indicated by the large number of contestants.

A State F. F. A. Public Speaking Contest

LOUIS M. SASMAN, State Adviser,
Madison, Wisconsin

SIXTY-FOUR of the 118 active Wisconsin Chapters of Future Farmers of America took part in the state public speaking contest this year.

The state is divided into 21 districts which are grouped into five sections for this contest. The sectional contests are in charge of the five state vice-presidents. All arrangements for district contests are in charge of local chapter officers. The assignment of this responsibility rests with the state adviser. After the district contest is held, the secretary of the chapter in charge notifies the state vice-president for his section and also the state adviser, giving the place of the contest, the chapters taking part, the name of the boy winning the contest, his subject, and the chapter from which he comes. The vice-president in charge of each sectional contest gives similar information to the state adviser in regard to the sectional contest.

There are always five participants in the state contest thru this arrangement of district and sectional contests, and unsatisfactory conditions, which would result from competition among a large number of contestants, are eliminated.

The state contest is held at the same time as the oratorical and other public speaking contests of the Wisconsin Forensic Association and the participants of the state contest are guests of the Future Farmers of America at a breakfast under the direction of the Forensic Association. At this breakfast a judge of the F. F. A. Contest discusses results of all the contests.

The state contest is also broadcast over the state radio stations WHA and WLBL which cover practically all parts of the state. The state president presides at the state contest.

The Wisconsin F. F. A. Association awards F. F. A. belts to the winners in the district contests, public speaking medals to the winners in the sectional contests, $5.00 toward expenses to the regional contest of the winner of the state contest, and an engraved state award plaque to the chapter having the winning contestant.

(Editor's note: Several states use similar plans for selecting the candidates for a state public speaking contest. Such a plan assures a good state contest and avoids the difficulties encountered in handling a large number of speakers in one contest.)

To What Extent

(Continued from page 75)

put in a 6,000 egg electric incubator and in addition to doing his own hatching, is supplementing his cash income by some custom hatching. At the present time Bob is brooding 2,000 chicks as a source of laying stock for this winter and expects to carry approximately 400 layers. Included is one of his range shelters under which his pullets shade while on range. At present it is shading a flock of early chicks which is being marketed as fryers.

In addition to the intensive program carried on on Bob's own farm, he has been renting additional land for the past four years. This year he is renting 66 acres of additional land, farming 18 acres of corn, 26 acres of wheat, and 12 acres of hay.

With a little enlargement, the above example would easily read like a "fairy tale," but nevertheless 'tis true, and is an example of that which makes a teacher of vocational agriculture feel the price he paid on the job was none too high, no matter what the cost.

Boys and Their Banker

(Continued from page 69)

ing him the first honorary member of the Dickson Chapter of Future Farmers of America, and inviting him to all Future Farmer functions.

The boys, as a chapter of Future Farmers, co-operate on all agricultural movements that will better the county. They have had complete charge of the livestock department at the county fair of good livestock, as well as other improved farm practices. We plan to continue the way we have been doing, giving special attention to more and better livestock, with plenty of pasture and feed. It is seldom necessary, however, to finance a boy on a crop project. We plan to make special effort along the line of improving the sheep, dairy cattle, and beef cattle by selecting for our projects the best animals available, and financing the boys who need it. We feel that choosing 2 dairy cows, 3 beef animals, 10 sheep, 1 sow, or 500 baby chicks is a good start for a boy; then when he has made a success of this, let him take on larger projects. We want a boy to be able to see his way out at all times. To assure success, we insist that each boy have a program of good quality, balancing his livestock and feed, with his animals and crops above the average of the county. This is the means by which we can demonstrate to the older farmers that things can be done better than they have been doing them.

We encourage the boys to sell their neighbors purebred animals for breeding purposes, and thereby improve the quality over the entire county.

Twenty of our enrolled boys plan to buy a registered gilt each within the next month. Most of them, or all who need it, will borrow the money from the bank.

Since a man's business is no larger than his credit it will be necessary for these boys to borrow money to enlarge their farming operations after they have finished high school, and after financing them thru high school, the cashier of the First National Bank of Dickson, does not have to wonder whose customers they will be, and he will know them and know their ability to pay.

The whole program trains the boy to manage as he obtains his agricultural education, and it helps him have good projects, makes it possible for him to own something of his own, gives him confidence, and makes him more interested in agriculture. It enables the teacher to have a better and more practical program of work. It gives the bank a foundation of credit information for the future. It helps improve agricultural conditions in the county. It closes that "wide gap" between the banker and the boys as they become fast friends. It will keep more good boys on the farm as it teaches them something about business, makes them more responsible. It gives boys a credit rating with the bank so that it will be possible thereafter for them to get credit without a long drawn out process of application, inspection, and appraisal.

It builds up an ideal relationship between bank and boy and it should establish a lifetime bond of confidence and esteem between the two.

We feel that the co-operation and interest and support of the First National Bank of Dickson have been of very substantial aid and encouragement in making a success of the projects of the Future Farmers of Dickson County.

Editors Note—This story reprinted from The Tennessee Banker, April, 1937, by permission of H. G. Huddleston, Secretary.

The true aim of everyone who aspires to be a teacher should be, not to impart

Teaching Honesty

(Continued from page 73)

believed in youth and youth made him his confident. Modest, kindly, selfless. To him and to his ideals these fields are dedicated."

If we, as teachers of agriculture, can give to our pupils the right viewpoints; If we can give them the true relationship between themselves, their job, and their associates, dishonesty will be reduced to a minimum and our reward will be their respect and their confidence.

Mid-West Vocational Agriculture Fat Stock

C. L. ANGERER, Assistant Supervisor,
Jefferson City, Missouri

TEN years ago, a farm boy generally speaking, was a youth who put up hay, plowed fields, slopped pigs, and milked cows, all of this activity being done with a firm determination to go off and get a good job in town as soon as an opportunity presented itself.

Today, ten years later, most boys on farms do the same chores and work just as hard in the fields as they ever did, but something has happened to change their minds about finding their life work miles away in an unfamiliar big city.

Call it youth movement on farms, call it whatever sounds most plausible, but behind it all is the work of the vocational agriculture classes in American high schools.

A Decade of Progress

Early in September at the American Royal Building in Kansas City, the decade of progress in vocational agriculture was observed appropriately enough in the 10th annual renewal of the Midwest Vocational Fat Stock Show and Sale. This year's show typified the progress that has been made. Instead of being a two-day presentation as it has been in the past, it became a three-day show this year, beginning Wednesday afternoon.

Class Fat Barrows

The show, under the sponsorship of the Missouri State Department of Vocational Education, was again under the supervision of C. L. Angerer, who has guided the destinies of it thru its most successful years. There is every indication that this year's program surpassed that of other years in every detail. Altho staged by Missouri's department of education, it was open to

Class Fat Lambs

Many Classes Are Offered

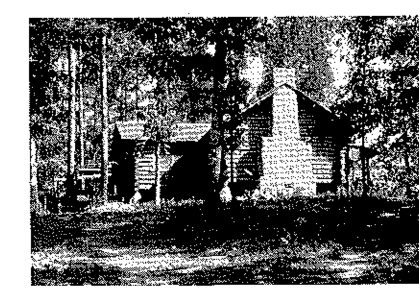
Classes for individual vocational agriculture projects in fat baby beeves, fat barrows, and fat lambs were offered as usual, with group and school projects in carlots of lambs and barrows and groups of three fat calves from students of one school also listed.

As in the past, numerous Kansas City organizations enlisted their co-operation in order to make the stay of the out-of-town farm boys one worth remembering. Civic organizations and large corporations arranged to provide entertainment in the way of a theater party and a special box luncheon for the group.

Cash awards to the winners are generally donated by corporations, banks, civic organizations, and a large number of live stock commission firms and institutions at the Kansas City stock yards.

The three beef breed associations arranged for special awards to high ranking calves within their breed, and breeding animals are awarded by many of the leading livestock breeders of this section.

Camp Couchdale, Arkansas



Lake Side Chapter Lodge

The Old Swimming Hole

The one exclusive sign of a thoro knowledge is the power of teaching.—Aristotle

Let our teaching be full of ideas.

OUR COVER
Gives Radio to Chapter

A. B. FOSTER, Teacher,
Keytesville, Missouri

STUDENTS differ in their ways of showing appreciation for the help they receive from their studies in vocational agriculture. Robert Friesz, senior in the Keytesville, Missouri high school, presented his local F. F. A. chapter with a radio as a means of demonstrating his gratitude for the training he had received.

Robert was president of the F. F. A. during his senior year, ranked fifth in his class in scholarship, was a member of the track and basketball team and carried much responsibility at home. His project record with hogs is remarkable and is briefly outlined here.

As a freshman Robert took a sow on shares with his brother. His second year, 1934, he borrowed $200 from the Production Credit Corporation and fed out a bunch of fall pigs.

For his spring project in 1935, he had three purebred Hampshire sows. These sows saved 33 pigs. However, only 30 of these pigs were marketed, as one was sold at 100 pounds for breeding purposes, one gilt was kept for a brood sow, and one was killed by accident after reaching a weight of about 150 pounds.

The sows farrowed on red clover pasture which had not had hogs on it for several years. They received all the proper attention necessary as is shown by the average number of pigs saved per litter. The sows, before farrowing and after farrowing, and the pigs, after weaning, were fed ground wheat and tankage at the ratio of 12 to 1. This mixture was kept before the pigs at all times, in a creep at first and continuously after the sows were taken away. The price of wheat and corn at that time made this advisable. A mineral mixture consisting of equal parts limestone, bone meal, and salt was kept before them at all times. The pigs were vaccinated for cholera.

The 30 pigs were marketed at the St. Louis hog show for vocational agriculture students in September and brought $687.22, a profit of $332.85. All the wheat was bought at the local elevator at a price ranging from 87 cents to 95 cents per bushel. Corn was selling at $1.00 to $1.10 at this time.

While Robert was at St. Louis with his hogs, the three sows farrowed and saved 24 fall pigs. He bought 10 more from a neighbor later, making 34 pigs for his fall project. They were kept on the same ground that the spring pigs had been fed on and were fattened on corn and a protein supplement consisting of two parts tankage, one part linseed oil meal, and one part alfalfa meal. The mineral mixture was also supplied. These pigs were sold in April. Only 33 were sold as one was butchered. The 33 pigs weighed 8,540 pounds and brought $776.60, a net profit of $375.40 on the fall pigs.

For his 1936 project, Robert had the three sows and a gilt saved from the 1935 spring pigs. These four sows saved 39 pigs. He bought seven more, making a total of 46 pigs on hand now. These pigs were farrowed on another red clover

that the alfalfa meal is not included. He bought 400 bushels of corn from a car of 1,200 bushels which had been purchased co-operatively by the class, and has this stored in a steel crib right beside the feeder and houses.

The combined net profit for his spring and fall pigs was $708.25. In the two projects he actually marketed at St. Louis 63 hogs weighing 14,430 pounds and bringing a total amount of $1,463.82. The total expenses, not including his own labor, were $755.57.

These results were not accidents but were made by planning projects in line with studies of marketing that were made in regular class work. The profits will enable Robert to enter the University of Missouri College of Agriculture.

Pioneering in Part-Time Work

(Continued from page 63)

to teach that unit? Should we divide the boys into groups and let them work for a time on the various phases of farm mechanics, or should we let each boy bring projects from home and work as he may wish?

The matter of time and place of meetings has not yet been solved to our satisfaction. What will eventually prove to be the best arrangements—short unit courses meeting at close intervals or one or two meetings a week over a longer period of time? Perhaps we shall discover that a year-round program interspersed with unit courses and single meetings may be the solution. Some men are actually considering the feasibility of holding small group meetings in the boys' homes. Will it work? We shall never know unless a number are bold enough to try it.

The F. F. A. has been a boon to the all-day work. Will a similar organization be equally as effective for part-time work? If so, what shall be the nature of its setup? If we propose an alumni organization we may find that we are limiting the field to former F. F. A. members. Is this group going to be interested in exactly the same things as the Future Farmers anyway? Are they perhaps more mature in their thinking? Many of these boys are not FUTURE FARMERS. They already are actually farming. Will the supervision of a separate and distinct organization add too much to the teacher's already heavy load? What will be the reaction of other groups which have had organizations for young people for some time? What type of constitution should be proposed in order that the teacher may keep the thing in hand? Experience alone will tell.

We are advised by some that this group should have special social activities. But what activities are most desirable? Should they be a part of the program of work for the group, or should plans for purely social get-togethers be more or less spontaneous?

If we are to follow the mandates of the Smith-Hughes Act, we must see that these boys carry on supervised practice over a period of at least six months. But what constitutes supervised practice, and how are we to interest such a group

project programs, but will these suffice for part-time groups? The all-day boys write plans and keep detailed records. Will this work with young men who are in class but a short time each year? If not, what will?

Some of us believe that the ultimate goal in part-time work is to establish young men in farming. How are we going to do this? Shall we attempt first of all to get them started on the home farms or shall we encourage them to build up their resources in some other manner? Have we any ideas regarding the possibilities in the average community of starting boys out on places of their own?

Teacher-trainers and supervisors must also do some pioneering. The problem of training teachers for this important phase of our program is far from being solved. To be sure they are using what appear to be the best methods, but they must check closely as they go along. In the meantime, a part of their job will be to explore some unbeaten paths with the hope of finding the most direct roads for the inexperienced teacher to follow. Are they not justified in breaking away from the orthodox in order to discover these roads?

All the above mentioned problems are pertinent and some of them are far from easy to solve. They should not, nevertheless, prove more difficult than many which originally confronted us with the all-day group. If we assume our obligations and attack them with courage and an open mind, we should soon have a practical program meriting the respect of the public. The point is this—we have a job to do. If we do not do it, someone else will do it for us. To the teacher starting his first part-time class we should say: *"Here are certain methods which appear workable. If you want to vary them slightly, or if you have a good idea which seems feasible under your particular conditions, go ahead and give it a fair trial. At least make an earnest effort because we are again in the place where we must do some pioneering. Out of that pioneering will come the ways and means of establishing truly commendable part-time programs in the years to come."*

Pioneering in this field offers interesting possibilities, not only for service but for recognition. In the past, promotions have been based largely on achievements in all-day and evening school work. In the future, those who have responsible positions to fill will be looking for men who can show the way in part-time work as well. —*H. E. Lattig*, University of Idaho, Moscow, Idaho.

Testing Soil

P. S. LOWE, Vocational
Agriculture Instructor,
Frankfort, Indiana

ONE of the new undertakings being attempted by the boys of the Frankfort vocational agriculture department is a more or less scientific study of the soil needs on the home farm. Each student brought from his home farm a soil sample. This was tested by a rapid soil test for lime, phosphorus, and potash content. Following this test, pot tests were prepared, with combinations of fer-

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Florida	J. F. Williams, Jr., Tallahassee	E. W. Garris, Gainesville R. L. Reynolds, Tallahassee (c)
Georgia	L. M. Sheffer, Athens	J. T. Wheeler, Athens
Hawaii	W. W. Beers, Honolulu	F. M. Staley, Industrial College (c) F. E. Armstrong, Honolulu
Idaho	Wm. Kerr, Boise	H. E. Lattig, Moscow
Illinois	J. E. Hill, Springfield	A. W. Nolan, Urbana
Indiana	Z. M. Smith, Indianapolis	S. S. Cromer, La Fayette
Iowa	G. F. Ekstrom, Des Moines	Barton Morgan, Ames
Kansas	L. B. Pollom, Topeka	C. V. Williams, Manhattan
Kentucky	R. H. Woods, Frankfort	Carsie Hammonds, Lexington E. M. Norris, Frankfort (c)
Louisiana	S. M. Jackson, Baton Rouge	Roy L. Davenport, Baton Rouge Cornelius King, Scotlandville (c)
Maine	H. S. Hill, Orono	H. S. Hill, Orono
Maryland	H. F. Cotterman, College Park	H. F. Cotterman, College Park
Massachusetts	R. W. Stimson, Boston	F. E. Heald, Amherst
Michigan	E. E. Gallup, Lansing	H. M. Byram, East Lansing
Minnesota	Leo Knuti, St. Paul	A. M. Field, St. Paul
Mississippi	F. J. Hubbard, Jackson	V. G. Martin, State College P. S. Bowles, Alcorn (c)
Missouri	J. L. Perrin, Jefferson City	Sherman Dickinson, Columbia
Montana	Herschel Hurd, Helena	R. H. Palmer, Bozeman
Nebraska	L. D. Clements, Lincoln	H. E. Bradford, Lincoln
Nevada	R. B. Jeppson, Carson City	R. B. Jeppson, Carson City
New Hampshire	E. H. Little, Concord	E. H. Little, Concord
New Jersey	H. O. Sampson, New Brunswick	H. O. Sampson, New Brunswick
New Mexico	Frank Wimberly, State College	H. M. Gardner, State College
New York	A. K. Getman, Albany	P. J. Kruse, Ithaca
North Carolina	Roy H. Thomas, Raleigh	L. E. Cook, Raleigh S. B. Simmons, Greensboro (c)
North Dakota	E. H. Jones, Fargo	E. H. Jones, Fargo
Ohio	R. A. Howard, Columbus	W. F. Stewart, Columbus
Oklahoma	J. B. Perky, Stillwater	D. C. McIntosh, Stillwater D. C. Jones, Langston (c)
Oregon	E. R. Cooley, Salem	H. H. Gibson, Corvallis
Pennsylvania	H. C. Fetterolf, Harrisburg	H. S. Brunner, State College
Puerto Rico	Antonio Texidor, San Juan	Nicolas Mendez, Mayaguez
Rhode Island	G. H. Baldwin, Providence	G. H. Baldwin, Providence
South Carolina	Verd Peterson, Columbia	W. G. Crandall, Clemson College J. P. Burgess, Orangeburg (c)
South Dakota	H. E. Urton, Pierre	R. R. Bentley, Brookings
Tennessee	G. E. Freeman, Nashville	N. E. Fitzgerald, Knoxville W. S. Davis, Nashville (c)
Texas	P. G. Haines, Austin	E. R. Alexander, College Station S. C. Wilson, Huntsville T. A. White, Kingsville Ray Chappelle, Lubbock C. H. Banks, Prairie View (c)
Utah	Mark Nichols, Salt Lake City	L. R. Humphreys, Logan
Vermont	Kenneth Sheldon, Burlington	Kenneth Sheldon, Burlington
Virginia	W. S. Newman, Richmond	E. C. Magill, Blacksburg G. W. Owens, Petersburg (c)
Washington	J. A. Guitteau, Olympia	Everett Webb, Pullman
West Virginia	John M. Lowe	Roy A. Olney, Morgantown† D. W. Parsons, Morgantown†
Wisconsin	L. M. Sasman, Madison	J. A. James, Madison
Wyoming	Sam Hitchcock, Cheyenne	S. H. Dadisman Laramie

c—Colored training institutions