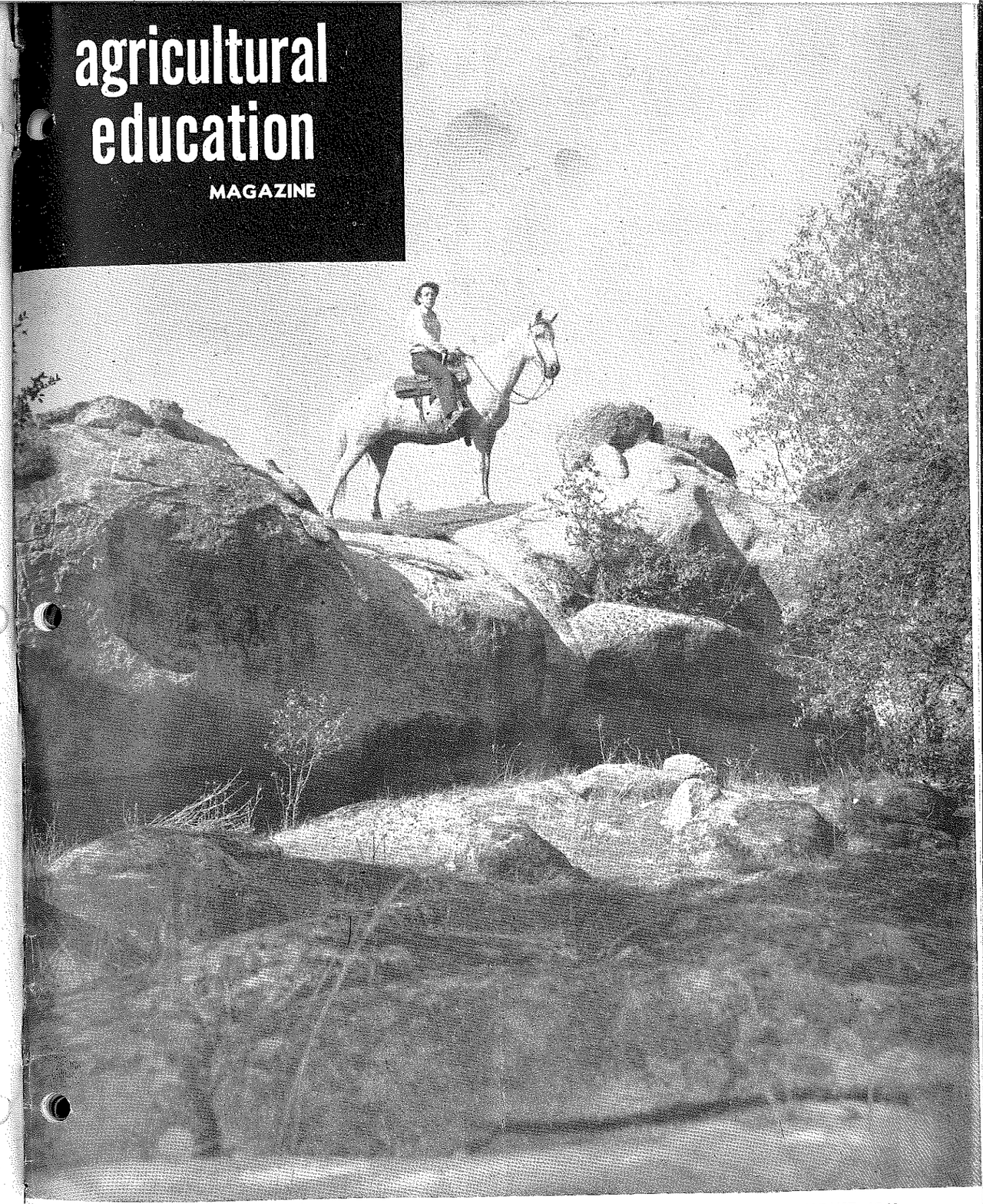
agricultural education

MAGAZINE



Pat Kennedy, Future Farmer, Madera, California
Photo by Warren T. Smith

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THE INTERSTATE DANVILLE, ILL.

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Editorial Comment

Farming programs for young farmers

John B. McClelland

DO WE NEED to increase our emphasis on planning and developing farming programs for young farmers? For many years we have talked about the value of teaching by the project method. In recent years we have expanded our concept of a project. In fact the word "project" has for the most part been replaced by the term "supervised farming program."

We say that group instruction should be based primarily upon farming programs of students and that such programs should lead toward establishment in farming on a satisfactory basis. We stress the importance of individual instruction on home farms of students.

Progress is being made toward the achievement of desired goals in supervised farming programs of pupils in our all-day classes. Curricula for high school pupils no longer are based merely on subjects or farming enterprises. Improved techniques are being used in planning, developing, analyzing and evaluating supervised farming programs of pupils in our high school classes.

Are we making similar progress in our programs for young farmers? Very often discussions of young-farmer courses involve arguments concerning the relative merits of unit courses as contrasted with current problems courses. Either type of course too frequently is limited to discussions about farming with little reference to solving the immediate problems of young farmers who need to get a satisfactory start in farming and who need to increase their proficiency.

Obviously the problems of planning and developing supervised farming programs with out-of-school young farmers are different from the problems encountered in planning and developing such programs with high school pupils. Of course, some of the members of young-farmer groups will continue to expand certain farm enterprises which they have developed as supervised farming programs while in high school. But, for the most part, farm boys and young men who are out of school are ready for broader programs involving higher steps in the farm management ladder.

Members of young-farmer groups should compare opportunities to get started in farming on their home farms with opportunities on other farms in the community. They should study the possibilities of reorganizing the farming programs on their home farms in order to make the farms more profitable both for fathers and sons. Young farmers should learn the principles governing sound parent and son business agreements involving the entire farm business. They should study farm leases and farm purchase contracts. They should understand how and when to use production credit and farm loans. They should make farm and home plans and should keep farm and home accounts. They should learn how to analyze the records of the farm business and how to reorganize the farm business for profit.

Should we give more attention to group work in the classroom, in the laboratory, in the shop, or on field trips, designed primarily to assist young farmers to plan and develop their individual farming programs in the best possible way? Should we devote more attention to techniques of individual instruction designed to attain the same goal?

Requirements concerning time to be devoted to on-the-farm instruction have been very much higher in the veterans program than in our regular vocational program in agriculture. Perhaps the new program will point the way to strengthen our young-farmer work through greater emphasis upon "learning to do by doing."—John B. McClelland, Iowa State College, Ames.

Lesson planning—theory and practice

W. A. Smith

BEGINNING in the September issue of the *Agricultural Education Magazine* there will appear the first of several articles on Lesson Planning. No specific assignment was given to any of the authors other than to invite their response to the general topic. Attempt has been made to have represented among the contributors a predominance of teachers because it is they who are closest to the problem of planning for teaching. Others who are contributing to the series represent both resident and itinerant teacher trainers. The latter can speak from the standpoint of supervision of instruction.

The series is motivated by a belief that the planning of lessons is one of the problems in teaching to which most of us attach major significance in theory but which receives a wide variety of emphasis in practice. The range in practice is likely to vary all the way from appearing before a class more or less prepared only in the subject matter of the lesson to a written plan detailing every activity of teacher and pupil participation. Parenthetically one might observe at this point that there are those teachers and others who firmly believe that the only preparation necessary for teaching is a knowledge of subject matter. Presumably it is these same persons who contend that good teachers are born and not made. They, incidentally, have little respect for the professional content in the preparation of teachers. Most of us on the other hand, have had the experience of participating as pupils in classes where the instructor's knowledge of his subject was unquestioned but where a little planning for teaching, properly executed, would have contributed much to the effectiveness of the teaching.

Discrepancy Between Planning and Practice

What are the reasons for the apparent discrepancy between emphasis in theory on this subject of lesson planning and the actual practice? Is it due to our concept of lesson planning, its meaning and what it involves? Can it be that there may be some confusion as to what the unit of instruction is around which planning for teaching is to take place? Is it a question of form of lesson plan and the degree of formality which interfere with our practice or which result in such wide variation in practice? I have no doubt that many of us in these days of pressures from all quarters upon our time may claim this factor to be the reason for lack of planning. If we assume that planning is necessary to good teaching what can we do about the time element?

Other questions which may call for answer or at least exchange of points of view include—to what extent can lesson plans be filed for repeated use? Do lesson plans have transfer possibilities from one teacher to another? When should lesson plans be prepared? How should the plan be used?

There can be no doubt that the answers to the above and other questions will vary, and rightly so, from one teacher to another. No prediction is made for the coming series of articles that these questions will be answered either as to number or to the satisfaction of the readers. But we do hope to direct attention to a problem in teaching about which much is written and has been emphasized in both pre-service and in-service preparation of teachers, with varying degrees of carry-over into practice. If the series does little more than stimulate further attention to our practices in lesson planning and provoke additional contributions on the subject through the pages of the Magazine and otherwise it will have served a purpose.

—W. A. SMITH, Cornell University.

Methods and Materials

G. P. DEYOE

Effective use of the blackboard

L. O. ARMSTRONG, Teacher Education, North Carolina State College, Raleigh

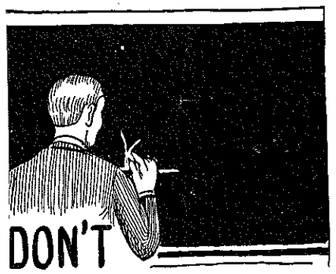
L. O. Armstrong

THE PIONEER visual aid—probably the very first man-made aid to learning—was originated or invented at no cost in money, and is today practically as cheap. It undoubtedly holds the world's record for economy. Originally it was probably a simple drawing made in sand. Today it is a simple drawing made on a blackboard with chalk. It was one of very few visual aids available in the "Little Red Schoolhouse." A blackboard drawing is most effective when given as a chalk-talk.

Chalk-talk means you draw a line or two with chalk then talk; draw another line or two and then talk; continue this alternating process of drawing and explaining until the drawing is completed. You may then continue using the drawing for further explanation and comments, or for discussion and questions.

The only equipment you need is a blackboard, a piece of chalk and an eraser. Large sticks of soft chalks are preferable, but any soft chalk will do. Your chalk-talk will be even more effective when you use colored chalk.

Fortunately, this economical visual aid is more easily available than any other. You have all the necessary equipment anyway and it is only a step or so from where you stand when lecturing or conducting a class discussion. There are no cords to straighten out and connect, no machines to set up, no shades to pull.



Make drawing TOO small.

You merely pick up a piece of chalk and start to draw. Immediately you have the attention of each student. A few more strokes and the class is wide-awake. One feature of your chalk-talk which gets attention is the mere fact that you move, you are in motion—and motion does command attention.

You hold the students' attention because they follow you; they understand; they grasp your ideas; they are impressed because the teaching is graphic—they see as well as hear. Learning, to them, is a pleasing sensation; they do not get lost in a maze of meaningless words.

If you are one of those teachers who seldom if ever makes a chalk-talk and whose alibi is, "O, I can't draw," you can easily prove your alibi has been swindling you. Every teacher can chalk-talk. Like everything else you do successfully, it requires planning and practice. The next time you plan a lesson containing some point to explain—one which a chalk-talk will help you put over—include plans for appropriate chalk-talk. Plan the chalk-talk just as you do other features of the lesson. Practice it on the board prior to executing it in front of the class. Observe the suggestions made here and experience the thrill of teaching a "red letter lesson"—one your students will never forget.

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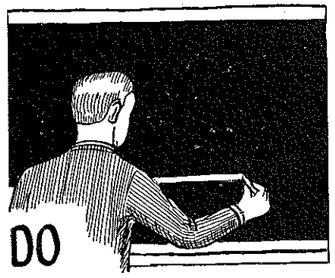
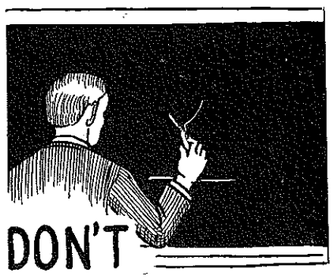
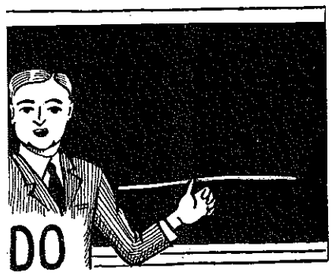


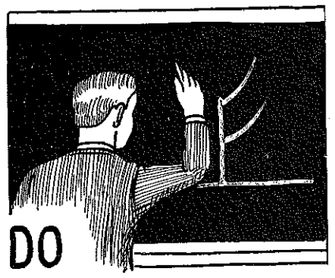
Make large drawing—the boys on the back row do not have field glasses.



Draw continuously until the entire picture is completed. This takes too long. The students don't know what you are leading up to and they don't know what they are doing. They get restless, stop wondering what is coming next, lose any interest which may have developed, and are likely to start playing. One value of a chalk-talk is that the students are carried along step by step. A completed drawing throws the entire story at them all at once.

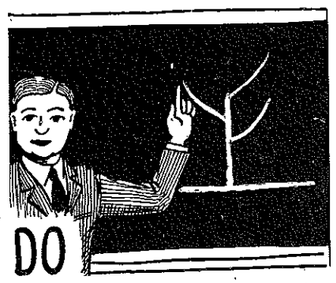


Stand aside, face the students, and let them in on the secret; tell them what the lines represent.



Turn to the board and draw one or two more lines.

Stand in front of the drawing. After all it is a fairly good picture—Why hide it.



Stand aside, face the students and tell them the how, why, where and when; point out relationships. Take them along with you; keep their interest.

A problem solving procedure

S. S. SUTHERLAND, Teacher Education, University of California, Davis

S. S. Sutherland

THE problem approach and basing instruction on the problems found in the farming programs and activities of pupils enrolled in these classes have long been accepted procedures in vocational education in agriculture.

The National Committee on Standards for Vocational Education in Agriculture[1] recognizes this in their criteria for evaluating effective instruction in the statement:

"Good vocational teaching is based largely on problems found in the farming programs of students and results in the solving of these problems through purposeful activity."

In a discussion of the major objectives of vocational education in agriculture[2] we find this thought reiterated.

"Since vocational education in agriculture is to be concerned with the development of effective abilities, such education must be concerned with discovering the problems with which students are confronted in the development of their proficiency in farming. If this line of reasoning is correct, one of the major functions of the teacher is to . . . identify the problem situations with which they are confronted and . . . select the problems that are to be the basis of teaching."

Acceptance Retarded

There has been a conscientious effort made by those of us in teacher education to train teachers to use a problem solving approach and to use the actual problems of their pupils as a basis for class instruction. Most teachers also have accepted this concept and tried to do more than give lip service to these excellent principles. However, the difficulties encountered in doing what they all acknowledge is correct and fundamental have often outweighed the results and many have regretfully abandoned the problem approach and reverted to the easier procedure of teaching about problems rather than training pupils to solve them.

Teachers who have persisted in their efforts to base their teaching on the problems of individual students generally experience difficulty in some or all of the following ways:

1. They have difficulty in getting pupils to tell about or describe their problems.

2. It is easier to discuss problems with pupils individually and to give them an answer or a solution than to go through the process of having it discussed by the class.

3. They have difficulty in getting pupils to state their problems clearly enough so that a valid solution may be reached and in such a way that all the facts are brought out.

4. It is not easy to conduct a class discussion of an individual problem so that all pertinent facts are carefully considered.

5. There is difficulty in getting all possible solutions before the class and weighing and evaluating these inferences systematically.

6. All too often an open discussion of a student problem develops into a process of "going around in circles and getting nowhere."

In an attempt to counteract these difficulties, a procedure has been developed and tried out, at least in a limited way, for conducting a class discussion of an individual pupil problem. This procedure shows considerable promise for use not only in all-day classes with high school pupils but also with older groups such as veterans and young farmers. Essentially, it is an application of the standardized thinking procedure to conference leading and utilizes a blackboard pattern which if followed automatically keeps the minds of both the instructor and students centered on the problem at hand and pre-

(Continued on Page 30)

[1] "Evaluative Criteria for Vocational Education in Agriculture," National Committee on Standards for Vocational Education in Agriculture, U. S. Office of Education and The American Vocational Association, 1942.

[2] "Educational Objectives in Vocational Agriculture," Voc. Div. Monograph No. 21, U. S. Office of Education, 1940.

EFFECTIVE USE OF THE BLACKBOARD

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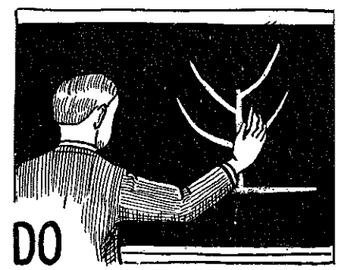
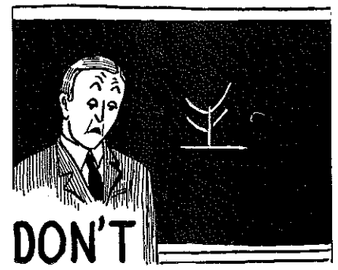
Try to draw elaborate works of art showing all details. You are not an artist and this is not a class in art. Even if you are an artist the excess art hides the lesson.

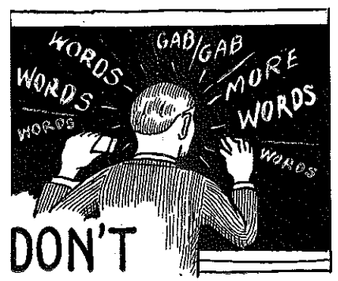


Keep your drawing simple; use only those lines necessary to make the lesson clear and concrete. Omit unessential details.

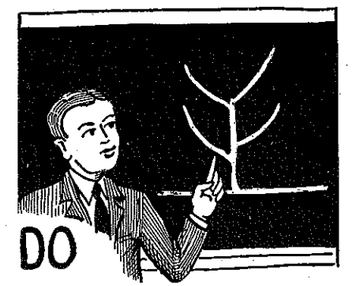


Apologize for being unskilled as an artist; the students have, or will, observe this fact.

Execute a well planned chalk-talk. Practice it prior to class time; know how to draw it, how to use it, and what to say. Remember—a large drawing; one or two bold firm lines at a time; stand aside; face the class.



Talk to the board—the students will miss part of what you have to say. You might say something important.



Sketch rapidly and silently—then face the class to explain. Glance over your shoulder to locate the position to which you wish to point, but face the class to talk.

vents the discussion from wandering. It is an adaptation of a method introduced during World War II by "Training Within Industry" and used in their so-called "Job Relations Training Program" to instruct foremen and supervisors in handling individual problems.

In all-day classes and in veterans classes where this procedure might be used, it is a rather common occurrence for a pupil to approach the instructor before the class session or outside of the classroom with a statement such as this—"My sow farrowed nine pigs and five of them are dead. What will I do about it?" or, "My brood of chicks are not doing too well." "I wonder if I should use commercial fertilizer on my potatoes this year?" While such situations as these provide a good basis for worthwhile class problems, they generally are stated so vaguely and incompletely that they need further development and defining. A procedure for doing this and for guiding a class in solving an actual pupil problem is illustrated and described below. It involves a "blackboard pattern" which aids both the teacher and the class in keeping on the track, and which keeps important facts constantly before the pupils.

Illustration of Actual Problem

In order to visualize how this procedure works, there is shown herewith the information which was recorded on the blackboard in the solution of an actual pupil problem. The situation was described to the class by the pupil in essentially these words:

"I have two Duroc Jersey sows that farrowed a few days ago. The first one farrowed nine pigs. Five of the pigs were dead and the others very weak. The second one farrowed seven pigs and five of these were dead when they were born. This is the second litter for both sows, and their first litters were okay. I was with the sows when they farrowed, and I believe they were handled all right and got the right kind of care. What shall I do about it?"

It will be noted that this pattern involves four major headings. The information under each was placed on the blackboard by the teacher as it was supplied by the members of the class and by the pupil presenting the problem. Incidentally, in this case the pupil and the teacher *did* check the ration, had the alfalfa meal analyzed, and found that in the dehydrating process practically all of its nutritive value had been destroyed. The pupil *is* arranging for alfalfa pasture for his sows for the coming year.

The procedure to be followed by the teacher in assisting and guiding the class in the solution of a pupil problem is as follows:

1. GET A STATEMENT OF THE PROBLEM.

Request the pupil or class member who has indicated that he has had some difficulty or a problem to tell his entire story. It may be necessary to use questions to bring out all of the necessary information.

BLACKBOARD PATTERN

WHAT DOES HE WANT TO ACCOMPLISH?

1. Find cause of weak and dead pigs and prevent it happening again.
2. Develop a good herd of Duroc Jersey hogs.

FACTS	POSSIBLE COURSES OF ACTION
1. Two sows farrowed 16 pigs—10 dead and the rest weak	1. Call veterinarian and act on his recommendation (S.L.C.)
2. Both bred to same boar	2. Send pig to State Laboratory and find cause (F.B.)
3. Second litter for both	3. Check the ration, especially alfalfa meal (G.Mc.)
4. First litter normal	DECISION AND RECOMMENDATION
5. Sire used by other pupils	1. Check the ration, have alfalfa meal analyzed
6. Sired good pigs	2. Provide legume pasture next year
7. Sows handled okay before farrowing	
8. Fed rolled barley, tankage, and alfalfa meal	
9. No pasture for sows	
10. Sows didn't like alfalfa meal. Ate only a little of it	

2. HAVE IT LIMITED AND DEFINED MORE CLEARLY.

After he has presented his problem lead the pupil and the class to determine and decide upon the most desirable outcome of this situation, what he wants to accomplish or wants to have happen. Put this statement on the blackboard where all may see it during the discussion which follows. There may be more than one desirable outcome. In other words, there may be an immediate and an eventual or long-time objective. This is illustrated in the blackboard pattern.

3. GET INFERENCES AND OPINIONS AS TO POSSIBLE COURSES OF ACTION.

Get from the class all the possible courses of action that might be taken in this situation in order to achieve the desired outcome. Use this or a similar question—"From the facts listed and what he wants to accomplish, what would you suggest that he do in this case?" List each suggested course of action and the name or initial of the pupil suggesting it.

4 GET ADDITIONAL FACTS.

By means of questions asked by the instructors and by other class members, get all of the important facts bearing on this problem from the pupil who presented it. List these facts on the blackboard in the proper place. Be sure that they are important, that they bear directly on the problem, and that they *are* facts.

5. REVISE ORIGINAL INFERENCES AND GET ADDITIONAL INFERENCES.

Ask pupils who have suggested courses of action if they wish to change their opinions as a result of the additional facts brought to light. Ask pupils to suggest other courses of action based on these facts. If they are unable to do so, refer them to books, bulletins, and circulars dealing with this subject, or suggest one yourself.

6. TEST AND WEIGH EACH CONCLUSION AND DECIDE UPON THE BEST ONE.

Have each pupil defend his suggested course of action. Test each suggestion by means of these three questions; the first two addressed to the pupil making the suggestion and the third to the pupil who presented the problem:

a. "On what facts in this list did you base your suggestion?"
b. "Will the action which you suggested accomplish what we want to have happen?"
c. "Can this action be taken? Can you do this?"

Lead the class to decide upon the best course of action. Obviously the course finally agreed upon should be backed up by the facts listed, should not be in conflict with any of the important facts, should accomplish the desired objectives, and could be carried out.

Record the final decision on the blackboard and summarize the discussion. Recommend that the pupil who brought up this problem carry out the suggestion agreed upon and that he report back to the class later on how well it succeeded.

Procedure Involves Thinking Process

Since the class procedure follows a normal thinking procedure, it is relatively easy for teachers to use it and pupils to follow it. Even beginning teachers have used it successfully in their first trial after they have seen it demonstrated.

There are one or two variations of this method which show some promise and which might work better in some instances.

1. If the class can suggest no courses of action after hearing the problem stated and having defined it, reverse Steps 3 and 4. Bring out and list the important facts, and then call for suggested solutions. Sometimes the statement of the problem by the pupil is so incomplete that additional facts are needed before any valid suggestions can be made.

2. Again, if no courses of action are forthcoming or if those suggested seem unsatisfactory or incomplete, try a supervised study period in which pupils are referred to books, circulars, and bulletins, in which solutions may be

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Agricultural instruction serves prevocational pupils

HAROLD N. SLONE, Teacher, Goshen, New York

The biblical quotation, *Goshen, the land of milk and honey,* signifies an agricultural area abundantly blessed with two highly prized foods. Goshen, Orange County, New York is not quite up to the enviable position indicated of the Goshen mentioned in the Bible—it produces only a small amount of honey; but this village does boast of being located in the center of one of the top counties in value of milk produced from year to year. It is surrounded by some of the largest, most attractive, and best-kept dairy farms in the State of New York. The entire area around Goshen is rural, and the village of Goshen itself is largely dependent on rural people for its growth and progress.

To us in the school system, therefore, it seems desirable that both village and country boys know the agricultural pursuits of the rural people, including the production not only of milk and honey but of other important products: vegetables, poultry, fruit, corn, potatoes, and so on. Further, it seems to us that they should realize the basic importance of agriculture, not only locally but nationally, and the interdependence of rural and urban people.

So, we decided to begin a course in Agricultural Arts in our central school in 1945-46 and to enroll all eighth grade boys in it.

Vocational agriculture has been offered continuously here since it was first included in the curriculum in September, 1919. This course in *Agricultural Arts,* we felt, should be designed to be different from the vocational course; it had a more varied group to work with and a different aim in view.

Objectives of Course

At the outset, these objectives were proposed: 1) realization of the importance of agriculture in the community; 2) knowledge of the kinds of agriculture practiced locally; 3) understanding of the interdependence of rural and urban people; 4) familiarity with elementary and fundamental principles and facts of agriculture; 5) development of respect for farmers and for farming as a way of life. To us, these seem the minimum essentials of information which a pupil in any school serving rural areas should have about agriculture.

We had additional justification for initiating the course as a required subject in the eighth grade. Other elementary or orientation courses are offered here in industrial arts, languages, science, art, and home economics. Besides that, our records showed us that many boys left school to work on farms soon after entrance to the ninth grade and still had had practically no contact with the offerings in the school for farmers or prospective farmers.

Some day all our eighth graders, girls as well as boys, may take this course. We did not wish to extend ourselves too far at the outset, however; so we limited ourselves to enrolling all the boys, placing village boys in the first semester group (while the farm boys took shop work) and farm boys in the second semester group. Each group met daily for nineteen weeks in periods fifty-five minutes long. The decision to separate farm from village boys was made so that the agricultural instruction could be kept on a level conforming to the experiences and understanding of the students.

The Course of Study

The course of study is set up on the basis of the kinds of farming found in the school district. A total of twenty-five units of study have been developed. They include a survey of farming in the Goshen area, opportunities in the field of farming in Orange County, poultry production, dairy farming, the home garden, small fruits, beekeeping, swine raising, and other units dealing with particular phases of agricultural work.

Because only eight or ten units can be studied with any group meeting for one semester, selection from the units developed is made on the basis of the interest of the individuals in the group, the units most necessary to an understanding of farming in our area, and their appropriateness to the season of the year.

The fact that one group meets in the fall and the other in the spring causes some difficulty in that certain areas of work which should be treated do not lend themselves perfectly to out-of-season study. This has not been found to be a serious handicap, however, as certain phases of out-of-season studies can still be emphasized with value.

Having selected the units to be studied, we turned our attention to the actual methods of teaching to be used. The main objectives kept in mind throughout the development of the course were to have it on as much of an activity basis as possible and to keep it on an elementary level. Each unit was organized in two parts: things to do and things to know. This, then, was to be a laboratory course, and our laboratories the farms about us, contributing agricultural agencies in the school area, and, of course, the school classroom. This means visiting the farms to see what is going on, and performing processes or seeing them performed in the classroom. This, we decided, was not to be a course in vocational agriculture at all, but a course in agriculture based on observation and first-hand acquaintance.

The best way to describe the procedure of the class is to recount the work of one unit. For the study of poultry production, two field trips to farms were arranged. The first field trip was for observation of a laying flock. The farm was visited by the instructor and consent was obtained from the owner for a visit by the class. A set of questions was developed by the instructor and a copy given to each student before the trip began for him to record his answers as he traveled about the farm. A demonstration of the characteristics of good hens was given, and boys had an opportunity to learn to hold the birds properly. Upon completion of the questioning (both by boys and the instructor) and the recording of data on the sheets distributed, the papers were collected. In the next class period, papers were returned to the pupils and a neat report was made by each from the notes he had taken on the visit to the farm. These papers were turned in for credit, graded, and returned; then a further discussion of the trip was held.

Each field trip interested the boys. Naturally some trips appealed to them more than others. For instance, while the unit on tree fruits was being studied in the fall, we visited a nearby fruit farm where there was a large refrigerator storage, a grading and

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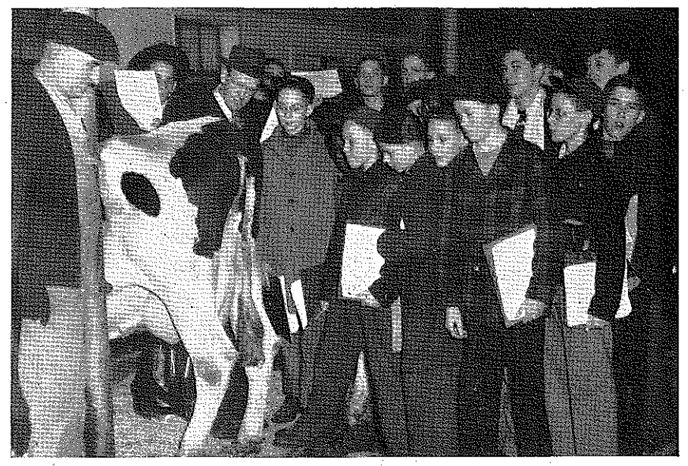

Our laboratories are the farms around us.

Professional

S. S. SUTHERLAND B. C. LAWSON

Selecting agricultural education as a career

R. H. PALMER, Teacher Education, Montana State College, Bozeman

R. H. Palmer

THIS ARTICLE is written for the young man who is considering the occupation of teaching vocational agriculture, and to the teacher of vocational agriculture who advises him.

Let us assume from the outset that anyone who is considering the occupation of teaching vocational agriculture has the prime requisites of farming experience and farm and rural background. Let us assume that he desires to go into a profession rather than to farm for himself, go into business, or into a trade.

There are two ways in which he should go about making his decision. First, he should examine the occupation itself to see if it is desirable for him. Second, he should determine carefully how well qualified he is to become successful in the occupation. Since this is a very important decision, the time and effort given to the study of the occupation and to its requirements will probably pay good dividends.

Suitability of Occupation

First, let's consider the question, "Is Agricultural Education a suitable occupation for me?" In order to answer this you will need to know a good deal about the duties, activities, rewards, and the outlook for this field.

If you have taken vocational agriculture in high school and have been an active member of a Future Farmers of America Chapter, you already know a good deal about the Vo-Ag teacher's job. You are familiar with the hours of work, the kinds of services rendered, the sort of people to be dealt with. You know that the good teacher must be a good mechanic, a good discussion leader, have a good knowledge of scientific agriculture, and a strong liking for farm boys and farm people.

This is all to the good, but there is quite a lot more you should know about the occupation which you may not have found out. There is more to an occupation than meets the eye. For instance, the ag-teacher may have given your class a very interesting demonstration on the maintenance and adjustment of farm tractors. It looked easy. But you might not think of the fact that such a good presentation might have required two hours of planning the night before. So you may need quite a little help in finding all the facts about the problems which you will encounter if you enter this occupation. A good way to go about this is to set off a number of pages in a notebook in which to jot down the facts you find, and your answers to the questions which you have about the occupation.

The list of questions below will give you a systematic way of deciding how suitable this occupation will be for you.

1. Is the demand for capable teachers likely to increase, decrease, or remain about the same in the next five to fifteen years?

2. Is the supply of trained teachers likely to be smaller, larger, or just about equal to the demand during the next five to fifteen years?

3. How do the salary and other financial rewards compare with those of other agricultural, professional, or scientific occupations?

4. Does the occupation offer good opportunities for advancement, growth, and promotion to positions of greater responsibilities and rewards?

5. Does the occupation offer congenial associations, desirable surroundings and living conditions, and outlet for your recreational interests?

6. Are the various daily duties and job operations the kind which you like and enjoy?

In finding the facts to answer these questions, you will probably have to obtain some information from your Vo-Ag teacher, the teacher-training institution in your state, and from the State Supervisor of Agricultural Education. Some information showing national trends is given in Table A which accompanies this article. This should be studied, but you need to find more definite facts from sources nearby and more up-to-date. When you have listed all the important facts relating to each question, you should size them up carefully, and try to make up a good answer which squares with the facts.

After these questions have been answered, it would be well to check your own attitude toward each of these answers. One should apply the same type of questions to any other professions which he is considering seriously, making sure that the true facts are obtained and that the judgments are realistic. After this is done, you should be in a position to decide whether Agricultural Education is really your first choice as an occupation.

Meeting the Requirements for Success

If, after a thorough study, a young man decides that teaching vocational agriculture is the most desirable occupation for him, the next step is to determine how well suited he is for success in this field. There are some fairly definite qualifications for success on which you can obtain facts about yourself.

The chief requirements are set forth in the accompanying table. (Table B), along with the standards which are felt to be desirable for success. A good way to check yourself on these standards is to take a sheet of notepaper and list each requirement separately. Under each one list the standards which are called for. Then, at the right side of each requirement, rate yourself as superior; good; fair; or poor. Then have your teacher or counselor check over the facts and the ratings to see if they are right.

In getting the facts, you will need to refer to your own school records and grades; probably your ratings on mental tests, interest or aptitude tests, and personality ratings may be obtained from your school counselor or agriculture teacher.

Farm experience may be judged on the basis of how many farm skills have been learned and actually practiced in a farm situation. The more skills the better. Experience with all major enterprises in the locality is desirable. While some good agriculture teachers have been lacking in farm experience, it is known that they get along better if they have had all-around farm background. The Federal Vocational Education Acts require a minimum of two years of farm experience after the age of 14 in order to qualify as a teacher.

Health and physical qualities should be carefully examined. Teaching vocational agriculture makes a good many demands on endurance and good physical soundness. Especially to be noted are good hearing, vision, capacity for speaking well, and freedom from health handicaps. These who are very short in stature should consider whether they will be able to compensate for this drawback.

Scholastic and Mental Ability

Your scholastic and mental ability can be checked quite definitely. To get through the college course which qualifies teachers of vocational agriculture, a trainee must be fairly studious and should be capable of making average or better grades in almost all of his college subjects. If your high school courses in English, math, or science have been very difficult or have been disliked, there is a serious question as to how well you will get along in the college training program. Your mental ability test scores should be above the average of high school students, because entering college freshmen rank above high school students. One special aptitude which you should have in at least average degree is that of mechanical comprehension and ingenuity. This can be measured by tests as well as by your performance in shop courses and in your home farm activities.

The job of the agriculture teacher involves mechanics, scientific agriculture, practical activities, organizing and teaching, and community service. Interests in all of these kinds of activities should be fairly high. The inventories ("tests") of vocational interest which are now available to high school students help to determine whether teaching will be a good choice of vocation. The test ratings should show strong to superior interest in scientific, mechanical, personal-social, and persuasive activities. Not everyone will have these interests in equally high degree, but you will no doubt fit better into the occupation if you have such a pattern of interests. The test ratings should be checked to see how well they conform to the things you have done which you have liked.

Leadership and Personal Qualities

Your record of leadership and social activities will provide a good key to qualifications for dealing with people. Leadership and personal qualities can always be developed, but it is much easier for some people than for others. If you have found it difficult to work in cooperation with others, to get along with people, or to assume responsibilities which call for directing others, you may very well question your leadership capacities. The best clue to this is whether you have actually carried out a good many responsibilities and taken active part in affairs of your school, club, F.F.A. chapter, and other community groups.

The training program itself will help to develop your self-confidence. You will receive special training in leading conferences, teaching classes of boys and adults, making public presentations. If you have already taken part in group activities and shown leadership capacity, you need not expect much difficulty in developing the necessary skills. However, if you have always been extremely shy and self-conscious, it will be more difficult for you to develop the persuasiveness and dominance in face-to-face situations which this occupation requires.

By the time you reach this point, you should have rated yourself on each of the qualifications for success, and have had your teacher of vocational agriculture or high school counselor review your ratings. You should now be in a position to decide whether you have the necessary abilities and interests to succeed in the training program, and in the occupation.

In reviewing your qualifications you should consider whether you can compensate for any weak points. If the weakness cannot be overcome, then you must decide whether it is certain to handicap you. For instance, a fellow might compensate for a weak heart, but if his hearing were quite poor, it is doubtful if he could over come the handicap.

If ratings are low in farm experience or in leadship qualities, it is usually possible to meet the requirements through training and practice. On the other hand, if one's scholastic ability has always been below average, there isn't much chance of improving it.

After checking over your weaknesses and strong points, if you find that the assets outweigh the liabilities, you will probably decide that you are well suited to the occupation of teaching vocational agriculture. It has many fine characteristics, and you will find that it is one excellent occupation in which a farm boy can capitalize on his farm background and rural interests.

TABLE A

CHARACTERISTICS OF THE OCCUPATION OF TEACHING VOCATIONAL AGRICULTURE

A. *The Demand for Teachers of Vocational Agriculture*
1. The number of employed regular teachers in the U. S. increased continuously from about 800 in 1918 to approximately 9300 in 1942. During the war the number decreased but it is expected to reach the 1942 number during 1948.
2. Special teachers of Young Farmer classes and Veterans On-The-Farm programs are still in demand in some states.
3. In many states there are schools which desire to establish training in vocational agriculture or to add another teacher to the staff as soon as qualified teachers become available.
4. In some states there are teachers who qualified as emergency teachers who will not be re-employed as soon as qualified teachers are available.
5. Each year a substantial number of teachers leave the profession to enter other professional or business occupations. The tenure of teachers has averaged less than 10 years in most states, which means that 10 per cent or more of the teachers must be replaced each year.
6. Increases in state or federal funds for reimbursement to schools have enabled some states to add new departments. Federal funds for reimbursement of vocational agriculture have steadily increased from about 1¼ million in 1920 to about 13 million in 1947.
7. How do these general facts conform to the situation in your state?

B. *The Supply of Vocational Agriculture Teachers*
1. Agricultural colleges all report a substantial increase in enrollment over pre-war years. A good many of these men are training to become teachers. Higher salaries have attracted good trainees.
2. There is already a surplus of newly trained teachers in some states. They are being absorbed in other states, or in special programs or jobs related to agricultural education.
3. For the past 10 to 12 years there has been an almost continual shortage of teachers with high qualifications. Poorly qualified men have frequently found it difficult to obtain positions.
4. What is the situation as forecast for the next five years by the state supervisor and teacher trainer in your state?

C. *Financial Rewards*
1. Beginning salaries are higher than those of most beginning teachers of school subjects. Most salaries are based on 12 months service per year, with paid annual vacation, leave for advanced study, and provisions for sick leave.
2. Top salaries are about equal to the average college professor's or school administrator's salary. Salary advances have come rather slowly in the past.
3. Most states have established a retirement plan which pays a subsistence pension after 25 to 35 years of service.
4. Additional payment is occasionally given for teaching special classes or performing community services.
5. Many Vo-Ag teachers maintain a profitable side-line such as a poultry flock, or small purebred herd of livestock.
6. Living expenses are usually low in rural communities where vocational agriculture is most commonly taught.
7. Recent salary increases have been rather large, but have not in all cases kept pace with increases in cost of living.
8. What levels of salaries are paid in your state? To beginners? To experienced teachers?

D. *Advancement and Professional Growth*
1. Experience in teaching vocational agri-

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TABLE B. DESIRABLE PERSONAL QUALIFICATIONS FOR SUCCESS AS A VOCATIONAL AGRICULTURE TEACHER

Qualification	*Standard*	*Your Rating*
1. *Farm Experience*		
Farm work after reaching age of 14	At least two years	.....
Livestock enterprises (major)	Familiar with most of those in locality	.....
Crop enterprises (major)	Familiar with most of those in locality	.....
Proficiency in farm skills	Has performed many of those practiced in locality	.....
Mechanical skills	Has performed many of those in maintenance and repair	.....
2. *Health and Physique*		
Height and weight	About average or more	.....
Health and endurance	Good	.....
Soundness	No serious impairment of limbs, speech, vision, or hearing	.....
Freedom from serious diseases or organic trouble	No serious heart trouble, asthma, nervous trouble, active tuberculosis, etc.	.....
3. *Scholastic Ability*		
School grade average	In upper half of class	.....
Grades in English, mathematics and science subjects	Average or above	.....
Intelligence test scores	Above high school average	.....
Mechanical comprehension	Average or above	.....
4. *Interests*		
Strong liking for activities in:		
Agricultural production	Desirable	.....
Mechanical work	Desirable	.....
Farm planning and analysis	Desirable	.....
Scientific agricultural studies	Desirable	.....
Rural organizations and societies	Desirable	.....
Your rating on vocational interest tests:		
Scientific	Strong	.....
Mechanical	Strong	.....
Personal-Social	Strong	.....
Persuasive	Average or above	.....
Clerical or computational	Average or above	.....
5. *Activities and Leadership Qualities*		
Active member of F.F.A., school clubs, or 4-H; preferably have held an office	Desirable	.....
Taken part in agricultural fairs, contests, community programs and recreational activities	Desirable	.....
Like to work in cooperation with others	Desirable	.....

Developments in agricultural education

II. Some points of emphasis in teacher education in vocational agriculture

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H. H. Gibson

This is the second of a series of articles by Professor H. H. Gibson based on observations made on a tour through several states last summer. The first article, which was used in the July issue, set forth his reactions as to observed changes which have taken place in recent years regarding the distribution and use of the teacher's time.

TO what extent are shifts and changes in types and forms of instruction and in the time devoted by instructors to newer forms of activities reflected in our teacher-training programs? Instructors state that they are confronted with problems or activities on the actual job of teaching which are not even considered in the teacher-training program. To what extent does the time and relative importance that we are allotting to different phases of the teacher's job in our training program coincide with the work the teachers believe they have to do when they get on the job? To what extent have our state supervisors and our teacher trainers agreed upon the relative importance of the different aspects or phases of the teacher's job as it actually develops in the field?

Supervised Teaching

Supervised teaching is assuming an increasingly important place everywhere in the training of teachers of vocational agriculture. It is becoming the core of the teacher education program. There seem to be a number of administrative problems in working out satisfactory arrangements, particularly with married veterans. Most states would like to arrange for at least one term or semester of supervised teaching on a full-time basis away from the college campus. There is considerable dissatisfaction with any plan that makes it necessary for the teacher to travel between the college campus and the local high schools during his supervised teaching experience. The short two- to four-week periods of student teaching, arranged as a part of the term's work at the college with courses in methods, are most unsatisfactory. However, occasionally one still finds a state where all the student teachers are herded through supervised teaching at a high school located at the college center.

It is agreed that student teaching to be effective should be supervised by competent instructors and should be well planned and integrated with the methods courses at the college. The determination of what should be stressed in supervised teaching and in the methods courses or in both phases of training is also a question. It is generally agreed, too, that the student teachers should be placed in as nearly a normal and natural environment as possible, similar to the kind in which they will be located as instructors, and that they should have a cross section of experience in those fields and activities which are of major importance in teaching vocational agriculture, also that participation in social environment and community life is just as important as experience in teaching agriculture in the classroom, the supervision of farming practice and other related work.

Supervising

Supervising Teachers. In my observations and conferences with those concerned with an efficient supervised teaching program, much importance is attached to having well-trained and well-paid supervising teachers with a long tenure of employment and service. The Canal Winchester High School teaching center near Columbus, Ohio, may be cited as an example of what is meant by this statement. Here Mr. Binder (now engaged in full-time work at the University) has been supervising teacher for ten years. He told me that when he accepted this job he had the feeling that on one in his position, from the standpoint of personal and professional improvement, could afford to stay in one place more than four or five years. He now reports that ten years has been none too long in one locality to acquire the experience one needs as a supervising teacher. This long tenure has made it possible for him to make a correct appraisal in the evaluation of his work from year to year and has given him a basis for re-planning and developing a long-time program. He has accumulated a lot of experience and many records that have been useful to beginning teachers in seeing what is involved in community program making. In such an environment, it is possible to give student teachers both a good background and a correct perspective. Mr. Bender has had time to develop, in a remarkable way, a long-time program with the young farmer groups with classes for both young men and women. Together they have been able to work out social and economic problems they have in common. Such work has really taken the form of community program making for a large segment of the population. Mr. Bender has been able to guide the boys who started with him in high school agriculture to the place where they are well started or established in farming and have developed a satisfactory home and community life. I find that the departments used for supervised teaching around Columbus have been in operation for many years and that the tenure of service for supervising teachers in most of these centers has been for fairly long periods—much longer than the normal tenure for the average teacher of agriculture. This is the type of environment in which it is desirable to place student teachers in vocational agriculture.

In Nebraska and in a few other states I discovered a plan which I believe has considerable merit. Prospective teachers are placed in the field for at least one month before the beginning of their work in agricultural education in the fall term of the senior year. This gives them a chance to study the summer program of work, to see how the work is started with beginning students in agriculture and to observe somewhat the teaching procedures. This gives a helpful background for instruction in the methods courses at the college. It means also that when they are placed in supervised teaching later, they already have some first-hand experience with the problems and procedures in teaching agriculture.

Supervised Teaching Periods Extended

There seems to be a desire and a tendency to increase, wherever possible, the amount of time allowed for supervised teaching. For instance, in Ohio provision has recently been made for a quarter term of supervised teaching following a quarter in one of the training schools in rural areas close to Columbus. In the second quarter of student teaching, Dr. Stewart reports that the student is sent out into the state to a different department and in a quarter different from that in which he did his student teaching in his junior year and always under the direction of a superior teacher. The student teacher thus comes in contact with another program in a different season of the year and in the section of the state that is similar to that in which he wants to locate as a vocational teacher. Dr. Stewart reports that this second quarter of student teaching perfects professional abilities of the trainees and that they learn more practical agriculture during this quarter of student teaching than in any other quarter at the college.

Apprentice Teaching. Some states have a plan for a fifth year of apprentice teaching. In Massachusetts, as has been the case for a number of years I believe, Professor Taft reports that the apprentice teacher is employed on approximately a three-fourths of normal full-time salary. In California, as we know, apprentice teaching the fifth year is combined with technical and practical training in order to make up any deficiency the student may have in his technical training.

Student Teaching Manuals. I find considerable interest everywhere in student teaching manuals or guides. In the Pacific region, certain states have prepared student teaching manuals for trial use. There are being exchanged or pooled among the different states of the region in the hopes that it may be possible to prepare a manual in printed form that may be useable for all states in the region, assuming of course, that certain adjustments and modifications will be made to meet the conditions that prevail in the different states and local communities. With more emphasis being given to supervised teaching, it would seem more necessary than ever that both college supervisors and supervising teachers have a clear understanding of the phases and forms of training to be given in methods courses and in supervised teaching. This is necessary to avoid duplication of effort and to make for a better integration of all aspects of the program in teacher training.

General Education Courses

In a number of states visited, I discovered there is considerable dissatisfaction with the general courses in education and psychology. For example, it appears that the students take the courses in psychology but do not know how to psychologize when it comes to teaching. In a few states, in order to make these courses function better in vocational teaching, the staff members in the agricultural education department are offering these courses to special sections for agricultural teachers. In one state, the educational psychology course, for which all students register and are required to have for certification, is given by the instructor of the methods courses in agriculture, not as a separate course, but in relation to other courses in methods of teaching agriculture. The instructor believes that the students acquire more psychology in this way, of a kind that they can use, than by taking a general course designed for all students. In another instance, the course in principles of teaching, again a course required for certification, is taught by the methods instructor in agricultural education and is really merged with the methods course although students register for it as a separate course. In some states where psychology courses are not required for certification, such courses are being made optional for students in agricultural education.

The In-service Program

The in-service program, I believe, is on the increase. In some instances this takes the form of the preparation, distribution and use of various forms of instructional material. With the employment of so many teachers of agriculture, particularly teachers of veterans, it seems necessary to provide more forms of in-service training than formerly, partly as a means of helping such teachers to meet certification requirements and to increase their efficiency in teaching. It would seem then that all three phases of participating experience, namely, supervised teaching during the pre-employment period, apprentice teaching and in-service forms of training, with or without college credit, are being given relatively more importance in the professional training program.

On a College Credit Basis. There are many forms of in-service training in operation. There might well be an intensive nation-wide study made of this subject. Only two interesting developments of in-service training on a college credit basis will be mentioned.

Pennsylvania. Here the county supervisor reports to the head of the teacher-training department the subject or unit for which training is desired by a number of teachers in a given locality or area. The teacher trainer, then, arranges through the office of the Dean of Agriculture to secure staff members to give the training in the particular fields of agriculture desired. The college instructors meet the classes in the local communities. There has been no charge to date by the School of Agriculture for such service. This instruction is conducted over a period of weeks and college credit is given in accordance with the amount of work that is done and the time required. It is reported that this type of instruction is very satisfactory.

New York. Here the in-service teacher training is conducted for small groups of seven or more during the summer months. The Rural Education Department arranges with staff members of the College of Agriculture to provide the training desired. Circuits are arranged so that the instructor can meet with three or four groups during a week. Considerable field work is included in the instruction. In talking with certain of the staff members in agriculture who are offering such training, for instance, the head of the department of vegetable production, I found that they are enthusiastic over the possibilities of such training for teachers of agriculture. They report that their experience in this type of instruction has resulted in improvement of the resident instruction at the college both as to the content and methods of teaching.

It would seem that this form of training might well be expanded. There is considerable to be said for getting the instructors in agriculture away from the college campus where they will be compelled to deal with situations as they find them and in the way that the agricultural instructor must meet them in teaching farm boys and farmers. This is true where considerable field work is included in the instruction. Materials and information must be selected with reference to the problem at hand. Consequently, there is more likelihood of the instruction being functionalized. When teachers of agriculture are brought back to the campus for short summer courses in agriculture, there is always a tendency that the subject matter materials that are customarily given in the resident instruction course will be presented to the agricultural instructors in a concentrated and abbreviated form, that there will be considerable repetition and that it will not be given in relation to the problems that confront the teacher in his work on the job.

Non-College Credit Forms of In-Service Training. All states, I find, are doing more or less in the preparation of teaching materials and aids for distribution and use among teachers of vocational agriculture and teachers of veterans. In some cases this is being followed up in the field and developed in conference with the instructors in class and field work and otherwise.

Illinois. Illinois probably has the most ambitious form of in-service training of any of the states I visited. Three staff members are giving full time to this work. Printed materials are developed on jobs and problems that seem to be in need of most immediate attention. These include recommended practices together with related information in support of the farm practices recommended. Much of this material is put out in graphical and illustrated chart form. At present, there is no attempt to cover completely any particular crop or animal enterprise or other major unit in agriculture but rather to select specific jobs or units that would seem to be of most immediate concern and interest to the instructors. While it might be contended that this selection of materials tends to be scattered and somewhat scrappy, those in charge of this work believe it is most in line with what the instructors want at the present time and that the instructors should be in a position to select it and fit it into the organization of their courses wherever it is best adapted. So far as possible, slide films are being prepared to accompany the printed materials. Also teaching kits are used. The staff members follow up this work by holding group conferences of teachers in the field as a means of interpreting the material and putting it across effectively in the instructional work. In talking with the individual instructors, I find that it is very much in demand and very useful in instructional work. This material is prepared both for the use of regular instructors in agriculture and the teachers of veterans.

Problem solving procedure

(Continued from Page 30)

found. This may be done either in Step 3 or 5. This has been tried and works out satisfactorily.

In summary, this device and the method upon which it is based, should prove valuable both in all-day and out-of-school groups. It is inherently interesting, because the problems are actual true-to-life situations. It provides a medium for systematizing and controlling a conference discussion of a problem without destroying the spontaneity of responses of pupils. It trains pupils to follow an accepted thinking procedure in the solution of a problem, and trains them to think and to learn by thinking. It provides a maximum of pupil participation and means of keeping it under control. It translates thought into action by recommending a specific solution to an actual problem, a solution which the pupil agrees can be done, which he is requested to carry out, and which may be followed up and evaluated.

A complete program of vocational agriculture

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Carsie Hammonds

OUR JOB is to train present *and* prospective farmers for proficiency in farming, through vocational agriculture. This task calls for a complete program. The only time there is in which to train prospective farmers is while they are prospective farmers. After they are full-fledged farmers, they are no longer prospective farmers. But it is not possible to train boys and young men so that they will not need training in farming after and as they become the present farmers: Farming changes too much; the educational atmosphere of the persons trained changes too much—the problems of an adult man are not the problems of a boy or even of a young man. Education is, and must forever remain, a continuous process. And education is not something that can be *received* or *imparted* (in the strict sense of the term). Nor can it be stored away and not used till the distant future and still exist.

Sound Philosophy Needed

We can never have a complete program of vocational agriculture without a sound basic philosophy. An important aspect of that philosophy, of course, is the acceptance of the aim of vocational agricultural. Only persons taking steps to reach the ends have aims. We cannot accept the aim of vocational agriculture and not take steps to train *present* farmers; we cannot accept the aim and not train *prospective* farmers. Nor can we accept the aim of vocational agriculture and fail to train for *proficiency in farming*. We train for proficiency in farming only when those enrolled develop the effective abilities needed for success in farming.

We in vocational agriculture have a pattern for developing the effective abilities needed for proficiency in farming, which we deviate from at our own peril. That pattern is "systematic instruction," which consists of organized instruction in class *and* supervision of farming programs. Either without the other is not vocational education in agriculture. Either unrelated to the other is not vocational education in agriculture.

The aim of vocational agriculture is *to train*. Training, or "educating" if you prefer, implies a contemplated product in learning. It is always purposeful, never accidental. The process of education must go on with reference to the end sought. Education or training takes place only when there is definite provision for learning—definite provision by the educator for *what* shall be learned and *how* it shall be learned. There can be no education in the absence of aim or purpose or objectives. Vocational agriculture needs to be as educational as we know how to make it. As on another occasion I "expounded" on making vocational agriculture more educational, I shall not repeat the arguments.

The aim of vocational agriculture is a *teaching* aim. The work is carried on by teachers. The business of the teacher is to teach. He assumes to guide and promote learning. Else why call him teacher? The good teacher of vocational agriculture teaches agriculture. (The verb "teach" is a double accusative.) His boys or young men or adult farmers or veterans learn some agriculture. They don't just learn *about* agriculture, they learn agriculture.

In the world of reality, people seldom speak of teaching *about* something. If a guide should say to some would-be fishermen. "Let me teach you how to catch fish," they would want him to do more than talk about it. They should want to ask questions, to have their questions answered, to have him show them where to go, what to do, how to improve their skill. Then they would want actually to go with him and try their hand. And they would judge the results.

Teaching is directing the learning process. Learning is the process by which one, through his own activity, becomes changed in behavior. One learns only through the activity or activities he engages in. *Good* teaching is directing the activities of the learners so as to result in the largest amounts of intended most desirable learnings and the smallest amounts of undesirable learnings. Whatever we expect to find in the learner's future behavior must be found in his present behavior. This applies to learning improved farming practices and to all other learning. Teaching a better farm practice is more complex than some people realize. It involves developing in the learner (or learners) a belief that the practice is desirable, an understanding of how the practice should be carried out and perhaps why, the ability to *plan* to carry out the practice, confidence in his ability to use the practice, the ability to carry out the practice in his own farming program, and the ability to evaluate the results.

A complete program of vocational agriculture must include high school boys, young farmers, and adult farmers, not to mention the present institutional on-farm training group. Do we need to make a case for each of these three groups in discussing this subject? Perhaps, a brief one.

High-school Boys

The amount of systematic instruction is so large, and the time required so great, that high school instruction in agriculture is a necessity if farmers are to be truly educated in agriculture. Vocational agriculture with the high school boys is our closest tie with the public school system. We must not lose sight of this fact. We must not bungle our opportunity where our tie is closest. Unless we render a real service to the boys while they are in our classes, we need not expect them to look to us for help when they become young men or adults. They will conclude, as people have concluded for ages, either that their teachers are not interested in helping them or that they are not capable of helping them.

There is no good reason why vocational agriculture in high school cannot contribute both to proficiency in farming and to general education. It can and must contribute to the primary function of schools. Schools exist primarily in order that desirable learning may take place in and through them. Superintendents and principals have a right to expect educational results from vocational agriculture in the high school. We cannot deny them the right of evaluation in their own school systems.

But the problem of vocational agriculture is not solved when four years of vocational agriculture is provided in the high school. To quote Dr. Hamlin in the March issue of the *American Vocational Journal:* "The limitations of high school agriculture (arising out of the immaturity of high school boys, their indecision, the limited time they have for practical farming, and their lack of control over their farming situation) do not receive serious enough consideration from those who think all vocational education for farming can be given in the high school."

Young Farmers

Expenditures cannot be justified to support vocational agriculture for high school boys where young-farmer courses are not needed. Let's stop kidding ourselves: If continuation education is not needed in farming, education in farming is not needed at all. If no boys who go to high school remain on the farms in a community, we should not have vocational agriculture in high school in that community. It may be true that during the war there was a scarcity of young men on the farms. By no means all of the young men now on farms are in institutional on-farm training. Many a boy has dropped out of school or graduated since Uncle Sam quit drafting them. (Half of the farm boys in my own state drop out of school by the time they are 16.) Add to the number who have dropped out of school or graduated, the number deferred to farm, the 4 F's, and the G.I.'s who are not now in institutional on-farm training, and we have a sizeable group ripe for young-farmer work. This group needs our help even worse than the high school boys. They are becoming established in farming, with or without our help. In Kentucky half of them are husbands by the time they are 23. School administrators should expect teachers to do young-farmer work, and many of them expect it.

Adult Farmers

Adult farmers need and will use instruction. They are not only the taxpayers and possess the culture of the community, but they are the ones who can make widespread and rapid changes in agriculture. They have control of their farming programs. That adults can learn we no longer question. That many of them want to learn agriculture we have ample proof. That every adult must continue to learn or become relatively less proficient in his vocation is an obvious fact. Not to reach the present farmers is to fail inexcusably to accomplish the aim of vocational agriculture. Adult-farmer instruction should result in the improvement of farm practices. The adult-farmer program should be a long-time continuing program.

Institutional on-farm training should contribute enormously to our regular adult-farmer work and young-farmer work as the veterans finish the time allowed them in subsistence training. We have done a poor job with the veterans if they do not want to come on into the adult-farmer and young-farmer classes. Many of them will come. We not only have the contact with these men and they with a department of vocational agriculture, but we have learned many things in veterans' training that should be useful to us in regular adult-farmer and young-farmer work.

Merely to have all-day work, young-farmer work, and adult-farmer work is not to have a complete program in vocational agriculture. Unless there is good teaching on all of the levels, the program is not complete. Unless there is good *supervision* of good farming programs on all of the levels, the program is not complete. If the department *says* it serves all three groups but the adult farmers merely meet for ten meetings, and if, in young-farmer work, the young farmers' problems are not met continuously and there is not a definite contribution to establishment in farming, the program is not complete.

We can't have a satisfactory program of vocational agriculture with much of an enrollment of boys, young farmers, and adult farmers without a larger number of teachers than we have had. Some modern elementary school men are saying that 9 to 12 pupils per teacher is the maximum number if the learning process is to be directed as it ought to be. In my opinion we are simply expecting the impossible when we expect one teacher to direct the learning activities in agriculture of 50 to 75 high school boys, 25 to 50 adult-farmers, and an equal number of young farmers, to say nothing of supervising or assisting with institutional on-farm training and doing the other aspects of his job.

Work with Individuals

In any complete program of vocational agriculture a great deal of work must be done with individuals, more than most of us ever realize. A common shortcoming of ours is to fail to recognize this fact. Apparently, teachers feel that they are wasting their time when they are working with only one person; in supervising a farming program, for example. Teachers will never be willing to really supervise the farming programs of persons on individual farms until they come to feel that it is abundantly worth while to do. By and large they do not believe that yet. Nor perhaps do teacher trainers and supervisors.

The Great Teacher, who lived 2,000 years ago, tirelessly stressed the importance of the individual—both in his illustrations and his acts. It was for one lost sheep that the shepherd left the security of the fold and searched over mountain steeps, hazarding his life. It was for one wastrel son a father kept ceaseless watch. Jesus took time to unfold the treasures of his gospel to a solitary woman by a well. He lodged with Zacchaeus and thought it worth while to wrestle for that man's soul. Everywhere the emphasis of Jesus was on the importance of the individual. When we learn the importance of the individual and the necessity for supervision of practice in vocational training, we will be willing to give individual supervision; we won't feel that we are wasting our time when working with *one* person; our work will be much more vocational.

Specific Helps Needed

If we are to have complete programs of vocational agriculture, the teachers must receive a lot of specific helps—much more help than they have received in the past. It is absurd to expect teachers to find all of their teaching materials, work out their courses of study *for any group they teach* without guidance or assistance, fit vocational agriculture into a program of studies without help, plan their physical facilities alone, and so on with a multitude of things that go to make up the exceedingly complex job of teaching vocational agriculture. Many states, of course, have done outstanding work in providing their teachers with such specific helps. A few competent people can render services to local programs of agriculture far beyond the cost of supplying the services. It is a short-sighted policy not to have state staffs adequate to do such work.

Though helps to teachers can never take the place of adequate teacher training, we have been surprised in our own state by the quality of institutional on-farm training that has been done by relatively untrained teachers who have been supplied with reasonably adequate specific helps and supervision.

A complete program of vocational agriculture is the program that *ought* to exist. There are parts or aspects I have not mentioned, which, perhaps, we would agree should be included in a complete program. May I touch on a few of these?

Vocational agriculture will never function as it should until adequate attention is given to the occupational and educational guidance of high school boys. Vocational education without guidance is blind.

Of course, F.F.A. will not be left out in a complete program of vocational agriculture. It is an important part of the boy program. But merely electing officers, holding a few meetings, and paying dues will not motivate or vitalize the systematic instruction or provide further training in farmer-citizenship. To be a part of an expanding program of vocational agriculture, the F.F.A. must have and carry out a worthwhile program of boy activities.

In my own state we have a large number of present and prospective part-time farmers whose vocational problems in farming we are not solving. These would be solved in a complete program of vocational agriculture.

There is no such thing as a compelte program that stands alone. A complete program of vocational agriculture must fit into the total school program; it must contribute to the total education of the persons taught; it must consider all the desirable learning that takes place or that can be caused to take place outside the province of the school.

To perfect the local programs of vocational agriculture (*perfect* is an implied meaning of complete), there is need for a great deal of research and the use of research. The *number* of our problems increases, which is the mark of a cultured society. We cannot afford to "muddle through."

That programs need improving goes without saying. Vocational programs are primarily teaching programs. The heart, soul, and center of any teaching program are the teachers. Back of competent, progressive, capable teachers is the teacher training-supervision program. Present and prospective teachers need training, just as do present and prospective farmers. Education is a continuous process for teachers as well as for other people.

At the outset I said I was relieved of the responsibility of discussing developing a complete program of agricultural education for a community. But perhaps we in vocational agriculture must help solve this problem, for the good of vocational agriculture. If only persons "who are preparing to enter upon the work of the farm" take vocational agriculture in high school and a large number of boys in a local school are to get any agriculture some agriculture other than vocational should be offered. Maybe this is the way out where there are too few teachers "per vocational enrollee." Could vocational agriculture in high school stand the competition of general agriculture taught by capable enthusiastic teachers? It should be able to.

By the same line of reasoning, to perfect a local program of vocational agriculture, things must be excluded that are not a part of vocational agriculture. Teachers can well use all their energies and abilities in doing the vocational job that is to be done. When teachers deviate from the pattern of class teaching and the supervision of practice activities related to that class teaching, they are outside the realm of vocational agriculture. To the extent that this occurs, the program is not completely vocational agriculture.

*Paper presented at conference, North Central Region, Chicago, Illinois, April, 1948.

THE AGRICULTURAL EDUCATION MAGAZINE, *August, 1948*

Farmer Classes

J. N. WEISS MARK NICHOLS

Group instruction on the farm
In the education of farm veterans*

L. J. PHIPPS, Teacher Education, University of Illinois, Urbana

INSTRUCTION in small groups on the farm for self-employed veterans is a recognized part of Institutional On-Farm training in most states. If it is properly handled, it may be one of the most effective types of teaching. Because this is the first time we have been able to finance systematically this kind of instruction, we do not have many patterns to follow. We, therefore, are not handicapped by tradition, and should be able to develop some very effective techniques.

PROBLEMS

The instructor of veterans in planning his group instruction on the farm for self-employed veterans will probably encounter the following problems:

1. How to select activities which should be included in group instruction on the farm
2. How to integrate group instruction on the farm with the other phases of the program
3. How to prevent group instruction from degenerating into service activities
4. How to shift part of the responsibility to the veteran for planning and arranging for group instruction on the farm
5. How to teach manipulative skills to small groups
6. How to evaluate group instruction on the farm

GUIDING PRINCIPLES

In planning and conducting group instruction on the farm, the following principles should be kept in mind:

1. Careful planning in advance should be done just as in class and in individual instruction.
2. Farmer should be contacted in advance and arrangements made for use of farm facilities.
3. Opportunity should be provided for performance under supervision; demonstrations represent only one step in developing ability to perform.
4. Group instruction on the farm should help class instruction become functional.
5. All phases of instruction—class, group, individual, other agricultural meetings, and assigned study—should be closely integrated.
6. Planning for group instruction on the farm is an integral part of the class meeting.
7. The veterans should be encouraged to accept responsibility for the planning and the success of group instruction on the farm.
8. Activities should be based on common problems of the group.
9. Outside talent—veterans, farmers, mechanics, and others—should be utilized in teaching.

PROCEDURES COMPATIBLE WITH GUIDING PRINCIPLES

Selection of Activities. Three possible reasons why class instruction is not always functional are:

1. Students lack skill or skills necessary in carrying out new practices
2. Students lack motivational drive
3. Theory lacks meaning to student

Much of the value of group instruction on the farm is the opportunity it provides for eliminating the weaknesses of class instruction listed above.

Group instruction is needed to provide skills, motivate action, and render class instruction meaningful. A problem concerning the prevention of a swine disease requires information about causes, sanitation procedures, and so forth. Group instruction on the farm as a follow-up of class instruction is needed because the application of sanitation procedures or remedies would probably require new skills and introduction of new practices.

In teaching farm safety, information concerning necessary precautions may be provided in class. Assuming the application of these precautions is routine and no new skills are involved, it may still be profitable, if class instruction is to be functional, to provide group instruction in which the safety hazards are eliminated and an awareness of some of the safety hazards on a specific farm is developed. In the above instance, group instruction is for the purpose of motivating the veteran. In selecting gilts for the following year, it may be necessary to follow up class instruction with group instruction on the farm to make the class instruction more meaningful. Visual aids are excellent but not a substitute for live animals.

Integrating Group Instruction on the Farm with Other Phases of the Program. Group instruction on the farm should be related to, or a follow-up of, other forms of instruction. The application of this theory requires planning because of wishes of veterans, adverse weather, seasonal conditions, availability of desirable situations, and so forth. If wishes of the veterans demand the consideration of problems, which prevent the use of the time for follow-up of previous instruction, it may be that the instruction in the other phases of the program is not geared to the real interests and needs of the group.

In some cases situations may arise making it desirable to provide group instruction on the farm which is unrelated to other instruction being provided. This, however, should not be a general practice. If it appears necessary, the course outline should be scrutinized to determine if it is seasonal and meeting the needs of the group.

Keeping Group Instruction on the Farm Educationally Sound. Many have pointed out that group instruction on the farm may easily degenerate into service activities. The construction of an individual hog house is useful in making swine sanitation teaching functional and in developing carpentry skills, and it is a legitimate undertaking in group instruction on the farm. If three or four veterans and the instructor assist one of the number to build an individual hog house, the individual for whom the house is constructed has benefited economically from the labors of his fellow classmates. They, therefore, are anxious to obtain labor in return and may suggest the building of a hog house on their farm. It is conceivable that this activity would continue past the threshold of educational justification and become a mere exchange of labor.

The instructor of veterans must keep himself aware of the economic advantage which group instruction may provide. He should talk the situation over with his veterans so that they will recognize the problem. They should all plan together in order that time will not be used on activities after the educational value has ceased. Group instruction should be distributed among the farms of the veterans so that all will receive approximately equal benefits from the labor of the group.

Responsibility of the Veteran. Group instruction on the farm is an integral part of the total program of instruction. The veteran, therefore, has a responsibility in helping plan the instruction, in providing facilities, and in budgeting time. The instructor cannot efficiently or effectively plan and provide facilities for group instruction on the farm without the wholehearted cooperation of the group.

The development of an attitude of responsibility for group instruction on the farm in a class of self-employed veterans is dependent on:

1. A thorough understanding by each veteran of the regulation regarding group instruction on the farm.
2. An understanding by each veteran of the values and benefits of the instruction to him.
3. The ability of the instructor to delegate responsibility.
4. The planning together for the needed instruction.

Many instructors provide considerable class time for the cooperative planning of group instruction on the farm.

Teaching Manipulative Skills. A large proportion of group instruction on the farm will involve, among other things, the teaching of manipulative skills. If the job is to be done effectively, approximately the following steps should be included:

1. Prepare group
   a. Complete attention should be obtained. Since conditions of instruction on the farm are informal, it is essential that the instructor take necessary precautions and allow time for gaining complete attention before starting instruction.
   b. Interest in job should be developed by pointing out to the trainees the benefits of the instruction to them. Pooling of information on how the job is to be performed is helpful in developing interest. It is also an indication to the teacher of the points which will need greatest stress in teaching the skill.
2. Present skill
   a. In presenting a new skill, it is necessary to demonstrate as well as tell how to perform the skill.
   b. Go slowly when demonstrating a new skill. Remember it is all new to the trainees. Develop one point at a time.
3. Perform job
   Ask each trainee to perform the job and explain what he is doing as he performs. Ask trainee questions concerning key operations and encourage others of the group to do the same. Continue until each trainee can perform skill.
4. Provide follow-up
   Put trainees to work doing job. The instructor should check work to discover inefficiencies or inabilities. Work should continue until skill has been completely mastered. A follow-up of the skill may also be provided during individual instruction on the farm.

Assistance From Members of Class

Some group instructors may be well qualified in various aspects of agricultural science but be unqualified to teach certain essential skills. This situation is expected because the science of agriculture is so large that no one can be an authority on all phases. Being unable to perform a skill is not an excuse, however, for omitting it from the instructional program. In the cooperative planning by the instructor and class, for group instruction on the farm, a veteran may be found who is qualified to teach the skill, or the group may be able to suggest a qualified farmer or mechanic. These individuals should be drawn into the program to supplement the instruction which the regular instructor can offer. The instructor is not censured for being unable to teach a skill, if he arranges for someone else to do the teaching. Omitting the teaching of needed skills will quickly bring censure to the training program.

Evaluating Instruction. The evaluation of the teaching of a manipulative skill is relatively simple and is a part of the teaching process above outlined. Evaluation of other outcomes is more difficult than evaluating a skill because they are often not immediately apparent, are less tangible, and are closely related to the total experiences of the individual.

The fact that the methods of measurement are not always as objective as we may wish is no reason for lack of systematic evaluation. Planning the evaluation is best done at the time the instruction is planned. This procedure produces better advance planning for instruction because it necessitates more sharply defined objectives. It also provides the opportunity for planning records needed for evaluation.

Since the acceptance and adoption of approved practices is usually one of the objectives of group instruction on the farm, the recording of the approved practices initiated is an evaluation device. The approved practices accepted by the group at the conclusion of the instructional period may be copied in a notebook, or otherwise recorded, with space on the right hand side for two columns. The first column is an inventory of the practices being carried on at present. The second column is for checking those practices which will be initiated. Follow-up of the approved practices actually being used can be made by the instructor at a later date while on the farm giving individual instruction.

Activities for Group Instruction on the Farm

The following activities were mentioned at the meetings of instructors of veterans which were conducted by the Agricultural Education Office, University of Illinois.

The following list is an enumeration of the activities which were planned or successfully used by one or more instructors. It is not an attempt to catalog all possible activities. The classification of the activities according to the season they may be taught is suggestive. Local conditions may make a different classification desirable. Therefore, it is necessary for the instructor to use his good judgment.

The classification is based on three criteria:

1. Seasonal need for information and skill.
2. Relative availability of time of veterans.
3. Effect of adverse weather on activity.

For example, the seasonal criterion is used in the classification of applying DDT, and it is listed for summer teaching when farmers have the problem of fly control. The selection of foundation stock would probably meet the seasonal criterion during any season. It would probably, however, best fit into the program during the winter because the veterans would have available time, and it is a job which can be taught during cold weather with relative comfort. Several activities were, or were not, classified as winter topics, depnding upon their suitableness for teaching during bad weather.

Classification of Activities by Seasons

(W=Winter; Sp=Spring; Su=Summer; F=Fall)

LIVESTOCK

1. Selecting foundation stock: W
2. Sampling and weighing milk in cow-testing program: W
3. Visiting farms of purebred breeders: W
4. Culling poultry: W F
5. Identifying animal diseases: W Sp Su F
6. Caponizing: Sp
7. Vaccinating: Sp F
8. Castrating: Sp F
9. Ringing bull: Sp F
10. Weighing and ear marking swine: Sp F
11. Trimming hoofs: W
12. Mixing feeds: W
13. Dehorning (manual, caustic): Sp F
14. Applying DDT: Su
15. Controlling and treating cattle grub: W
16. Butchering, cutting up meat: W
17. Demonstrating fast milking procedure: W
18. Scrubbing hog houses and sows; Sp F
19. Treating navels: W Sp Su F
20. Testing for Bang's disease and tuberculosis: F
21. Managing and handling bees:
    a. Inspecting for disease: Sp
    b. Requeening: Sp
    c. Placing super on hives: Su
    d. Taking honey: F

(Continued on Page 46)

*Adapted from bulletin issued by College of Education, University of Illinois, in cooperation with Illinois Board for Vocational Education.

The study of problems in the field promotes meaningful discussions.

A small group of veterans studying a tractor-mounted saw which the farmer is using to clear brush and small trees from his land.

Farming Programs

C. L. ANGERER

Dairy herd testing

HOWARD ASKOV, Teacher, Osceola, Wisconsin

THIS EXPLANATION of the herd testing laboratory in the vocational agriculture classroom of the Osceola, Wisconsin, high school is written to help enlighten any schools located in dairy communities which have need for putting some new life into their Junior D.H.I.A. program.

The work of the instructor of vocational agriculture is so extensive that his activities must be so organized as to conserve time. The teacher has too many varied tasks to attend to in any one day to add another headache in the disguise of a herd testing laboratory poorly organized. The explanation, then, will describe those features which will help make junior herd testing practical, desirable, and justifiable in a dairy community. It is the instructor's duty to encourage his students to keep dairy records in either the county D.H.I.A. or in the Junior D.H.I.A.

The enrollment in the department of vocational agriculture at Osceola numbers about fifty Future Farmers. Of these fifty, over forty have milk cows on their farms, averaging about sixteen cows per farm.

Test During Class Periods

Herd testing should be done by the student during the regular class period and in or near the classroom for two reasons. First, he can be supervised by the instructor who is near enough to help and watch procedures. He should occasionally make check readings. Second, the student who is testing should not be penalized and necessarily made to put in double time the day he tests. The testing laboratory in the Osceola High School is at the rear of the classroom where the student who is testing is able to follow part of the class presentation. An inspection of the laboratory at the completion of a test is more easily made when the instructor is near. These advantages more than offset the usual amount of distraction created by doing the testing in the classroom. A testing program should not be organized if the laboratory is away from the classroom any distance and the students plan to do their own testing. The isolated lab would be feasible if capable students were hired to do all the testing.

Two schemes to make testing schedules work are used in the Osceola Junior D.H.I.A. At the front of the room are sheets of cardboard, posted on notebook rings, listing the names of the boys who test "tomorrow." The following day the page is turned and the same list appears on the other side listing those who test "today." The second scheme facilitates a quick check-up to find out who has failed to test. Each student is assigned a pair of hooks on which hangs a card with his name in heavy print. Less than a minute's time is required to check on the names not covered by a production report (postcard size) giving the amount of fat per cow, test per cow, and total for the herd. If the testing is done in a cheese factory or creamery during the summer months the report can be mailed as a postcard to the instructor and hung on the proper hook. This card is filed in an indexed cabinet before the next month's testing begins, leaving the names again exposed for the new month.

Most of the students will also want to have a complete notebook which has a separate record for each cow showing both milk and fat per month accumulating for the lactation. Such a record identifies each cow by ear tag, by breeding, and by freshening dates, rather than just by stall number. It should be kept in mind that only the more responsible students should keep this notebook. They should ask for one, not just "be given one." It is only a rare instructor who will have the work organized so efficiently he can check all

PRODUCTION REPORT
O. H. S. Jr. D. H. I. A.

Tester .....

No. Cows Milking.....

Month of.....19.....

Cow	Lbs. Fat	%	Cow	Lbs. Fat	%
1			16		
2			17		
3			18		
4			19		
5			20		
6			21		
7			22		
8			23		
9			24		
10			25		
11			26		
12			27		
13			Total Fat.....		
14					
15			Aver Fat.....		

the notebooks, say nothing about even finding them to check them. For that reason, it may be better to let only the better students keep the detailed records, and have everyone keep the essential information on small forms for class summary and discussion. The latter will meet the requirements for both feeding grain and for determining annual production.

Because most of the students in each class are testing, it is possible early in the fall to take several days to develop testing procedures without jeopardizing the class. Several demonstrations should be carefully given, problems worked

BARN CARD

Osceola Junior Herd Improvement Association

(Fill out and leave this card or the Production Report in the Ag. room the same day you test.)

Student .....

Date .....

Cows	Milk P.M.	Milk A.M.	Total Milk	Test B.F.	Fat Lbs.	Date Dry	Date Fresh
1.							
2.							
3.							
4.							
5.							
20.							
21.							
22.							
23.							
24.							

out, and discussions made to develop the Babcock test. Motivation may be secured through the use of previous summaries on farms familiar to the new students. It is a strange freshman who won't welcome his instructor to his barn some evening during September while the chores are being done. This may be the instructor's first visit to the farm and if it is, the work they do and the plans they make will naturally be different from what is anticipated on later visits. These plans will somewhat differ also if an older brother has been a Future Farmer. In either case the freshman has "invited" his instructor out to the farm.

All the equipment necessary to get him started in herd testing is brought out on this first trip in September. If the visit begins immediately after school there is sufficient time to meet with the parents, before, and during supper, to discuss plans for the student's farming program. If the farm visit begins at chore time, it is important that this planning be done after milking, and after the samples are taken. The instructor can personally handle from twenty to twenty-five freshmen the first month by careful scheduling. If the enrollment exceeds this number, it is desirable to call on the senior Future Farmers to act as "buddies" to help freshmen get started during September.

Procedure Demonstrated in Class

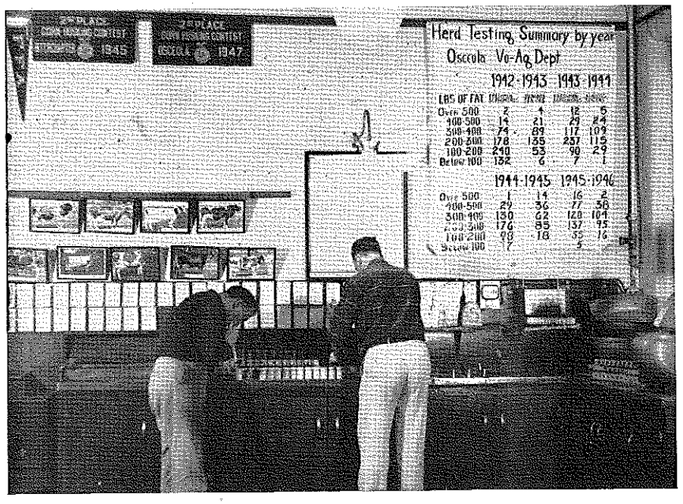
Then, too, in the fall during September when the instructor begins to help the students summaries their records he will want to handle the work as a class exercise with all boys making the same kind of a summary, otherwise the instructor will be swamped and forced to give up before any real goal is reached. This kind of teaching can be the best instruction to be provided in a dairy community. It is strictly vocational at the boy's level, but it must be kept simple and practical. The herd testing program provides an immediate and early connection with the feeding program. The weighing of feed for individual cows based on production will convince many a skeptical dairyman long before he arrives at any annual production that herd testing pays in dollars worth of feed saved.

To make testing practical at Osceola, each Future Farmer is assigned a separate kit with numbered bottles, and a sample dipper. These items remain the property of the F.F.A. The student buys the dairy scale because every dairy farm needs a good scale in the barn for weighing milk, feed, and grain. He is furnished a cardboard "Barn Card" on which he can record all his weights and tests. After the test is made he leaves a "Production Report" on his hook and takes home the kit and "Barn Card" completed with fat tests and fat produced per cow. If a herd book is kept, the barn card is filed with the notebook until the information can be copied into it.

The Testing Laboratory

So far nothing has been said about the testing laboratory other than where to put it. The one pictured herewith has a main working area twelve feet by two feet, and an extension on one end of five feet. This entire cabinet should be covered with a sheet of lead which has a slight rise in front to prevent spilling. The long life of the lead top will easily warrant its original cost. The sink should be built in and should be large enough to submerge completely the twenty-four bottle Mattson rack. On the wing between the two centrifuges is an acid drain, also made of lead, and large enough to allow the full twenty-four bottle rack to be emptied by shaking all of the bottles out at the same time. The lead pipe drain goes outside and at Osceola it leads into an abandoned cesspool.

Directly above the laboratory is a fluorescent light which in some cases even permits students to test milk samples while movies are being shown in the same room. A white pencil is available on the shelf for marking the test bottles. A little time could be saved if a glass paint could be used to mark each bottle permanently. A calculator rests conveniently on a shelf which is handy for computing monthly fat and milk productions. Although costly, it may be desirable to have an adding machine available. It is possible with careful planning and good organization to test and compute the records on a twenty cow herd within the time allotted for a vocational agriculture class.



About sixty herds are on test in the Osceola department.

The Osceola Future Farmers try to operate their testing program on a self sufficient basis. All operating costs come from their treasury which is reimbursed at the rate of one per cent per cow per month for Future Farmers. Veterans enrolled for training pay two cents. All others pay five cents. This money is put into small envelopes on which the tester writes his name, month of test, and the number of cows tested. These are dropped into a box which is opened occasionally and the money recorded on a master sheet. The envelopes serve as receipts.

An important factor for keeping any organization alive and active is the manner in which it strives to inform its members. Once a month, or once every other month, a newsletter with a list of all the members testing is mailed to their homes. This letter contains the number of cows tested, total pounds of fat produced that month, and the average pounds of fat produced per milking cow. This tabulation meets with considerable approval among the members as it serves as a gauge to indicate how their herd compares with others in their community. Not one complaint has been registered from herd owners since 1943 when the Osceola Chapter began mailing summaries to its members. The summary helps to locate discrepancies which may have remained unnoticed until it was too late to correct them.

About sixty herds are on test in the Osceola department. This includes Future Farmers, veterans, graduates, and some students no longer enrolled in vocational agriculture classes. Herd testing is also available to dairymen in Polk County in nine other departments of vocational agriculture, two of which are located near the Polk County border. Most of these junior dairymen have now joined their state Junior Dairymen's Association which held its first annual convention recently at Rice Lake, Wisconsin. One of the first contributions this organization made to its members was to publish a large two colored wall chart on which are listed, step by step, all the correct procedures to take in testing milk. At the annual convention all juniors who tested two or three years were honored.

The secretary of the Wisconsin Dairyman's Association, B. R. Dugdale, who has his office in Madison, makes frequent talks to member groups on herd health problems, cow families, herd testing problems, and other related dairy management problems. Film strips are being prepared to tell the story of dairy herd testing. It is hoped that yearly records can be summarized on a state level later to prove bulls and help locate brood cows.

Studies and Investigations

E. B. KNIGHT

Teaching insurance information in vocational agriculture*

FRED C. SNYDER, Teacher, Mifflinberg, Pennsylvania

Fred C. Snyder

THE information gathered in this study was secured from teachers of vocational agriculture and Pennsylvania farmers. It should be an aid and guide to teachers of vocational agriculture in the teaching of insurance, whether it be given to the all-day, part - time, adult, or veteran groups.

Teacher Practices

One hundred nine teachers of vocational agriculture in Pennsylvania furnished data for the study. Seventy-three of them include insurance instruction in their course of study. The average amount of time allotted to the teaching of insurance units by those who taught it was six periods of forty-five minutes duration for the all-day units, three periods of sixty minutes each for the part-time group, three periods of forty-five minutes each for the adult group, and for the veteran group an average of three lessons of sixty minutes duration.

Insurance lessons were taught as a unit or continuous series of lessons as a part of farm management by over fifty per cent of the cooperating teachers of vocational agriculture, while another thirty-five per cent indicated that they gave insurance instruction in connection with the subject to which it was related, such as crop insurance with field crops, livestock insurance with animal or dairy husbandry. Seventy per cent of the teachers offered the insurance instruction to their combined junior-senior class, with the senior class and junior class next in order.

An average of three methods were used in teaching insurance lessons by each of the seventy-three teachers who included such instruction in their course of study. Class discussion was used by ninety-four per cent of these teachers, lectures by forty-one per cent of the teachers; study of reference method by forty-six per cent, lecture by outside persons such as lawyers and insurance agents by forty-one per cent, and textbook assignments by thirty-six per cent of the teachers who taught insurance.

Sixty-two per cent of all the teachers reporting made suggestions for improving the teaching of insurance in vocational agriculture in Pennsylvania. Teachers reported that more appropriate texts and suitable lesson plans on insurance would aid in improving the effectiveness of their insurance instruction.

Farmer Insurance

Eighty-one Pennsylvania farmers supplied the author with information concerning their insurance practices. The farmers were classified as good farmers, fair farmers, or poor farmers in accordance with their community standing. The type of insurance carried by a farmer does not closely relate to his community rating classification, but his rating in the community is an indication as to whether or not he carried insurance at all. Farmers with a reputation for being good or fair farmers are twice as likely to carry insurance as the poor farmers.

Some Conclusions

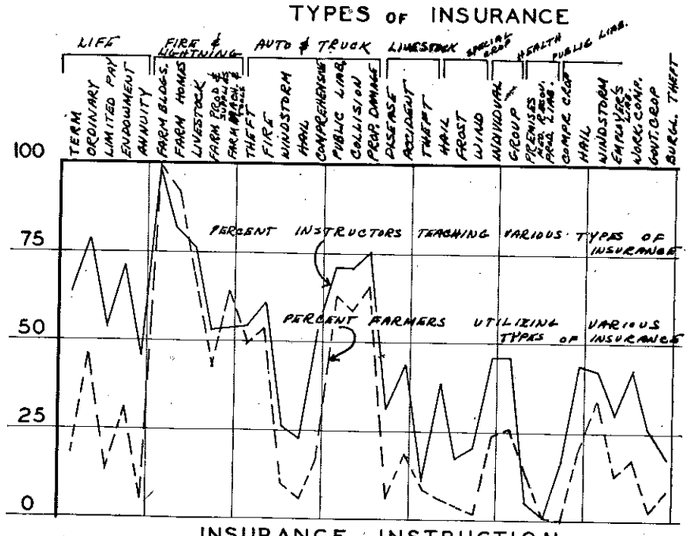
The types of insurance and the emphasis placed on them by teachers of vocational agriculture closely corresponds to the types of insurance utilized by the farmers of Pennsylvania. Additional emphasis and instruction in fire and lightning insurance is of vital importance in keeping the course in vocational agriculture abreast of the farmer's needs. Automobile and truck insurance should be emphasized to a greater extent than is the present practice. Instruction in theft insurance of livestock is not emphasized. Crop insurance for frost or freeze should receive more consideration. Public liability insurance, although not of major importance to farmers, deserves more study than it is presently receiving. On the other hand, windstorm insurance of crops is over-emphasized by the teachers of vocational agriculture when compared with the number of farmers who actually use this type of insurance. These data are presented in the accompanying graph.

Life insurance should be given additional emphasis, not only because of the large number of farmers who carry such insurance, but also because of the range in comparably high costs of this type of insurance. Then, too, the dependents of the farmer are more directly affected by his choice of coverage than in the other kinds of insurance. A wise selection of life insurance policy by the farmer will mean a considerable saving of money, and more and better protection for his dependents.

Recommendations

1. Texts and references on insurance suitable for the high school student of vocational agriculture and for the teacher are badly needed and should be made available.
2. A course of study, or content outline on insurance should be furnished teachers of vocational agriculture as a guide and an aid in formulating insurance courses suitable for their particular teaching situations.
3. Instruction on insurance should

(Continued on Page 40)



INSURANCE INSTRUCTION IN VOCATIONAL AGRICULTURE COMPARED WITH UTILIZATION OF INSURANCE BY FARMERS

*A summary of a thesis transmitted in partial fulfillment of requirements for a Master of Science Degree at the Pennsylvania State College.

Procedures and programs of fifteen Young Farmer Associations in Ohio

RAY FIFE, Teacher Education, Ohio State University, Columbus

Ray Fife

THE first Young Farmer courses were held in Ohio in the year 1919-1920. The first course with a worthwhile attendance was held in the spring of 1922. This course was followed by the organization of a "Young Mens' Farming Club." One group, organized in 1923, has conducted courses annually since that date under the leadership of the same teacher. His program is included in this study.

The Study Plan

Studies of the programs or phases of it have been made by Bruce, Ruble, Miller, Hutchison, Wolf, Colville, Bender and the author. The last general study of procedures and programs was initiated in 1939 and was not representative because of war preparation. The interviews which furnish the facts for the present study were held in October and November 1947.

This study was attempted because the joint staffs including the State Director of Vocational Education considered it advisable to secure detailed information on a sampling of successful Young Farmer programs as they are now being conducted. Practically no attempt was made to evaluate the programs except as local teachers may have expressed opinions. The information was secured by interviews with complete records available in many cases. Both supervisors and teacher trainers including critic teachers, assisted in the preparation of the interview form.

In the opinion of the staff this type of study is most helpful to teachers who are inexperienced in conducting up-to-date Young Farmer programs.

The interviews required from two to four hours and were arranged in advance. The cooperating teachers made an honest effort to furnish facts and procedures which would be of assistance to other teachers. Outstanding teachers considered that it would require three and possibly four years to develop a comprehensive year-round program with the Young Farmer Association assuming maximum responsibility for the program.

Summary of Findings

1. The range of young farmer activities in the programs studied has broadened greatly in the past 15 years and at the same time the quality of technical instruction has improved.
2. The Young Farmer Association represents one of our best examples of democratic planning and conduct of a program. On each of the fifteen programs, the officers of the Association or a key committee assumed major responsibility for the program.
3. The history of the development of the various programs indicates that under wise guidance young farmers learn to assume responsibility not only as Y.F.A. members but as progressive citizens of a community. For example, two of the Young Farmer Associations studied are now taking the leadership in promoting a reorganization of consolidated school districts in their respective areas.
4. Young farmers are intensely interested in national and international problems. They wish to discuss them and welcome any opportunity to secure accurate information.
5. Accurate personnel records on all young farmers in the school area is becoming a responsibility of the Young Farmer Association rather than the teacher.
6. Practically all teachers interviewed feel that an organization of the young farmers is necessary if they are to assume maximum responsibility and have maximum participation.
7. Superior teachers regard careful preparation as absolutely necessary to successful instruction in a Young Farmer course. A high percentage of the teachers interviewed devoted much time to the location of pertinent experimental data. Young Farmer classes ask for supporting evidence.
8. Successful teachers have gradually increased the use of visual aids in their Young Farmer instruction. Special film strips and motion picture charts and field trips are finding a wider use.
9. The practices regarding the use of outside speakers in Young Farmer courses have undergone a revolutionary change. In the program studied, the use of outside speakers is negligible. However, a wide use is made of resource persons in class instruction.
10. Teachers encourage young farmers to begin the development of a program of improved farm practices not later than the second session of the first course. A careful adaptation to needs is necessary. Young men with limited farming opportunities are aided in becoming established in profitable custom work.
11. The majority of Young Farmer Associations have a year-round recreational and social program. The problem of the member who enrolled because of his interest in athletics has been almost entirely eliminated in the programs studied.
12. In several communities, both young farmers and interested veteran trainees are members of the Young Farmer Association. The agricultural instruction is conducted in separate courses but general activities are conducted together. This plan seems to be satisfactory to both the young men and the teachers.

Many other interesting and helpful practices were disclosed by the interviews. While space will not permit mention of them in this digest, they are discussed in the mimeographed report of the study issued by the Department of Agricultural Education, Ohio State University.

Agricultural education as a career

(Continued from Page 33)

culture develops technical knowledge and proficiency and leadership qualities. Teachers learn and grow while they teach.

2. Men who are capable grow into responsibility and community esteem as they remain in a community and produce results.
3. Many teachers of vocational agriculture advance into administrative, supervisory, teacher training, or general education positions. The list of positions held by former Vo-Ag teachers ranges from college presidents, professors, or state supervisors to superintendents and principals of high school, trade schools, and other special schools and institutes.
4. Former teachers of vocational agriculture are employed by many kinds of agricultural business concerns, machinery and farm supply companies, and the like. A good many former teachers are successfully farming for themselves.

E. *Working and Living Conditions.*

1. The duties of the instructor of vocational agriculture bring him into contact with all levels of people in the town and country. He works with professional people, teachers, business men, agricultural specialists, farmers, young farmers, and farm boys.
2. The surroundings are usually favorable for those who enjoy the outdoors, field sports, and being in the country. Most frequently teachers of agriculture are located in small towns and villages rather than in cities.
3. There is a routine during school hours which is not always regarded favorably by the teacher of vocational agriculture. Class schedules are usually inflexible and must be observed by all members of the teaching staff.

F. *Duties and Activities of the Occupation*

1. The main duties of the occupation are:
   Teach agriculture and farm mechanic classes of high school students
   Supervise the students' farming programs
   Act as adviser to the Future Farmers of America chapter
   Conduct Young Farmer classes
   Conduct Adult Farmer classes
   Assist in community planning
   Render community services
2. Interviews may be had with school administrators, state supervisors, and advisory boards to obtain their viewpoint about the occupation and its future. The teacher of vocational agriculture can tell you about the difficulties as well as the good points about the job.

G. *Training Required for the Occupation*

1. Pre-employment training is required as follows:
   Graduation from a standard four-year agricultural college, with strong foundation courses in language, science, and general courses.
   Well-rounded preparation in technical agriculture with emphasis on Animal Production, Plant Production, Farm Management, and Marketing.
   Strong preparation in Farm Mechanics and Rural Engineering.
2. Continuing training during service is obtained by in-service instruction, short intensive technical and professional courses, and conferences.
3. Many teachers expect to obtain a Master's degree within a few years after they begin to teach.

Future Farmers of America

H. N. HANSUCKER

Publicity through F.F.A. Activities

LESLIE M. BROWN, F.F.A. Adviser, Norfolk Agricultural School, Walpole, Mass.

SOMEWHAT in a quandary I approach this assignment to contribute an article on Publicity Through F.F.A. Activities for the columns of *The Agricultural Education Magazine*. Should I stress greater F.F.A. publicity to enhance the prestige of vocational agriculture in our educational system, or should I highlight from personal experience the constructive influence public recognition and approval as on young Future Farmers? I commit myself to the second brief.

As their ancestors were "founders of human civilization," so are today's Future Farmers hostages to our country's continued agrarian leadership. These young people merit public attention to develop pride in accomplishment and foster courage in embarking on careers in agriculture in these inflationary days.

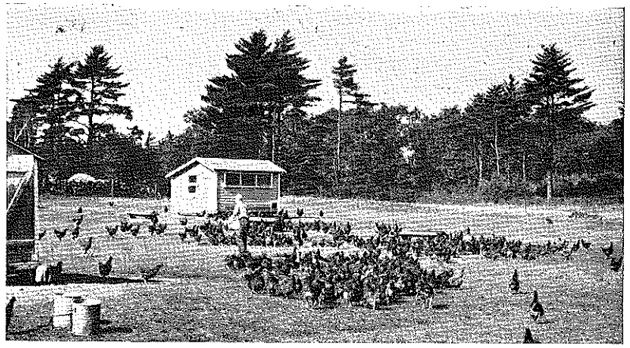
Large Enrollment in County School

Norfolk County Chapter of F.F.A. swells is bucolic breast with pride over the 100 per cent membership of the 125 "teenagers" enrolled at the county agriculture school (Walpole, Massachusetts), which serves the interest of farm boys in twenty-eight communities and, by special arrangement, a limited number of out-of-county boys. These young men subscribe to the F.F.A. ideals "To practice brotherhood, honor rural opportunities and responsibilities, and develop those qualities of leadership which a Future Farmer should possess." The chapter received its charter in the Massachusetts Association in 1931, a year when one of its public speakers won the State contest.

Chapter publicity sponsored by the school's English department has deluged the editorial offices of newspapers and magazines circulated in Walpole, Norfolk County, Massachusetts and surrounding area. This output, much of it written by students of vocational agriculture, has met with verying success. Some has flowered into front page captions, some has been condensed for inside page "fillers," and much unsolicited copy has ignominiously laid imposing eggs beneath the linotype machine.

Youth reacts favorably to public acclaim. The tax paying public, always alert to public school shortcomings, should see more evidence of the heights to which our Future Farmers rise in fruit, flowers, vegetable, and livestock production, in landscape design, in marketing skills. The instructor of vocational agriculture in Massachusetts, and his pupils must seize every opportunity to publicize individual and group accomplishments both by word and by picture. One action photograph tells more than a column of carefully arranged subjects and predicates. Already working on a full schedule, the instructor crowds his evenings and weekends to organize publicity material.

"Stress the local angle," says John Farrar, Director of Public Relations and Information, Future Farmers of America. "Papers want to know specific facts about local folks . . . . submit stories to your newspaper editor, he'll correct your English and spelling and publish them. . . . When a newspaper writer understands F.F.A. is working with you as a friend, and sincerely wants to help in the work you're doing, then is when he begins to apply the touch of an artist to F.F.A. news, and then is when the neighbor gives you a pat on the back and says; "I see you're doing a real job with those boys in the F.F.A." Director Farrar further cautions, "Don't let state papers scoop your local newspaper on a good F.F.A. story about your chapter. A long-distance telephone call to the home town newspaper (about honors at state or district livestock shows and other contests) will be worth much more than its cost in cementing good relations with the editor."



The production record of the R. O. P. flock at the Norfolk County Agricultural School is of interest to flock owners in the area and is a source of good publicity for the school.

F.F.A. publicity should weave a gorgeous tapestry of youthful agricultural achievement. It should contain panoramas of tall corn and waving wheat, trees laden with luscious red McIntosh apples, sleek herds of golden Guernseys grazing knee deep in lush meadows, flocks of plump Rhode Island Red hens, benches of fragrant carnations and sturdy chrysanthemums of rich color, reforestation areas, and soil conservation projects—all manned by healthy, alert, "sons of the soil." There should also be the more personal pictures of homemade equipment and prize winning livestock, judging champions and athletic teams, outstanding exhibits and participants in forensic skill. Future Farmers are all-round young Americans, active citizen-farmers in the making.

For years we have been trying to tell the world of Future Farmer potentialities. Norfolk County Agricultural School publishes a monthly BULLETIN (completing its thirtieth volume), an eight to twelve-page collection of pertinent facts for farm families with a 2,500 mailing list. There are columns for the Extension Service (County Agricultural Agent, Home Demonstration Agents, 4-H Club Agents) and for the school. It is through the school pages that the local chapter can publicize its parents' night, annual fall fair, athletic programs, social events, judging contests, record producing flocks and herds —anything, in fact, that the local F.F.A. chapter does. By including graduate activities, the school has developed a strong and loyal school alumni association, which cooperates splendidly with undergraduate F.F.A. progress. I mention in particular the successful manner in which this association raised $1,500 to cover the expenses of sending three Massachusetts F.F.A. teams and their instructor-coaches to the 1947 national judging contest in Waterloo, Iowa.

The *Norfolk County Bulletin* however reaches only a limited circle of readers in a small area. We tried to interest the editors of local newspapers, most of them weeklies, in reprinting F.F.A. items from our Bulletin, but since this publication was issued only once a month, the stories had lost their news value when they appeared in local columns.

Next we tried releasing weekly to all Norfolk County newspapers a few human interest stories about Future Farmers and home garden pointers. Rarely did they make first page. The local papers did not respond too heartily to receiving mimeographed copies of Future Farmer activities. An occasional publisher might applaud agriculture in an editorial pointing out the advantages of education in vocational agriculture.

Eventually we hit upon a more successful means of publicity. Instead of mass releases on F.F.A. activities, we

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Instruction serves Pre-vocational pupils

(Continued from Page 31)

packing room, a cider press, and a deep-freeze unit. The group made plans for this trip by electing a treasurer to collect from each pupil enough money to buy some cider and an apple apiece. At the time of the trip, cider was served and an apple was given to each boy, but the fruit grower refused to take any pay.

It should be noted, in passing, that trips are made in a school bus with the instructor as driver and that they usually occupy one class period and the lunch period as well, the boys taking their lunches along to eat as they ride.

Of course other methods of instruction are employed. Each student has a notebook in which important data from each unit are copied—mostly from the blackboard. Various phases of the units are discussed. Questions are asked. Short written quizzes are given frequently, and usually a period-long written test at the end of the unit is given. Sound movies pertaining to the topics studied are shown frequently, the movies discussed, and a short quiz on each given.

Projects Not Required

Home or school project work is not a requirement of the course but it is encouraged. It has been found that a large proportion of the group has some kind of project at home anyway, the most common ones being poultry, rabbits, gardens, and dairy cattle.

The main result of the course in *Agricultural Arts* so far has been a better understanding on the part of the pupils of what farming really is. In many cases, this realization has helped boys to make a decision as to whether or not they wish to pursue it as a vocation. In former years, it often seemed that agriculture should be the best choice for particular students to make but they failed to do so. In several instances, this failure was due to a lack of knowledge of its possibilities.

The first year of this offering in our school had an immediate effect on ninth grade selections: the Agriculture 9 class this year (the first course in the vocational program) is the largest ever enrolled here. It is not, however, our intention eventually to enroll all the boys we can get in the program of vocational agriculture; we seek only to interest those who are going back on the farm in order that they may secure as much training and help for the work as possible.

Other less measurable results are making themselves apparent: an expanded knowledge about the life of this area; a real interest in growing and living things; a cognizance of rural and urban interdependence; a deep-seated respect for the life and work of the farmer.

From our experience here, we feel justified in suggesting that such a required course might well be established in other centralized schools.

Harvest dance helps defray F.F.A. chapter expenses

LEO H. ESTABROOK, Teacher, Gorham, Maine

EACH YEAR in the month of October the members of the Gorham High F.F.A. chapter hold the traditional F.F.A. Harvest Dance. This is one of the largest and best attended social events of the entire school year.

The reason for the success of this affair year after year, in the minds of the chapter members, is not a "happen chance." At the second chapter meeting in the fall the president carefully selects committees to carry out the different jobs that must be done in connection with the dance.

Committee Responsibilities

One committee has the responsibility of carrying out the duties required for any dance, such as: getting the orchestra, having tickets printed, and seeing that posters are made. This committee also contacts the president of each class in the high school and asks him to have two candidates for a harvest queen selected.

A second committee is designated whose primary duty is to solicit farm produce, group it into the grand prize and several door prizes, and to decorate the stage of the auditorium with these prizes.

The chapter reporter is also busy getting adequate publicity via local newspapers and the radio.

Each chapter member is given several tickets about a week before the dance, and a special prize is set up for the boy who sells the greatest number of tickets prior to the dance. Since we have a three-year high school, there are six candidates for the harvest queen. These girls are also given the opportunity to sell tickets and the girl who sells the most tickets receives a prize. Our tickets are printed in book form. Each ticket is divided into three parts: a numbered stub to be put into a box for drawing the prizes, the ticket body, which bears the same number as the stub, and a section to be used as a ballot for the queen. Just inside the entrance are two sealed boxes where the ticket stubs and the ballots are placed. It is the duty of one member to preside over these boxes until they are opened.

Each candidate for queen and the queen of the preceding year is presented with a corsage just before the dance. Three impartial ladies are selected from the audience to count the votes for the queen. The new queen is announced just before intermission and is crowned and presented a bouquet by the retiring queen. The newly elected queen is then escorted by the school mayor in a grand march.

After intermission an impartial person is selected from the audience to draw the lucky ticket stubs out of the box. The first prize to be drawn is the grand prize and may be won by any ticket purchaser whether present or not. This is a big factor in selling tickets prior to the dance. This prize consists of a winter's supply of vegetables plus a case of canned corn and a case of canned string beans. It also contained a live rooster and a capon this year. The other prizes consisting of farm produce are then drawn and the people holding the lucky tickets must be present to win them.

We have only a small high school of about 140 students. Our F.F.A. chapter consists of around thirty active members, and this year we made a profit of $184.14 from the harvest dance. We feel that this is a worthwhile activity for us and that it might be used by some other chapters throughout the country.

Publicity through F.F.A. activities

(Continued from Page 44)

submitted individual accomplishment only to the paper serving the community where that particular Future Farmer lived. For example, instead of sending out to all twenty-eight papers a list of F.F.A Chapter officers, we made each officer's election an exclusive feature of his home town publication. Individual biographies required more writing, to be sure, but the results were gratifying. Papers asked for pictures of outstanding F.F.A. boys and their projects. Students in the English classes assisted in gathering material and organizing it into the traditional "who, what, when, and where" copy. Most successful in obtaining front page recognition have been the less prosaic projects: raising rabbits for laboratory experimental demands, propagating a new variety of carnation, remodeling a poultry building into a dairy barn, emergency harvesting, killing and dressing turkeys for Thanksgiving trade, building a small greenhouse, raising Easter lilies, class inspectional tours of Boston markets and meat packing concerns, and, more recently, the Gold Emblem poultry judging team, all three of its members qualifying as national champions.

National organizations such as International Harvester, Swift and Company, First National Stores, and the A. & P. Tea Co. give Future Farmers a helping hand through publicity in their trade magazines and in entertaining royally F.F.A. judging teams and delegates en-route to state, regional, and national contests and conventions.

In conclusion, I refer again to John Farrar's article. He states that the George-Barden act, effective last July provides additional Federal funds to help pay salaries of specialists to work entirely with the Future Farmers of America organization. In other words, states may now hire F.F.A. executive secretaries or F.F.A. promotion men. The addition of such men to the field of vocational agriculture surely will give F.F.A. publicity a shot in the arm. I blow a laudatory blast on my bazooka in approbation of greater F.F.A. publicity through specially trained newspaper writers, thus lightening the load of the instructor who teaches classes, supervises projects, and yearns for time and the gift of gab to put his boys' achievements before the public.

BOOK REVIEWS

APPROVED PRACTICES IN SWINE PRODUCTION, by Glenn C. Cook, pp. 208, paper cover, profusely illustrated, published by The Interstate, list price $1.85. A concise and clear presentation of the important facts of swine production. Excellent selection of illustrative materials. Splendid organization of subject matter, properly indexed and substantiated. One hundred thirty-seven approved practices are listed by chapters in the appendix. A wide distribution of source materials was utilized by the author, whose chief purpose in presenting the information pertaining to approved practices in swine production has been to tell how each activity should be carried out. Much of the information in this book can readily be adapted and used throughout the country. This publication should prove useful to swine husbandmen; farmers, including full-time, part-time and suburban; students of vocational agriculture; teachers of vocational agriculture; 4-H club members; county agricultural agents; and other persons interested in the efficient production of swine. The book should be of special interest to veterans on-farm training students and instructors. APD

A. P. Davidson

* * * *

FAMILY FARM POLICY, edited by Joseph Ackerman and Marshall Harris, pp. 518, published by the University of Chicago Press, Chicago, list price $4.00. This book represents the proceedings of a conference on Family Farm Policy attended by participants from the British Commonwealth, Northern Europe, Central Europe, Latin America, and the United States, held at the University of Chicago, in 1946. A broad listing of the table of contents will give some idea of the breadth of the conference study. The text consists of seven parts as follows:

Part I. Farm Land Tenure in the United States.
Part II. Farm Land Tenure in the British Commonwealth.
Part III. Farm Land Tenure in Northern Europe.
Part IV. Farm Land Tenure in Latin America.
Part V. Farm Land Tenure in Central Europe.
Part VI. Committee Reports.
Part VII. Looking to the Future.

In *Family Farm Policy* seventy-six agricultural experts discuss tenure policy as it effects the family farm. Although the central subject under discussion is the family-sized farm as a social and economic unit in the United States, individuals from other countries contribute their experience with other types of farm tenure. Problems related to farm tenure in the United States were assigned to five committees, namely: (1) The Place of the Family Farm in Our Land Tenure System; (2) The Place of Ownership and Tenancy in a Tenure System Based on Family Farms; (3) Measures To Improve Tenure Conditions on Family Farms; (4) Action to Improve the Conditions of Farm Laborers and Share croppers; (5) Responsibility of Government in Tenure Improvement. All participants were invited as individuals and not as official representatives of their governments, states, or agencies. Breadth and depth were given to the study by widespread geographic respresentation, both in this country and abroad, and by great diversity in point of view and personal interest.

It is generally agreed that satisfactory relationship of farm people to the land has an important bearing upon world peace. Teachers of vocational agriculture recognizing this fact are keenly interested in the subject of Family Farm Policy. This book is not designed to serve as a text for high school youth, but should find a worthy place in high school libraries as a source of basic information dealing with a topic of great importance. A.P.D.

CORRECTION

A discrepancy has been reported in the article dealing with the use of electricity on the farm which was included in the April 1948 issue of this magazine. In the manuscript the data for question 1, page 196, duplicated the figures for question 2. The authors of the article indicate that the correct data should read as follows:

Question 1. "Do you believe that most residents of electrified farms are obtaining the maximum benefits possible in their situation from the use of electricity on their farms?"

REPLIES	Per Cent Yes	Per Cent No
Coop managers	0	100
County agents	0	100
Teachers of vocational agriculture	1	99
Teachers of home economics	8	92
Home demonstration agents	11	89
Industrial arts shop teachers	7	93

Teaching insurance information

(Continued from Page 42)

have a definite place with an indication of the desirable amount of time to be devoted to it, in the suggested course of study for vocational agriculture in Pennsylvania.

4. Additional training for prospective and present teachers of vocational agriculture in the fundamental principles of insurance and insurance practices is highly recommended.

5. Insurance instruction for students of vocational agriculture should be integrated with the instruction on the various agricultural enterprises and with the farming programs of the students so that it can be presented most effectively.

Group instruction for veterans

(Continued from Page 39)

c. Preparing for winter: F
f. Hiving swarm: Su
22. Spraying building for prevention of disease and ridding of pests: W
23. Demonstrating artificial insemination: W
24. Preparing for baby chicks: Sp
25. Delousing poultry and livestock: W F
26. Mixing minerals: W
27. Docking lambs: Sp
28. Worming sheep: Sp
29. Tagging ewes and trimming feet: W Sp
30. Shearing sheep: Sp
31. Dipping sheep: Sp
32. Preparing animals for sale: W
33. Diagnosing and treating mastitis: W Sp Su F
34. Treating mange: Sp Su F
35. Killing and dressing poultry: W F

CROPS

1. Applying 2, 4-D: Sp Su
2. Taking yield tests: F
3. Identifying plant diseases and insects: Sp Su
4. Identifying weeds: Sp Su F
5. Selecting trees for removal in farm wood lot: W
6. Treating and cleaning farm grains: W Sp
7. Inoculating seed: Sp
8. Killing undesirable trees and bushes: W
9. Controlling weeds with weed burner: Sp Su
10. Planting trees: Sp F
11. Grafting and budding: W
12. Identifying kinds of woods common in lumber yards in area: W
13. Planting windbreaks: Sp F

SOILS

1. Laying out contour lines: Sp
2. Building terraces: Sp
3. Constructing waterways: Sp
4. Sampling and testing soils: W F
5. Improving pasture: Sp
6. Applying fertilizer: Sp
7. Constructing soil flume: Sp
8. Building farm pond: W F
9. Identifying nutrient deficiencies by plant symptoms: Sp Su

FARM MANAGEMENT

1. Surveying farm inconveniences: W
2. Checking fire hazards: W Sp Su F
3. Checking safety hazards: W
4. Replanning field arrangement, farmstead, etc.: W
5. Appraising land: W
6. Improving home (installing septic tanks, plumbing, water systems, etc.): W Su F
7. Checking and tagging needed machinery repairs: W
8. Taking farm inventory: W

FARM MECHANICS

1. Repairing farm machinery: W
2. Constructing small buildings, feeders, etc.: W
3. Remodeling and replanning home farm shops: W
4. Preserving wood: W
5. Welding: W
6. Installing and maintaining electrical wiring: W
7. Remodeling buildings (strawloft in poultry house, improving ventilation, etc.): W
8. Laying concrete: Sp F
9. Laying tile: Sp Su F
10. Painting: Sp Su F
11. Constructing temporary silo: F
12. Installing electric fence: W Sp Su F
13. Adjusting machinery: Sp Su F
14. Splicing hay rope: Su F
15. Glazing: W Sp Su F

HORTICULTURE

1. Pruning: W
2. Spraying fruit: Sp Su
3. Planning garden: W
4. Landscaping: Sp F
5. Starting hot bed and cold frames: Sp
6. Transplanting truck crops: Sp
7. Controlling insects in garden: Sp Su
8. Irrigating truck crops or garden: Su
9. Storing vegetables: F
10. Mulching strawberries: F
11. Grading fruit, vegetables: Su F
12. Applying insecticide for borer control: Sp
13. Controlling and preventing rodents: Sp F
14. Thinning: Sp

Cover Page

Pat Kennedy, Future Farmer, of Madera, California, rides a horse because that is part of his business helping manage a 3000-acre cattle ranch. Aside from managing the foothills ranch for his mother, Pat has been driving 35 miles to high school and still has had time for many Future Farmer activities. The picture was taken by W. T. Smith, the director of agriculture at the Madera high school. It appeared on the cover page of a recent issue of the California Future Farmer.

OFFICE OF EDUCATION, WASHINGTON, D. C.

John W. Studebaker—U. S. Commissioner of Education
R. W. Gregory—Ass't Commissioner for Vocational Education
W. T. Spanton—Chief, Agricultural Education
D. M. Clements—Ass't Chief, Agricultural Education

Specialists: F. W. Lathrop—Research A. W. Tenney—Subject Matter
H. B. Swanson—Teacher Training R. E. Naugher—Part-time and Evening
A. H. Hollenberg—Farm Mechanics
E. J. Johnson—Program Planning W. N. Elam—Program Planning

d—directors ad—assistant to director
s—supervisors as—assistant supervisors rs—regional supervisors
ds—district supervisors t—teacher trainers it—itinerant teacher trainers
rt—research workers Nt—Negro teacher trainers
sms—subject matter specialists

Note—Please report changes in personnel for this directory to Dr. W. T. Spanton, Chief, Agricultural Education, U. S. Office of Education.

ALABAMA
d—R. E. Cammack, Montgomery
s—J. C. Cannon, Montgomery
as—L. L. Sellers, Auburn
as—H. F. Gibson, Auburn
as—T. L. Faulkner, Auburn
as—H. R. Culver, Auburn
as—B. P. Dilworth, Auburn
as—H. W. Green, Auburn
as—J. L. Dailey, Montgomery
t—S. L. Chesnutt, Auburn
t—R. W. Montgomery, Auburn
t—D. N. Bottoms, Auburn
sms—C. C. Scarborough, Auburn
Nt—Arthur Floyd, Tuskegee Institute
Nt—F. T. McQueen, Tuskegee Institute
Nt—E. L. Donald, Tuskegee Institute

ARIZONA
d-s—J. R. Cullison, Phoenix
t—R. W. Cline, Tucson
t—W. A. Schafer, Tucson

ARKANSAS
d—J. M. Adams, Little Rock
s—C. R. Wilkey, Little Rock
as—S. D. Mitchell, Little Rock
ds—T. A. White, Monticello
ds—O. J. Seymour, Arkadelphia
ds—J. A. Niven, Russellville
ds—V. H. Wohlford, State College
t—Roy W. Roberts, Fayetteville
t—LaVan Shoptaw, Fayetteville
Nt—L. R. Gaines, Pine Bluff

CALIFORNIA
d—Julian A. McPhee, Sacramento
ad—Wesley P. Smith, Sacramento
s—B. J. McMahon, San Luis Obispo
rs—E. W. Everett, San Jose
rs—B. R. Denbigh, Los Angeles
rs—Howard F. Chappell, Sacramento
rs—A. G. Rinn, Fresno
rs—H. H. Burlingham, Chico
rs—J. C. Gibson, Los Angeles
t—S. S. Sutherland, Davis
sms—Geo. P. Couper, San Luis Obispo
sms—J. I. Thompson, San Luis Obispo

COLORADO
d—E. G. Comstock, Denver
s—A. R. Bunger, Denver
t—R. W. Canada, Ft. Collins

CONNECTICUT
d—Emmett O'Brien, Hartford
s—R. L. Hahn, Hartford
t—W. Howard Martin, Storrs

DELAWARE
d—R. W. Heim, Newark
s—W. L. Mowlds, Dover
t—Paul M. Hodgson

FLORIDA
d—Colin English, Tallahassee
s—Harry Wood, Tallahassee
t—E. W. Garris, Gainsville
t—W. T. Lofton, Gainsville
it—J. G. Smith, Gainsville
it—J. L. Poucher, Gainsville
it—T. L. Barrineau, Jr., Gainsville
it—Otis Bell, Gainsville
Nt—L. A. Marshall, Tallahassee
Nt—G. W. Conoly, Tallahassee

GEORGIA
d—M. D. Mobley, Atlanta
s—T. G. Walters, Atlanta
ds—George I. Martin, Tifton
ds—C. M. Reed, Carrollton
ds—J. N. Baker, Swainsboro
ds—J. H. Mitchell, Athens
t—John T. Wheeler, Athens
t—R. H. Tolbert, Athens
t—G. L. O'Kelley, Athens
t—A. O. Duncan, Athens
t—T. D. Brown, Athens
Nt—Alva Tabor, Fort Valley
Nit—S. P. Fugate, Fort Valley

HAWAII
d—W. W. Beers, Honolulu, T. H.
s—W. H. Coulter, Honolulu, T. H.
as—Riley Ewing, Honolulu, T. H.
as—Takumi Kono, Hilo, Hawaii, T. H.
t—F. E. Armstrong, Honolulu, T. H.

IDAHO
d—William Kerr, Boise
s—Stanley S. Richardson, Boise
as—Ed. Lovell, Pocatello
t—H. A. Winner, Moscow
t—Dwight L. Kindsehy, Moscow

ILLINOIS
d—Ernest J. Simon, Springfield
s—J. E. Hill, Springfield
as—J. B. Adams, Springfield
as—A. J. Andrews, Springfield
as—H. M. Strubinger, Springfield
as—P. W. Proctor, Springfield
as—H. R. Damisch, Springfield
t—H. M. Hamlin, Urbana
t—G. P. Deyoe, Urbana
t—J. N. Weiss, Urbana
t—L. J. Phipps, Urbana
sms—Melvin Henderson, Urbana
sms—H. J. Rucker, Urbana
sms—Harold Witt, Urbana

INDIANA
d—Ben H. Watt, Indianapolis
s—H. B. Taylor, Indianapolis
t—B. C. Lawson, Lafayette
rt—S. S. Cromer, Lafayette
it—K. W. Kiltz, Lafayette
it—H. W. Leonard, Lafayette
it—E. E. Clanin, Lafayette
it—I. G. Morrison, Lafayette

IOWA
d—L. H. Wood, Des Moines
s—H. T. Hall, Des Moines
as—M. Z. Hendren, Des Moines
t—Barton Morgan, Ames
t—John B. McClelland, Ames
t—J. A. Starrak, Ames
t—T. E. Soxauer, Ames

KANSAS
d—C. M. Miller, Topeka
s—L. B. Pollom, Topeka
t—A. P. Davidson, Manhattan
it—L. F. Hall, Manhattan

KENTUCKY
d—Watson Armstrong, Frankfort
s—E. P. Hilton, Frankfort
as—B. G. Moore, Frankfort
as—S. S. Wilson, Frankfort
t—Carsie Hammonds, Lexington
it—W. R. Tabb, Lexington
it—Stanley Wall, Lexington
Nt—P. J. Manly, Frankfort

LOUISIANA
d—John E. Coxe, Baton Rouge
s—D. C. Lavergne, Baton Rouge
as—J. J. Arceneaux, Baton Rouge
as—I. N. Carpenter, Baton Rouge
as—J. J. Stovall, Baton Rouge
t—Roy L. Davenport, Baton Rouge
t—J. C. Floyd, Baton Rouge
t—M. C. Garr, Baton Rouge
sms—Harry Braud, Baton Rouge
t—A. Larriviere, Lafayette
t—A. A. LeBlanc, Lafayette
Nt—M. J. Clark, Scotlandville
Nit—D. B. Matthews, Scotlandville

MAINE
s-t—Herbert S. Hill, Orono
as-t—Wallace H. Elliott, Orono

MARYLAND
d—John J. Seidel, Baltimore
s—Harry M. MacDonald, Baltimore
t—Arthur M. Ahalt, College Park
Nt—J. A. Oliver, Princess Anne

MASSACHUSETTS
d—M. Noreross Stratton, Boston
s—John G. Glavin, Boston
t—Jesse A. Taft, Amherst
t—Charles F. Oliver, Amherst

MICHIGAN
d—Ralph C. Wenrich, Lansing
s—Harry E. Neaman, Lansing
s—Luke H. Kelley, Lansing
s—Raymond M. Clark, Lansing
s—John W. Hall, Lansing
t—H. M. Byram, East Lansing
t—G. C. Cook, East Lansing
t—Paul Sweany, East Lansing

MINNESOTA
d—Harry C. Schmidt, St. Paul
s—Ray Cochran, St. Paul
t—A. M. Field, St. Paul
t—M. J. Peterson, St. Paul

MISSOURI
d—Tracy Dale, Jefferson City
s—C. M. Humphrey, Jefferson City
ds—J. A. Bailey, Jefferson City
ds—Joe Moore, Mt. Vernon
t—G. F. Ekstrom, Columbia
t—C. V. Roderick, Columbia
sms—Joe Duck, Columbia
s—A. P. Patterson, Jackson
as—R. H. Finnekerly, Jackson
ds—E. Gross, Hattiesburg
ds—E. E. Holmes, Oxford
ds—V. P. Winstead, State College
t—V. G. Martin, State College
t—N. E. Wilson, State College
t—J. F. Scoggin, State College
t—O. L. Snowden, State College
sms—D. W. Skelton, State College
sms—A. E. Strain, State College
Nt—A. D. Fobbs, Alcorn

MONTANA
d—Ralph Kenck, Bozeman
s—A. W. Johnson, Bozeman
as—Arthur B. Ward, Bozeman
t—R. H. Palmer, Bozeman
t—H. E. Rodeberg, Bozeman

NEBRASKA
d—G. F. Liebendorfer, Lincoln
s—L. D. Clements, Lincoln
as—H. W. Deems, Lincoln
t—H. E. Bradford, Lincoln
t—C. C. Minteer, Lincoln

NEVADA
d—Donald C. Cameron, Carson City
s—Lloyd Dowler, Carson City

NEW HAMPSHIRE
d—Walter M. May, Concord
s-t—Earl H. Little, Concord

NEW JERSEY
d—John A. McCarthy, Trenton
s-t—H. O. Sampson, New Brunswick
as—O. E. Kiser, New Brunswick
as—W. H. Evans, New Brunswick

NEW MEXICO
s—L. C. Dalton, State College
as—Alan Staley, State College
t—Carl G. Howard, State College

NEW YORK
d—Oakley Furney, Albany
s—A. K. Getman, Albany
s—W. J. Weaver, Albany
as—R. C. S. Sutliff, Albany
as—J. W. Hatch, Buffalo
t—Roy A. Olney, Ithaca
t—E. R. Hoskins, Ithaca
t—W. A. Smith, Ithaca
t—W. R. Kunsla, Ithaca

NORTH CAROLINA
d—J. W. Smith, Raleigh
s—Roy H. Thomas, Raleigh
as—R. J. Peeler, Raleigh
ds—E. N. Meekins, Raleigh
ds—J. M. Osteen, Rockingham
ds—T. H. Stafford, Asheville
ds—T. B. Elliott, Woodland
ds—N. B. Chesnutt, Whiteville
t—Leon E. Cook, Raleigh
t—L. O. Armstrong, Raleigh
t—J. K. Coggin, Raleigh
t—F. A. Nylund, Raleigh
Nt—S. B. Simmons, Greensboro
Nt—C. E. Dean, Greensboro
Nt—W. T. Johnson, Greensboro

NORTH DAKOTA
d—A. F. Arnason, Grand Forks
s-t—Ernest L. DeAlton, Fargo
as—Winston H. Dolve, Fargo
t—Shubel D. Owen, Fargo

OHIO
d—J. R. Strobel, Columbus
s—Ralph A. Howard, Columbus
ds—W. G. Weiler, Columbus
ds—E. O. Bolender, Columbus
ds—F. J. Ruble Columbus
ds—D. R. Purkey, Columbus
t—W. F. Stewart, Columbus
t—H. G. Kenestrick, Columbus
t—C. E. Rhoad, Columbus
t—Ralph E. Bender, Columbus
t—A. C. Kennedy, Columbus
rt—Ray Fife, Columbus

OKLAHOMA
d-s—J. B. Porky, Stillwater
as—W. R. Felton, Stillwater
ds—Byrle Killian, Stillwater
ds—Hugh D. Jones, Stillwater
ds—Cleo A. Collins, Stillwater
ds—Benton F. Thomason, Stillwater
FFA—Tom Daniel, Stillwater
t—C. L. Angeer, Stillwater
t—Don M. Orr, Stillwater
t—Chris White, Stillwater
it—Robert R. Price, Stillwater
Nit—D. C. Jones, Langston

OREGON
d—O. I. Paulson, Salem
s—Ralph L. Morgan, Salem
as—M. C. Buchanan, Salem
t—H. H. Gibson, Corvallis

PENNSYLVANIA
d—Paul L. Cressman, Harrisburg
s—H. C. Fetterolf, Harrisburg
s—V. A. Martin, Harrisburg
t—Henry S. Brunner, State College
t—William F. Hall, State College
t—C. S. Anderson, State College
t—David R. McClay, State College
it—Glenn Z. Stevens, State College

PUERTO RICO
d—L. Garcia Hernandez, San Juan
s—Nicholas Mendez, San Juan (on leave
s—Samuel Molinary, San Juan (acting)
as—Rafael Muller, San Juan
as—Frederico A. Rodriguez, San Juan
as—Juan Acosta Henriquez, San Juan
ds—Frederico Carbonell, San Juan
ds—Juan Melendez, Cayey
ds—Gregorio Mendez, Arecibo
ds—Nicolas Hernandez, Aguadilla
t—Juan Robles, Mayaguez
t—Everett L. Austin, Providence

SOUTH CAROLINA
d—Verd Peterson, Columbia
s—R. D. Anderson, Columbia
as—P. G. Chastain, Chester
as—W. E. Gore, Columbia
ds—W. M. Mahoney, Honea Path
ds—J. H. Yon, Loris
ds—W. R. Carter, Walterboro
t—B. H. Stribling, Clemson
t—J. B. Monroe, Clemson
t—T. E. Duncan, Clemson
t—F. E. Kirkley, Clemson
t—W. C. Bowen, Clemson
Nt—Gabe Buckman, Orangeburg
Nt—J. P. Burgess, Orangeburg

SOUTH DAKOTA
d—J. F. Hines, Pierre
s—H. E. Urton, Pierre
t—Stanley Sundet, Brookings

TENNESSEE
d-s—G. E. Freeman, Nashville
as—J. W. Brimm, Nashville
ds—H. N. Parks, Gallatin
ds—L. A. Carpenter, Knoxville
ds—Ben Douglas, Jackson
ds—S. L. Sparks, Nashville
t—N. E. Fitzgerald, Knoxville
t—B. S. Wilson, Knoxville
rt—A. J. Paulus, Knoxville
rt—E. B. Knight, Knoxville
Nt—W. A. Flowers, Nashville

TEXAS
d—W. E. Lowry, Austin
s—Robert A. Manire, Austin
as—R. Lano Barron, Austin
as—George H. Hurt, Austin
ds—O. T. Ryan, Lubbock
ds—Vannoy Stewart, Commerce
ds—C. D. Parker, Kingsville
ds—A. B. Childers, Mart
ds—O. M. Holt, College Station
ds—W. E. Williams, Alpine
ds—J. B. Payne, Stephenville
ds—L. I. Samuel, Arlington
ds—J. A. Marshall, Nacogdoches
ds—T. R. Rhodes, Huntsville
t—E. R. Alexander, College Station
t—Henry Ross, College Station
t—L. V. Halbrooks, College Station
sms—W. A. Sherrill, College Station
t—J. L. Moses, Huntsville
t—Roy L. Chappelle, Lubbock
t—S. V. Burks, Kingsville
it—E. V. Walton, College Station
it—G. H. Morrison, Huntsville
it—F. B. Wines, Kingsville
it—L. M. Hargrave, Lubbock
it—Feral M. Robinson, Huntsville
sms—Kyle Leftwich, Huntsville
Nt—E. M. Norris, Prairie View
Nt—O. J. Thomas, Prairie View
Nit—E. E. Collins, Texarkana
Nit—S. E. Palmer, Tyler
Nit—Gus Jones, Caldwell
Nit—Wardell Thompson, Prairie View
Nit—Paul Rutledge, Palestine

UTAH
d—E. Allen Bateman, Salt Lake City
s—Mark Nichols, Salt Lake City
as—Elvin Downs, Salt Lake City
t—L. R. Humpherys, Logan

VERMONT
d—John E. Nelson, Montpelier
s—C. D. Watson, Burlington
t—James E. Woodhull, Burlington

VIRGINIA
d—Richard N. Anderson, Richmond
s—F. B. Cale, Richmond
as—R. E. Bass, Richmond
ds—W. R. Emmons, Boykins
ds—J. O. Hoge, Blacksburg
ds—W. R. Legge, Winchester
ds—J. C. Green, Powhatan
ds—W. C. Dudley, Appomattox
ds—J. A. Hardy, Blacksburg
t—H. W. Sanders, Blacksburg
t—C. E. Richard, Blacksburg
t—C. S. McLaren, Blacksburg
Nt—J. R. Thomas, Ettrick
Nt—A. J. Miller, Ettrick
Nt—M. A. Fields, Ettrick

WASHINGTON
d—H. G. Halstead, Olympia
s—Bert L. Brown, Olympia
as—M. C. Knox, Olympia
as—H. M. Olsen, Olympia
as—E. M. Webb, Pullman
ts—Oscar Loreen, Pullman

WEST VIRGINIA
d—John M. Lowe, Charleston
s—H. N. Hanaucker, Charleston
as—S. D. McMillen, Charleston
t—D. W. Parsons, Morgantown
t—C. W. Hill, Morgantown

WISCONSIN
d—C. L. Greiber, Madison
s—Louis M. Sasman, Madison
t—J. A. James, Madison
it—Ivan Fay, Madison
it—Clarence Bonsack, Madison
t—V. E. Nylin, Platteville
t—J. M. May, River Falls

WYOMING
d—Sam Hitchcock, Cheyenne
s—Percy Kirk, Cheyenne
t—Jack Ruch, Laramie