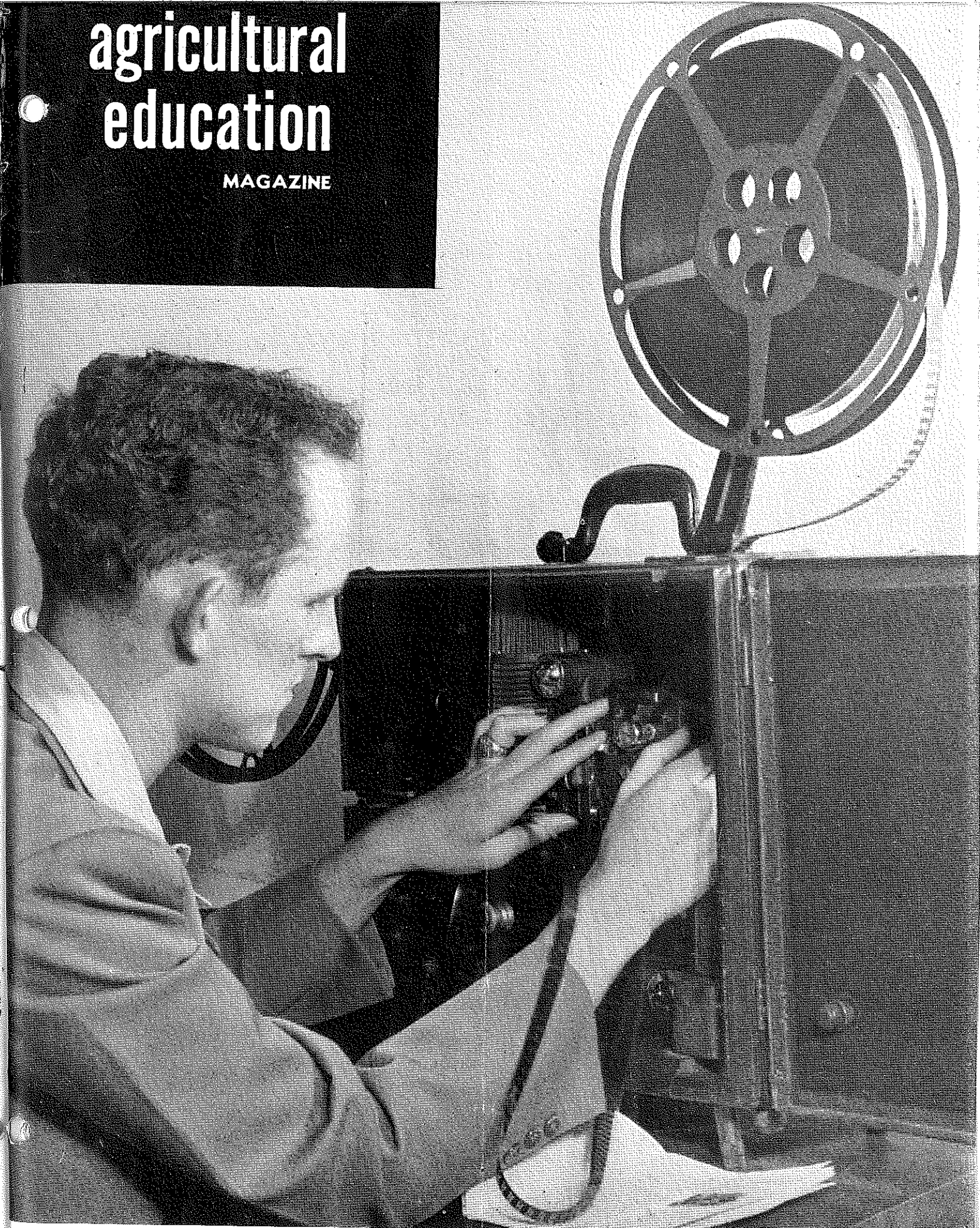


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BRANDENBURG KY

agricultural education

MAGAZINE



Visual aids play an important part in the instruction of trainees in vocational agriculture

DECEMBER, 1946
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NUMBER 6

A monthly magazine for teachers of agriculture. Managed by an editorial board chosen by the Agricultural Section of the American Vocational Association and published at cost by Successful Farming at Des Moines, Iowa.

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Agricultural Education Section—American Vocational Association December 4-7, 1946—St. Louis, Missouri

PRESIDENT OF SECTION: H. C. Fetterolf, American Vocational Association vice-president for Agricultural Education; Chief, Agricultural Education, State Department of Public Instruction, Harrisburg, Pennsylvania.

SECRETARY: Louis M. Sasman, State Supervisor of Agricultural Education, State Department for Vocational Education, Madison, Wisconsin.

PROGRAM CHAIRMAN: Mark Nichols, State Supervisor of Agricultural Education, State Department of Public Instruction, Salt Lake City, Utah.

Tuesday December 3 2 p. m.
Agricultural Research Committee Meeting
Jefferson Hotel—Parlor 5

Wednesday December 4 9:00 a. m.
Trip to Ralston Purina Research Farm
Leaving From Jefferson Hotel

Directed by J. H. Foard, State Supervisor of Agricultural Education, Jefferson City, Missouri, and Earl A. Sindecuse, Director, Educational Service Division, Ralston Purina Company, St. Louis, Missouri.

Meeting Committee Agricultural Research
Jefferson Hotel—Parlor 5—4:00 p. m.

Thursday December 5 7:30 a. m.
Breakfast Meeting—10-Year Teacher-Trainers
Section Meeting 9:00 a. m.
Jefferson Hotel—Crystal Room

Theme: *The Veterans' Farm Training Program.*
CHAIRMAN: Verd Peterson, State Director of Vocational Education, Columbia, South Carolina.

SECRETARY: Stanley S. Richardsen, State Supervisor, Agricultural Education, Boise, Idaho.

1. *One Year's Experience with the Veterans' Farm Training Program,* D. Z. McCormick, Chief, Agricultural Training Division, Veterans Administration, Washington, D. C.

2. Panel Discussion: *The Veterans' Farm Program in Action.*
Problems: State Administration procedure, selecting advisory committees, providing instructional supplies and equipment, recruiting and in-service training of instructors and supervisors, methods of measuring educational results of the training, and other problems connected with the program.

Panel Members:
CHAIRMAN: S. S. Sutherland, Professor of Agricultural Education, University of California, Davis, California.

J. E. Hill, State Supervisor, Agricultural Education, Springfield, Illinois.

John M. Lowe, State Director of Vocational Education, Charleston, West Virginia.

T. G. Walters, State Supervisor, Agricultural Education, Atlanta, Georgia.

Watson Armstrong, State Director, Vocational Education, Frankfort, Kentucky.

Byron J. McMahon, Chief, Bureau of Agricultural Education, San Luis Obispo, California.

J. B. Perky, State Director, Vocational Education, Stillwater, Oklahoma.

Joe Duck, District Supervisor, Agricultural Education, Springfield, Missouri.

Russell B. Dickerson, Assistant Professor, Agricultural Education, Pennsylvania State College, State College, Pennsylvania.

Nick Vomund and Bob Glenn, Veterans in Farm Training Program, St. Charles, Missouri.
Discussion from the floor.

Section Meeting 2:00 p. m.
Jefferson Hotel—Crystal Room

Theme: *Adjusting the program to Meet the Provisions of the George-Barden Act and Agriculture's Changing Educational Needs.*
CHAIRMAN: R. A. Manire, State Supervisor of Agricultural Education, State Department of Public Instruction, Austin, Texas.

SECRETARY: J. C. Cannon, State Supervisor, Agricultural Education, Montgomery, Alabama.

1. *New Horizons,* R. W. Gregory, Assistant Commissioner of Education in Charge of Vocational Education, United

States Office of Education, Washington, D. C.

2. *Building Strong Teacher-Training Departments and Cooperative Relationships With Vocational Agriculture,* R. R. Hudelson, Associate Dean, College of Agriculture, University of Illinois, Urbana, Illinois.

3. *Out of the Soil,* Charles Ray, Sears Roebuck and Company, Chicago, Illinois.

Discussion from the floor. Led by W. Howard Martin, Associate Professor, Agricultural Education, University of Connecticut, Storrs, Connecticut.

Fellowship Period
Business Meeting—H. C. Fetterolf, Chairman; Louis M. Sasman, Secretary.

Committee Meeting 4:00 p. m.
Future Farmers of America Contest Committee,
Jefferson Hotel—Parlor 5

Friday December 6 2:00 p. m.
Section Meeting
Jefferson Hotel—Crystal Room

Theme: *Improving the Agricultural Education Program for Rural Youth—Our Obligation and Our Opportunity.*

CHAIRMAN—Harry Nesman, State Supervisor of Agricultural Education, Lansing, Michigan.

SECRETARY—H. W. Sanders, Professor, Agricultural Education, Virginia Polytechnic Institute, Blacksburg, Virginia.

1. *The Ever Normal Refrigerator,* H. E. Babcock, Chairman, Board of Trustees, Cornell University, Ithaca, New York.

2. Future Farmer Problems.
W. T. Spanton, National Adviser, Future Farmers of America, United States Office of Education, Washington, D. C.

A. W. Tenney, National Executive Secretary, Future Farmers of America, United States Office of Education, Washington, D. C.

3. Panel Discussion: *Young Farmer Program.*
Problems: Methods of organizing Young Farmer groups, meeting the needs of Young Farmers engaged in part-time farming or related agricultural occupations, fitting the Young Farmer program into Veteran Training, building adequate instructional programs, organizing a Young Farmer program on a state-wide basis, possibilities of organizing a National Young Farmer Organization, and other problems.

Panel Members:
CHAIRMAN—H. M. Hamlin, Professor of Agricultural Education, University of Illinois, Urbana, Illinois.

C. E. Rhoad, District Supervisor, Agricultural Education, Ohio State University, Columbus, Ohio.

R. E. Naugher, Specialist, Part-time and Evening Schools, United States Office of Education, Washington, D. C.

Louis M. Sasman, State Supervisor of Agricultural Education, Madison, Wisconsin.

C. L. Angerer, Teacher-Trainer, Agricultural Education, Oklahoma A & M College, Stillwater, Oklahoma.

R. L. Humphreys, Professor, Agricultural Education, Utah State Agricultural College, Logan, Utah.

John B. McClelland, Professor Agricultural Education, Iowa State College, Ames, Iowa.

S. M. Jackson, Director of Vocational Education, State Department of Institutions, Baton Rouge, Louisiana.

Marbin Meyer, Young Farmer, St. Charles, Missouri.
Discussion from the floor.

Fellowship Period
Business Meeting—H. C. Fetterolf, Chairman; Louis M. Sasman, Secretary.

Committee Meeting 4:00 p. m.
Editing-Managing Board, Agricultural Education Magazine,
Jefferson Hotel—Parlor 5

Saturday December 7 9:00 a. m.
Section Meeting
Jefferson Hotel—Crystal Room

Theme: *The Test of the Program Is Determined by Activities in the Local Vocational Agriculture Department.*

CHAIRMAN—A. W. Johnson, State Supervisor of Agricultural Education, Bozeman, Montana.

(Continued on page 108)

THE AGRICULTURAL EDUCATION MAGAZINE December, 1946

The Effective Use of Visual Aids

VISUAL aids played an important part in the instruction in the armed forces during World War II. We, in education, can take a great deal of pride in the fact that some of our fellow educators assisted in the development of improved devices for this purpose. However, we should seek to utilize various visual aids more extensively and effectively in our peace-time instructional program.

There was a time when some teachers expressed concern that movies and other visual aids would displace the classroom teacher. Now, we are coming to recognize them as being useful devices or aids to good teaching, if they are selected properly and used effectively by teachers. If carefully selected and used, visual aids speed up the learning process and increase the retention of the materials learned. While it is difficult to state in quantitative terms the advantages of visual aids for all conditions, the gains in these two ways depend on the kind and quality of the visual aid and on the effectiveness with which it is used. An added value, which contributes to these effects, is that visual aids increase and sustain the interest of the learner.

Visual aids in vocational agriculture are useful (1) in teaching manipulative skills, (2) in developing understandings basic to the development of approved practices, (3) in setting standards of production in certain enterprises, (4) in helping learners to recognize problems which merit consideration, (5) in developing broadened concepts of agriculture and rural living, (6) in presenting materials about farm-related occupations, and (7) in many other ways.

Several kinds of visual aids are available to the teacher of vocational agriculture. These include:

1. Actual products and equipment of the farm
2. Projected materials (movies, stripfilms, slides, and opaque projections.)
3. Preserved specimens and mounts (parasites, diseased tissues, plants, etc.)
4. Photographs (enlarged photos, aerial maps, and color prints especially, and "before" and "after" photos in animal projects, landscaping, etc.)
5. Charts and graphs
6. Blackboard
7. Models and drawings

Our best teachers of vocational agriculture recognize that the most fruitful source of visual aids is the great out-of-doors. These teachers are constantly on the alert to revise, renew, and increase all types of visual aids which they have been using. Students often assist in securing and classifying the aids for classroom use. Exhibits and charts from school-community fairs can serve a double purpose if used in the classroom after these events.

Alert teachers utilize pictures, charts, and displays for providing "atmosphere" in the classroom. These are replaced at intervals, often thru the cooperation of students. Charts of the cumulative type are designed and used for recording litter weights, egg production, butterfat production, adoption of approved practices, and other features of the supervised farming programs. Above all, teachers recognize that even the best types of visual aids must be co-ordinated with a carefully planned instructional program and with good teaching procedures to be most effective.

—George P. Deyoe, Michigan State College.

Visual Education Featured

George Deyoe, special editor of the section on Methods, has been responsible for soliciting the articles on visual presentations contained in this issue. The picture used on the cover page was submitted by the reliable photographer, J. K. Coggin,



G. P. Deyoe

Objectives in Vocational Agriculture

DO YOU have a purpose in teaching vocational agriculture in your community? Have you set up certain goals that you plan to accomplish? Or are you like a ship without a rudder that wanders here and there without ever reaching port? I am afraid too many teachers are like the ship without a rudder and wander over the field of agriculture during the year, never reaching a definite goal.

You may have a good course in agriculture, win state judging contests, take grand championships at livestock shows, have a good publicity program, and still be a failure, in that you have not contributed to the improvement of farming in your community. The results of a successful program of vocational agriculture are best measured over a long period of time in terms of improved practices introduced into the community.

To make your instruction meet the needs of the community, to keep your feet on the ground and not waste your efforts on things that cannot be justified you need written objectives for your program of vocational agriculture.

Objectives should be set up in the summer for a long-time agricultural program, annual agricultural program, departmental program, and F.F.A. activities. The most worthwhile and beneficial objectives cannot be carried out in one year, and at least two or three years are necessary before an effective program can be put into practice. Do not plan too many objectives but plan a few and carry them to completion.

Long-time objectives should be based in part on results of community surveys or other local data and should be practicable and attainable. The objectives should be definite and specific and not stated in general form. They should be checked by the advisory council at their regular meeting in August for additions or approval. Examples of such objectives are:

1. Increase butterfat production in 10 herds from 175 pounds to 300 pounds by a junior dairy-herd testing program.
 2. Control grubs in beef cattle by using spray equipment.
- Annual objectives should be co-ordinated with long-time objectives as nearly as practicable, but the program should not omit any temporary needs whether related to long-time programs or not. Examples of annual objectives are:
1. Initiate a program of junior dairy-herd testing.
 2. Control cattle grubs on 500 beef animals by use of cooperatively owned chapter sprayer.

After long-time and annual objectives are developed, methods, devices, or special activities must be selected that will be used to reach the agricultural objectives. Examples of ways and means are:

1. Organize an advisory committee and hold three meetings during the year.
2. Put on a shop exhibit for an open house.
3. Organize adult evening class.
4. Hold a community fair.

—L. C. Dalton, Assistant Supervisor, New Mexico.

North Carolina State College, Raleigh, North Carolina.

Aside from the articles on visual education presented here with the attention of readers is called to several similar articles which have appeared in recent volumes of *The Agricultural Education Magazine*, viz.

Primm, H. M., *Simple Agricultural Photography*. 13:46-7. September 1940.

Hagen, Irven, *Making Black-and-White Slides at Minimum Cost*. 14:88-9. November 1941.

Byram, H. M., *Visual Presentation of Current Local Information in Teaching Vocational Agriculture*. 16:86, 87-91. November 1943.

Henderson, Melvin, *Developing Slide Films for Illinois Teachers of Vocational Agriculture*. 17:66-7. October 1944.

Samuel, L. I., *Photography, a Supervisory Aid*. 18:37. September 1945.

McKay, Gerald, *The Use of Visual Aids in High School*. 18:188. April 1946.

G. P. DEYOE

Preparing and Using 2"x2" Slides

GLEN C. COOK, Teacher Education, Michigan State College, East Lansing, Michigan



G. C. Cook

ONE of the best ways of motivating student interest and developing understandings is thru the use of 2" x 2" slides and film strips. Pictures tell a story much more vividly than words and the situation can be grasped from a picture in a much shorter period of time than where a discussion only is used. Such slides afford the teacher an opportunity to project the picture or other teaching material for an appropriate time and to discuss it in detail. Carefully selected and properly used slides are one of the more important teaching aids in vocational agriculture.

Some of the best teaching materials can be obtained thru the effective use of pictures taken of the students' supervised farming programs and other important agricultural activities in the local community. Teachers should not overlook their opportunity to use pictures, local data, and other pertinent information pertaining to the local community. Much of this information can be effectively shown and discussed thru the use of 2" x 2" slides for all-day, young-farmer, and adult-farmer classes.

Taking Pictures

A 35 mm. or bantam camera is necessary for taking pictures for slides in black and white or in full color. One of the first decisions to make is whether to

use colored or black-and-white film. The colored film has the advantage that after the pictures are taken it can be sent to a processing company where it will be processed and returned in 2" x 2" slides ready for use in a projector. It, however, has a disadvantage in that it is quite expensive to have prints made from the film. Colored film is desirable for use in showing scenes, which makes it suitable for taking pictures where the scene should be given the major emphasis. Many teachers prefer black and white in order to get prints for exhibition in the classroom, publication purposes, F.F.A. scrapbooks, individual collections, and slides.

In taking pictures there are a number of precautions to be taken, some of which are:

1. Get "action" shots
2. Use the proper exposure. An exposure table is usually packed with the film. A light meter is also desirable.
3. Use proper range distance and good aim
4. Make sure you have an appropriate background. Be careful not to include unsightly and inappropriate objects in background
5. Where possible get a close-up shot to show detail
6. Take pictures that tell a story
7. See that any persons included in the picture are dressed properly for the occasion
8. Avoid having persons in the picture look directly at the camera
9. Use photo-flash or photo-flood lamps when necessary for indoor pictures
10. Use a tripod or other stationary object to support the camera when

using a shutter speed lower than 1/25 second

11. Avoid trying to include too much in a picture. Take several shots if necessary to get the entire object or objects to be photographed
12. Carefully plan the picture, making sure that everything is in its proper place and that it will tell the story for which it is intended, before taking the picture
13. Plan a sequence of pictures where a number of steps are desired to show how to perform a specific job such as castrating pigs
14. Make sure all objects are spaced so as to be clearly shown

Pictures of animate and inanimate objects may be taken including farming activities, F.F.A. activities, scenes, charts, data, and various types of material for slides.

Making Slides

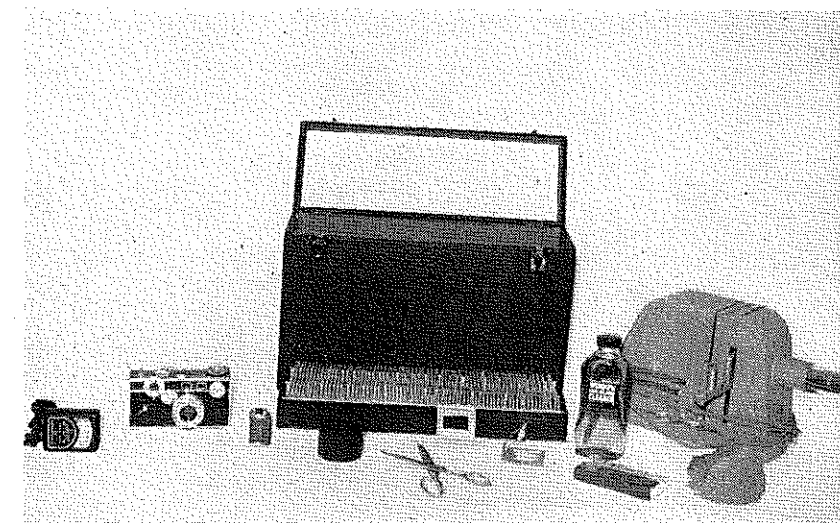
Making 2" x 2" slides is easy and requires little skill if the necessary precautions are followed. The first essential is to get a good clear negative. The following suggestions for making slides are given:

1. Select the frames on the negative film you desire to use for slides, and send the film to a processing company indicating the ones you wish to have made into positives. This may be done thru your local camera shop at a cost of five or six cents per frame
2. Secure the necessary slide binders. These come complete with binders, glasses for the front and back, and complete directions for binding. The binders will cost four to five cents each when purchased in boxes of 12 each, and slightly less in lots of 100
3. Clean both pieces of glass thoroughly using a glass-cleaning solution and dry with a nap-free cloth. Be sure to avoid fingerprints
4. Moisten the gummed surface of the back and insert one glass
5. Cut the positive frame to be mounted from the film and place in binder with the emulsion side up for black and white and shiny side up for Kodachrome. Paper colored slides may also be mounted in this way. **Be careful not to scratch or otherwise mar the positive**
6. Insert top glass, moisten the inside of the top cover, fold over and press tightly in place
7. Label slide for future use

Pictures may be taken of data and the negatives used for making slides. The black figures will show white and the white background will show black when thrown on the screen. This eliminates the cost of having positives made from the negatives.

Teachers often have old film strips which they no longer use because most of the illustrations used are out of date. There may be a few good frames on these

(Continued on page 109)



Some kinds of equipment and supplies needed for preparing and showing 2" x 2" slides are: light meter, 35 mm. or bantam camera, film, positives, scissors, slide binders, cleaning fluid, cloth for cleaning, and projector. The case shown in the center at the rear is for carrying the projector and filing slides

V. J. MORFORD, Agricultural Engineering, Iowa State College

THE conference procedure is recognized as one of the most desirable methods of conducting classes in which adult and young farmers are enrolled. Many students will have had considerable experience in dealing with the production and management problems under consideration. The conference method provides an opportunity for the exchange and evaluation of experiences and for constructive thinking. Thru the careful direction of the instructor, serving as a conference leader, active participation is secured from all members of the group.



V. J. Morford

Problems of the Group as Basis for Teaching Aids

Unless the class, under the guidance of the teacher, goes beyond the pooling of experiences little good may come from the discussion. The farmers have a right to expect the instructor to supplement their experiences with basic scientific facts and experiences which can be used in reaching the correct decisions. In order for the teacher to have this supplementary information available in a form that can be presented to the group, it is necessary that a careful list of problems be developed to be used as a guide in assembling pertinent experimental data. This list of anticipated problems may be formulated by the instructor or by an advisory committee, or council, of the group working in cooperation with the instructor. These likely problems of the class members should be developed well in advance of meeting time so that appropriate experimental results can be located and prepared for presentation to the group. Of course, it is desirable to develop a revised list of problems with the group after the class gets started.

The presentation of experimental data bearing on the problems, prepared in chart or other graphic form, offers one of the best methods of supplying information to class groups. Only such data as are appropriate and needed in the solution of the problem should be used. The results of experiments conducted at recognized experiment stations should be presented by the instructor. These data, presented after the experiences of the group have been pooled, supplement such experiences. Both experiences of the group and experimental results are considered in arriving at the correct decisions.

The accompanying anticipated problems were developed by an advisory committee working in cooperation with the teacher. A few were added by the teacher at the time the charts were prepared. These problems were developed well in advance of this particular meeting of the class so that the information could be gathered and prepared in time for the presentation.

Job: Feeding Swine for Market Anticipated Problems

1. Can the packers tell by looking at a live hog whether it has been fattened on a ration of mostly soybeans?
2. Can hogs be fed economically on corn alone?
3. What is the value of tankage as a supplement to corn?
4. Can skim milk and alfalfa hay be successfully substituted for tankage in the fattening ration?
5. What is the value of skim milk for hogs?
6. What is the value of alfalfa pasture in growing and fattening swine?
7. Does it pay to buy commercial hog feeds in preference to tankage or other protein supplements?
8. How does barley compare with corn as a hog feed?
9. How does wheat compare with corn as a hog feed?
10. How does shorts compare with tankage as a protein supplement?
11. How does the form in which corn is fed affect gain in hogs?
12. How does soybean meal compare with tankage and other protein supplements?
13. How does peanut oil meal compare with tankage as a protein supplement for hogs?
14. How does self-feeding compare with hand feeding in rate and economy of gain?
15. Does it pay to hog-off corn?
16. Does it pay to limit the ration in fattening swine?
17. How does rye compare with corn as a fattening ration for hogs?
18. How does semisolid buttermilk compare with tankage as a protein supplement for swine?
19. How does kaffir compare with corn as a fattening feed for pigs?

The accompanying photographs of charts serve to illustrate how experimental data may be presented. Altho information dealing with problems on feeding is especially suitable for presentations in this manner, it is possible to use the same method in presenting pertinent information on a wide variety of problems.

Methods for Making Charts

The charts may be prepared on approximately 2½' x 3' heavy, brown, wrapping paper with black, blue, or brown crayons or china pencils. The paper should be 40 pound weight or heavier. Reasonable care should be used in the preparation of charts so that they are easily readable. However, it is not necessary that the chart be lettered. By carefully writing in the headings and data it is possible in one hour or less to prepare a series of charts adequate for the meeting of a class.

Since information of this type does not become out-of-date, these charts may be used over again many times if temporary sheets are added in the column indicating the cost of 100 pounds gain. These costs should be based on local-feed costs at the time of the meeting. By reducing all feed

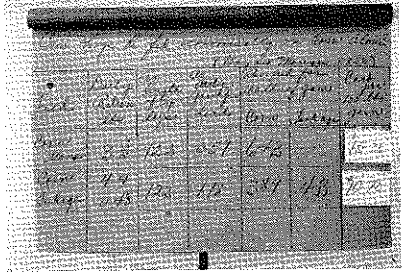


Fig. 1—This chart 2½' x 3' was made on heavy, brown wrapping paper with a blue china pencil. The cost per 100 pounds gain in weight was based on current prices. This cost was placed on a small white sheet with a colored china pencil and then attached by means of Scotch tape. The colored figures serve to emphasize the importance of the cost per 100 pounds gain in weight

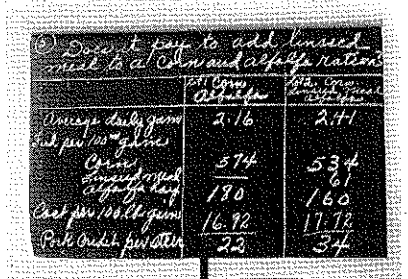


Fig. 2—This chart was made on heavy, brown wrapping paper that was sealed with one coat of clear shellac thinned with an equal part of alcohol and then given one coat of liquid slating. The soft chalk used in its preparation was treated with a saturated sugar solution. This chart does not blur in handling but is readily erased with a damp cloth

costs to cost per pound of feed, it is relatively easy for the class to figure the cost of 100 pounds gain. This cost is then recorded on the chart.

If the wrapping paper is coated with liquid slating, chalk may be used in the preparation of the charts. One coat of liquid slating will give a satisfactory surface. A saving in liquid slating will result if the paper is primed with white shellac thinned with an equal part of alcohol previous to the application of the slating. One-half pint will slate from six to eight 2½' x 3' charts if a priming coat is used. A coat of aluminum paint on the shellac-primed paper will also make quite a satisfactory projection screen.

A process for preparing blackboard crayon or chalk in order to make it semi-permanent has been in use for several years. Chalk after it has been treated may be used in the preparation of charts on the wrapping paper treated with liquid slating. The charts may be rolled or otherwise handled without blurring. Outlines may be put on the blackboard with this chalk. They may then be filled in with ordinary chalk and this material erased without any affect on the outline.

Preparing Special Chalk

The following procedure has been found satisfactory in the preparation of this chalk.

1. Selection of chalk—Use only a soft blackboard crayon or chalk. Both colored

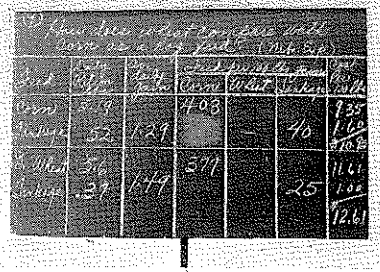


Fig. 3—The paper was given the same treatment as that in Fig. 2. The outline of this chart was made with chalk treated in a saturated sugar solution and the data were recorded with untreated chalk. Colored chalk was used in the cost column

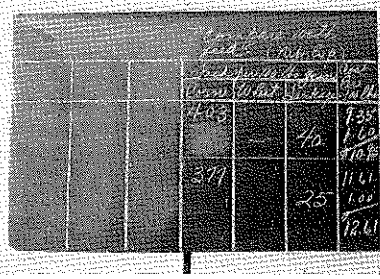


Fig. 4—This is the same chart as that shown in Fig. 3. The untreated chalk may be erased as shown with a cloth or eraser leaving the outline of the chart

and white chalk respond to the treatment equally well. The hard-surfaced or dustless chalk is unsatisfactory.

2. Sugar solution—Add enough ordinary sugar to about 5 ounces of cold water to make a saturated solution. The solution is saturated if a small amount of the sugar remains undissolved after it has been vigorously shaken or stirred.

3. Treatment—Place a number of sticks of the chalk in the above solution. When bubbles no longer are given off from the chalk, which usually takes only a few minutes, remove the chalk and drain thoroly. After the surface moisture has evaporated the chalk is ready to use. A reduction of the concentration of the sugar solution seems to reduce the permanency of the chalk. The lines appear dull when this chalk is used but dry to normal appearance.

4. Removal—While it is not possible to erase this chalk with a dry eraser it is easily removed with a damp cloth.

5. Preservation of chalk—Chalk which has been treated with the sugar solution may be kept for an indefinite period if sealed in an airtight jar.

Last spring the Williston, Florida, chapter in cooperation with the state game commission, banded and liberated 500 quail on farms of the community in an effort to increase the game for hunters this fall.

Three hundred twenty-five Texas Future Farmers were awarded the degree of Lone Star Farmer at the state convention held recently. The membership of the state association totals 21,000.

EVERETT L. AUSTIN, Teacher Education, Providence, Rhode Island

FOR more than a decade films and slides have been used by an ever-increasing number of teachers; nevertheless, today the department with an effective program for using them is a rarity. Why is this so?



E. L. Austin

It has been proved both experimentally and practically that the proper use of films and slides is sound, educationally. The weakness of teacher education in the proper use of visual aids may account for a part of the ineffectiveness. Cost of equipment, poor facilities for showing, and the lack of availability when needed are standard alibis, but the program suffers just the same.

Before films are used in any form, a controlling purpose or motive should be established because different procedures are necessary for different purposes. In general, films and film slides may be classed in three categories: 1, Instructional; 2, entertaining; and 3, documentary. The documentary films are for propaganda, advertising, and creating attitudes such as patriotism, charity, and general good will. In schools great care must be used because of the kind of audience and the auspices under which films are used. Even entertainment films must be chosen with care as to time and appropriateness.

Planning Pays Dividends

Problems which yield to good planning are:

Finding and providing films and slides which aid in teaching a particular unit of work in a particular lesson plan at a specified time. Purchasing or making one's own for his own department is, of course, the best solution. This is not always possible altho many good teachers are finding ways of doing it. Film strips and 2x2 slides in natural color and black and white are not expensive and when well cared for will last for years. Good storage facilities with careful labeling and cataloging are highly important.

Every department should have the unhampered use of a motion picture projector for sound motion pictures, a tri-purpose projector for film strips and 2x2 slides, a good screen, and a growing library of films, slides, and film strips. Unless provision is made for darkening the room easily and completely, use of color pictures is seriously impeded.

Renting or borrowing motion picture films is much more successful if a calendar is made weeks or months in advance of the specific time needed and followed precisely. A careful planner finds that long-time scheduling works wonders. A confirmation of name and date is a safety factor well worth insisting upon when ordering films by rental or loan. The problem of borrowing or renting film is greatly simplified if one lives near a state department of education or

an educational institution which maintains a good film service. It is much easier to substitute an improved film which comes out during the year for one already in the schedule, or to add a new one occasionally than to depend upon the irregular use of whatever comes along.

In these days of controversial issues and propoganda the teacher must be ever alert to avoid victimizing his students to some pct theory of an extremist or deciding some fundamental issue on half-facts painted in a golden hue to promote some special interest.

How often one sees a last-minute resort to a film in a half-darkened room with a blaring loudspeaker which disturbs other classrooms and reverberates thru the halls. Unless the school is equipped with a special device for showing good pictures in normal daylight, such as was developed by the armed forces during World War II, dingy half-lighted pictures may do more harm than good. Incidentally, plans for this device are relatively simple and can be constructed in any good wood shop at low cost. It uses any standard motion picture projector. It is limited to groups of classroom size. Pictures are too small for auditorium use.

Teachers of agriculture are often called upon to provide or assist in providing programs for community groups. "Just fill in 20 minutes or so with some kind of a film." The words "fill in" and "some kind" are almost nauseating to anyone who is trying to put films to work educationally. If it is entertainment, call it that and make it real entertainment, but when such technique and purpose are brought into the classroom it is valuable time poorly spent.

Special Techniques Required

Volumes have been spoken and written on how to put films to work educationally. Like the old "saw" on the weather; everybody talks about it. Why not DO something about it? The following procedure will help greatly.

A. In choosing films, ask these questions:

- I. Does the film make a direct contribution to what you are attempting to teach in the particular lesson unit (Purpose)
- II. Is the film available at the hour you want to use it, or can the unit be timed so that the content of the teaching unit can be used appropriately when the film is available
- III. Is a syllabus or teacher's guide available for study before the film is to be used
- IV. Have you filled out a film evaluation sheet or do you have one which a teacher of agriculture has filled out

B. In preparing the class for the film, take the following steps:

- I. Preview the film. Fill out a film evaluation sheet for record and possible use by other teachers in selecting appropriate films
- II. List unfamiliar vocabulary for study in class before the film is shown

(Continued on page 109)

Evaluating Field Trips in Vocational Agriculture

GEORGE P. DEYOE, Teacher Education, Michigan State College, East Lansing, Michigan

MOST teachers of vocational agriculture recognize the value of field trips, or field journeys or excursions as they are sometimes called. In many cases, these were a war casualty or at least were greatly reduced during the past few years because of restrictions on transportation. Now is the time to revive them and improve the methods of conducting them.

The great out-of-doors should be the chief laboratory for much instruction in vocational agriculture. By means of field trips it is possible to tap many resources on the farms and elsewhere in the community which rate high in instructional value for students of vocational agriculture in classes for day-school and out-of-school groups. Incidentally, field trips for persons in out-of-school classes have probably not been used as extensively as might be the case.

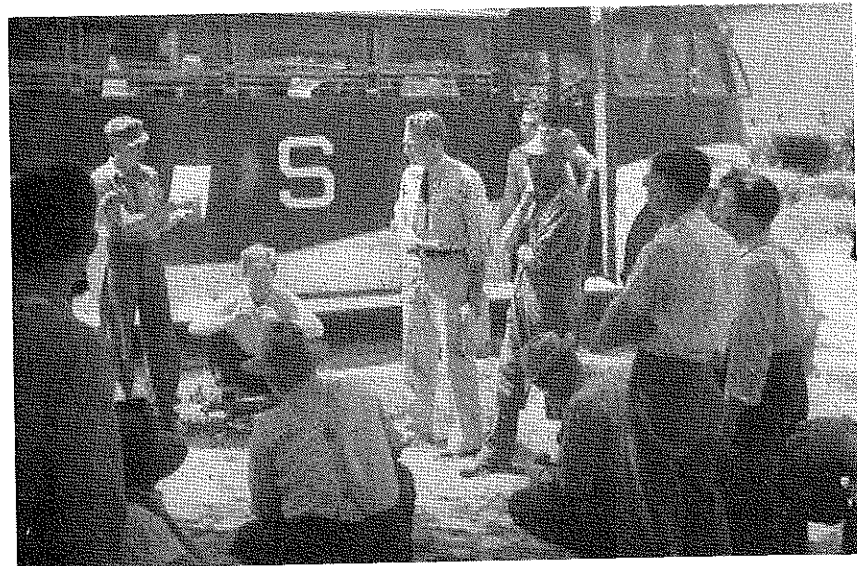
Purposes of Field Trips

The following are some of the purposes for which field trips may prove especially useful:

1. To develop interest in a unit or enterprise and to help students discover problems important for study
2. To observe good practices and equipment in raising crops and livestock, as used on the farms of class members and other persons
3. To aid beginning students to develop ideals and understandings with respect to what a good program of supervised farming is like
4. To teach beginning students to analyze possibilities for supervised farming on representative farms
5. To help students evaluate progress in various activities of supervised farming and to recognize problems which merit special study
6. To provide materials and facilities for developing certain skills and abilities (1) with livestock, such as castrating, docking, dehorning, dipping, drenching, selecting, etc.; (2) with crops, such as spraying, planting, treating seed, pruning, harvesting, grading, etc.; (3) in farm mechanics, such as cement construction, building and remodeling, wiring, running contour lines, tiling, etc.; and (4) in farm management and other phases, such as farm planning, work simplification, farm safety, etc.
7. To provide opportunity to study certain farm-related occupations and industries such as hatcheries, farm equipment concerns, marketing agencies, and distributors of feed, seed, fertilizer, etc.

Before teachers can use the outdoors to the best advantage as a laboratory, they must (1) be familiar with the resources in their community which have value for instruction and (2) adopt the most effective techniques in utilizing these resources. The field trip provides one of the best means for utilizing these resources.

In order to emphasize effective techniques for conducting field trips and to aid in developing greater skill in their use, the following evaluation instrument was developed by the writer in cooperation with members of the staff in agricultural education at Michigan State Col-



To be effective, field trips require good transportation and careful planning



A field trip provides the opportunity for these persons to observe good practices of feeding and sanitation in swine production

lege and the training centers.* This device is used by student teachers in evaluating their activities along this line as well as by teachers in service who seek to improve their techniques on field trips.

Suggestions for Using the Guide

The 21 statements listed in the left-hand column of this guide describe briefly some criteria or "approved practices" for conducting field trips in vocational agriculture. If, in the field trip being evaluated, a given approved practice is utilized in a highly satisfactory manner, a mark should be placed on or near the left end of the corresponding scale in the middle column. If the practice is poorly applied, the mark should be placed on or near the right end of the scale. (Situations between these extremes should be marked at an appropriate point along the line.) Under the column headed "Comments," a note should be made if the practice is completely lack-

*Watson Fowle, Teacher of Vocational Agriculture at Traverse City, Michigan, also assisted in developing this form.

ing, or if a brief description will help clarify the rating which is made. After noting the strengths and weaknesses of the field trip as shown by the ratings recorded for it, possible methods of improvement should be considered.

A. V. A. Program

(Continued from page 105)

SECRETARY—Lester B. Pollom, State Supervisor of Vocational Agriculture, Topeka, Kansas.

1. "Conducting a Vocational Agriculture Program to Meet the Needs of the Local Community," Benjamin C. Willis, Superintendent of Schools, Hagerstown, Maryland.
2. "Organizing Junior Farmer Cooperatives," A. K. Getman, Chairman, Advisory Committee on Vocational Education, American Institute of Cooperation, Chief, Bureau of Agricultural Education, Albany, New York.

(Concluded on page 111)

Place visited Date
 Class or classes included No. who went
 Purposes or objectives of this trip

CRITERIA OR "APPROVED PRACTICES"	RATING			COMMENTS
	Superior	Fair	Poor	
Purposes or Objectives:				
1. The purposes are clear and definite.	-----	-----	-----	
2. The students shared in formulating the purposes of the trip.	-----	-----	-----	
3. The purposes are such that this field trip is especially desirable as a teaching device.	-----	-----	-----	
Preliminary Preparation:				
4. It was evident that students were oriented to the need for this trip, especially in relation to supervised farming.	-----	-----	-----	
5. Appropriate questions to be asked and observations to be made were developed with the class.	-----	-----	-----	
6. Responsibilities to be assumed by participants were discussed and delegated.	-----	-----	-----	
7. Specific directions were developed for all phases of the trip.	-----	-----	-----	
8. Preliminary arrangements were made at the farm or other places visited.	-----	-----	-----	
9. Arrangements for transportation were carefully made.	-----	-----	-----	
10. Proper arrangements were made with the school administration and school staff.	-----	-----	-----	
Conduct of the Trip:				
11. Student responsibility was assumed as planned.	-----	-----	-----	
12. A high degree of interest was shown thruout the trip.	-----	-----	-----	
13. Student participation was in keeping with the nature of the trip.	-----	-----	-----	
14. Students made appropriate notations and observations.	-----	-----	-----	
15. Proper courtesies were extended to the persons at the place visited.	-----	-----	-----	
16. The time schedule was kept as planned.	-----	-----	-----	
Outcomes and Results:				
17. The students participated in evaluating the trip.	-----	-----	-----	
18. The students participated in summarizing the trip and drawing appropriate conclusions.	-----	-----	-----	
19. This field trip contributed significantly to programs of supervised farming, thru the development of necessary skills, knowledge, approved practices, awareness of new problems, or broadened program.	-----	-----	-----	
20. New interests resulting from the trip were in evidence thru informal comments, extended reading, and contributions in agriculture and other classes.	-----	-----	-----	
21. The students showed growth in ability to plan for and participate in later field trips.	-----	-----	-----	

Preparing and Using 2" x 2" Slides

(Continued from page 105)

which are good enough for use. These frames may be cut out and placed in slide binders for future use.

A tri-purpose projector which may be used for showing single and double frame 2" x 2" slides and 35 mm. film strips is desirable for use in the school. A projector with a 300-watt bulb and a 5" focal length lens is most desirable for general school use. Where funds are limited, however, a one-purpose projector, with a 100- or 150-watt bulb, for showing 2" x 2" slides only may be secured. A suitable screen should also be selected. The two types of projection screens in general use are the "beaded" and "mat white." The beaded has the

surface covered with small glass beads. It is recommended for long, narrow rooms. Fixed relationships between the screen size and size of audience are recommended. The distance from the screen to the last row of seats should not be more than six times, and to the first row of seats, not less than two times the width of the screen.

The slides should be shown at appropriate times in the instructional process. Just before a demonstration is one desirable time to show slides; or in the case of some misunderstanding they may be shown after a demonstration, if it is impossible to redemonstrate the step or steps in question. They may also be shown at appropriate times during the discussion of a job or problem. While it is important to sufficiently discuss a slide until it is understood by the group, care must be taken not to spend too much time on any one slide.

Putting Films and Slides to Work

(Continued from page 107)

III. Select unique items or items where caution is needed in preparing the class for the showing

IV. Prepare the class for the showing by explaining the purpose, drill on unfamiliar or difficult vocabulary and discuss other relevant points, particularly what to look for, and so on

C. In showing the film:

I. Have everything ready; film in the projector, lights and switches, projector warmed up, and all other details

II. Pay particular attention to sound and focusing (most operators use too much volume of sound)

D. In following up:

I. Ask factual questions. Check attitudes. Encourage questions from students

II. Re-show if necessary

III. Test for results

Color vs. Black and White

There are many teaching situations in which natural color is exceedingly valuable. Pictures of fertilizer tests often show striking contrasts in the intensity of greens. Varieties of fruits are much more realistic when color is used. When color is added to a study of livestock breeds and conformation, the facts are much more easily retained. Insect pests are more vivid in color. Identifying parts in machinery for special study and attention is much easier in color. The slight increase in cost of color over black and white is amply justified in the degree of effectiveness attained in most instances.

Study Is Valuable

Many alert teachers have found a study of the elements of photography interesting and helpful. Several inexpensive books on how to make good pictures are equally valuable on how to select good pictures for instructional purposes. Composition or arrangement of objects, the development of keen observation necessary in good lighting and the elimination of irrelevant materials are cases in point. An inexpensive camera in trained hands is an excellent way to record the history and development of a department in addition to its use as an instructional tool. A limited amount of study, particularly in motion pictures, will save considerable money and disappointment for those who wish to use this excellent medium to improve their teaching. The 35mm or 2x2 slide is a good place to begin because of its simplicity and inexpensiveness.

The Future Farmers Day at the Florida State Fair proved to be an outstanding success. During a program before the grandstand, Governor Caldwell was presented with the emblem of the State Farmer degree. Mr. Henry Groseclose from Virginia, one of the founders of the F.F.A. movement, was among the honored guests.

Picture Taking Can Be Surprisingly Easy

WILLIAM SHERRILL, Specialist in Subject Matter, College Station, Texas

PICTURE-TAKING does not need to be complicated or difficult. It is, in fact, so easy that once you have learned to operate your camera (from the manual that came with it) and have determined the kind of film to use (rely on the advice of a good photographic shop until you become familiar with the various films), practically everything you will need to know can be boiled down into three important points. These are:

1. Make your pictures interesting
2. Use correct exposure so that the right amount of light will enter the camera to record the image properly on the film
3. Focus accurately to make pictures sharp and distinct

These three points are the basis of success in picture making. Master them and you will soon be making good pictures. A simple discussion of each of these points follows.

Make Your Pictures Interesting

What makes a picture interesting? Have you ever had a friend insist on your looking at a lot of pictures which, although clear and distinct, did not appeal to you at all? What was wrong? How had he failed to make his pictures interesting? How can you avoid his mistakes?

There is no set formula for making pictures interesting. None of us can make every picture a masterpiece. But we can make our snapshots exceptionally interesting if we observe a few simple requirements. Sometimes a subject will be naturally so beautiful or unusual, of course that the picture needs nothing to add interest. Most of the time, however, the result will depend upon our originality and methods.

The most important requirement in making pictures interesting is to make each picture tell a story. Other things that you will need to consider are what to make pictures of and how to get good composition in your pictures. But remember that first of all your pictures will be judged on their story-telling power.

The secret of a story-telling picture is

that it appeals to the imagination. How well it does this depends upon:

1. *Simplicity.* The pictures should tell only one story. The story should be simple
2. *Activity.* The picture should show action or should suggest or imply action

People should be included in the picture whenever possible, to help tell the story. They should *not* be allowed to look directly at the camera, but should be shown in an attitude of unposed action, apparently unaware that their picture is being made.

Such pictures are not difficult to make, although they may sometimes require a little thought on your part and some cooperation from your subjects. At other times you actually will be able to catch them unaware in a story-telling situation. Form the habit of always asking yourself before you click the shutter, "Would this be an interesting picture if I did not know the people in it?"

What to Make Pictures of

Opportunities for making good Future Farmer pictures are unlimited. Meetings, trips and tours, projects and improved practices, social and recreational activities, individual and chapter achievements and honors, fairs and shows, banquets, and assistance given farmers, all offer interesting story-telling situations.

Increasing Interest Thru Good Composition

"Composition" is the word photographers use to denote the arrangement of the parts of a picture. Good composition means the different elements in the picture blend into a pleasing whole. Good composition promotes a favorable subconscious reaction to the picture—lack of it detracts from the picture's appeal.

In securing good composition, there are four main considerations:

1. Point of view (direction or angle of shot)
2. Unity
3. Balance
4. Emphasis

Composition is strongly affected by the *point of view*. By point of view is meant the angle or direction or elevation from

which the picture is made. Thus, we have such expressions as "bird's-eye view," "worm's-eye view," "eye-level view," and countless others. Moving the camera to the right or the left, or up or down, will greatly change the composition. You should make it a practice, therefore, to shift the camera from one position to another until the elements in the picture have a satisfactory or pleasing arrangement.

Unity is very important in composition. A picture should tell only one story. There should be only one main object of interest and it should stand out prominently. All other objects in the picture should be subdued in position and lighting so that attention will not be diverted. The background should be in keeping with the story and should not have a distracting effect. For example, a brick wall or the clapboarded side of a house will detract from close-up pictures of people in front. Prominent horizontal or vertical lines, such as those made by a fence or trellis, are objectionable.

Balance is also needed in a picture, otherwise it may appear top-heavy or lopsided. For example, all the darker tones or mass should not appear in one place. Light and shade should be fairly well distributed in the photograph, and the outlines of these spaces should have variety of shape. Interest should not be divided by two bright spots or two dark spots of equal importance, and the principal point of interest should be slightly away from the center. Diagonals are ordinarily more pleasing than vertical or horizontal lines. In a landscape, the line made by the horizon should not divide the picture in two equal parts but should come approximately one-third from the top or bottom.

Proper *emphasis* is another characteristic of good composition. The eye should be led to the main point of interest without your being aware of it. This can be done by arranging other objects or shadows so that their lines direct attention toward the point of importance, rather than away from it. Such arrangement must seem natural, however, and not obvious in the manner in which the spokes of a wheel lead you to the hub.

Good composition does not require talents beyond the average individual; it does demand that you give some thought and care to the arrangement of the subject before the picture is made.

Making the Correct Exposure

The most common cause of failure in picture-taking is incorrect exposure. Proper exposure means regulating the amount of light entering the lens so that differences in brightness (called tones) of the objects in the scene will stand out in the image recorded on the film. Prints from underexposed films have a dark, night-like appearance and those from overexposed ones appear weak and washed out. *If in doubt, it is better to over-expose than to under-expose.*

The amount of light entering the lens is controlled by:

1. Adjusting the size of the aperture (lens opening)
2. Varying the speed at which the shutter operates

Adjustment of the lens opening or aperture in a box camera is usually limited to two or more holes of different sizes in a sort of sliding bar. In better cameras, the

lens opening is regulated by the diaphragm, which operates in a manner that reminds one of the iris of the eye and which, like the iris, is capable of gradual variation from a very small to a very large opening.

The diaphragm is marked with a series of numbers (called stops) which indicate various standard sizes of opening. The series of stop numbers ordinarily used in marking the lens openings is as follows: f.32 f.22 f.16 f.11 f.8 f.6.3 (numbers for lens openings larger than f.6.3 are omitted)

The larger openings are indicated by the smaller numbers. Stops f.32 to f.8 inclusive are "full stops," selected so that each number permits exactly twice as much light to enter the lens as the number next to its left. Thus it is a simple matter to double the exposure. For example, if twice as much light is needed as can be obtained with an exposure of 1/25 of a second at f.16, it is necessary only to move the diaphragm one full stop to f.11. Should four times as much light be needed, the setting is moved two full stops to f.8. Stop f.6.3, it should be noted, is a half stop, admitting one and one-half times as much light as stop f.8 and six times as much as f.16.

Using Different Shutter Speeds

A shutter speed of 1/25 second is satisfactory for photographing stationary objects. Faster speeds are necessary to secure sharp images of moving objects. Pictures of men walking or of animals in ordinary motion may be made at 1/50 second, if the movement is not too close to the camera. For still faster action, a speed of 1/100 second should be used. There is much less risk of blurring in the picture, due to motion, if objects are moving directly toward or away from the camera, or at a slight angle to it, than if they are moving at right angles. The risk is also lessened if the distance between the camera and moving object is increased.

Now back to the consideration of proper exposure. It is obvious that a shutter speed of 1/50 second will allow only half as much light to enter the lens as a speed of 1/25 second, because the shutter is open for only half as long. It is clear, therefore, that in order to make pictures at faster shutter speeds, it is necessary to increase the size of the lens opening in order to admit enough light to give the proper exposure.

Thus, where a lens opening of f.16 is correct for making a given picture at a shutter speed of 1:25 second, the lens opening should be changed to f.11 (which admits twice as much light as f.16) if the shutter speed is increased to 1/50 second (which is only half as long as 1/25 second); or to f.8 (which admits four times as much light as f.16) if the shutter speed is increased to 1/100 second (which is only one-fourth as long as 1/25 second).

Using a light meter, if one is available, will do much to take the "guess work" out of setting the lens opening and shutter speed.

In many instances there is a choice of several shutter speeds and diaphragm openings. If the subject is moving, focus accurately and use the fastest shutter speed that will give proper exposure. If the subject extends deeply into the background and foreground, select the slowest shutter speed possible and the correspondingly smaller diaphragm opening. This will increase the depth of focus so

that the subject will be sharply in focus thruout.

Focusing Accurately

Accurate focusing is necessary in order that the object of principal interest will be sharp and distinct. The reason for this is that the camera lens, like the human eye, cannot focus sharply upon very near and very far objects at the same time.

The need for careful focusing is increased under the following conditions:

1. When a large lens opening is used
2. When the subject is near the camera

The larger the lens opening, the shorter will be the "depth of focus." Depth of focus simply means the distance between the nearest and farthest objects that will appear satisfactorily sharp in the picture. Thus it may be seen why a box camera, which has only a small lens opening, does not require a focusing adjustment.

On more expensive cameras, focusing adjustments will be found. On the very expensive ones, there will usually be a range finder also, which will show the distance at which the camera should be focused in order for a particular object to appear distinct in the picture. With intermediate-priced cameras, which have focusing adjustments but no range finders, all distances under 10 feet should be measured carefully with a yardstick, and those from 10 to 20 feet paced off.

It should be kept in mind that great depth of focus is not always desirable. Close-ups and portraits are often more pleasing when objects in the background are less distinct. This can be accomplished by using a large lens opening and a correspondingly fast shutter speed. For landscapes and other distant views, on the other hand, it is desirable for the picture to be in sharp focus thruout. This can be done by using a small lens opening and a correspondingly slow shutter speed.

News From Puerto Rico

The Puerto Rican Legislature passed a law creating the Puerto Rico F.F.A. Loan Organization authorizing the insular chapter to use funds derived from the selling of crop and animal products from the school farms.

In each school where vocational agriculture is taught in Puerto Rico a farm is operated as a supplementary supervised farming practice device. There are now 105 farms operated by F.F.A. chapters and the number is increasing considerably. Before the law was passed, one-third of the value of the product was distributed among the F.F.A., and two-thirds went into the insular treasury and was used to buy implements, seeds, fertilizers, materials, etc.

The new law provides that the value of sales be made available for students' loans, prizes and awards.

A board of directors will consider all applications and approve the loans. Loans can be secured only for the development of home-farming programs which should be supervised by the instructors. No interest will be charged for loans.

Other laws were passed making appropriations for buying school farms,

equipment, materials of construction, feeds, fertilizers, and all other supplies needed at these farms, part of which was previously paid from farm returns.

The total output in cash from the school farms during 1945-46 was close to \$40,000. Besides these returns, Puerto Rican Future Farmers provided part of the vegetables and foods used in the lunchrooms at their schools, shipped canned products for the UNRRA, and supplied seeds to farmers.

Latest Legislation in Puerto Rico Favors the Program in Vocational Agriculture.

The appropriations recently made by the Legislature for the program of vocational agriculture are proof that this program meets the approval of the public. Lately, laws have been passed for the following: Buying land for school farms; buying land for buildings; building agricultural classrooms, farm shops, and animal quarters; repairs to constructions; and building homes for teachers.

Homes for Teachers of Agriculture. Teachers of Agriculture in Puerto Rico are very enthusiastic about the new program of home building by the Insular Government.

The construction of the first two houses has been started at a cost of \$7,500. No rent will be charged to the teachers. Preference in the order of building the houses will be established according to local conditions and lack of transportation facilities in the various rural wards.

F.F.A. Enjoyed the New Contests.

Reports from the local F.F.A. presidents from all over the island favor the continuation of the new type of contests which consists of competitions in laying soil conservation barriers, measuring land, plowing a tract of land, fitting tool handles, and yoking a team of bulls.

These contests were conducted in addition to competitions in debates, parliamentary law procedure, judging crops and animals, and stunts.

Puerto Rican F.F.A. Honored Their Sweethearts.

Sweethearts in nearly all the chapters in Puerto Rico were selected to enter the district contests. The competition was very keen and finally one sweetheart was selected in each of the four districts in which the island is divided.

At final ceremonies the F.F.A. in each district celebrated the events with music, entertainment, and handing presents to their favorites. Puerto Rico Future Farmers are contemplating to celebrate this year an additional contest to select a Puerto Rico F.F.A. Sweetheart.

A. V. A. Program

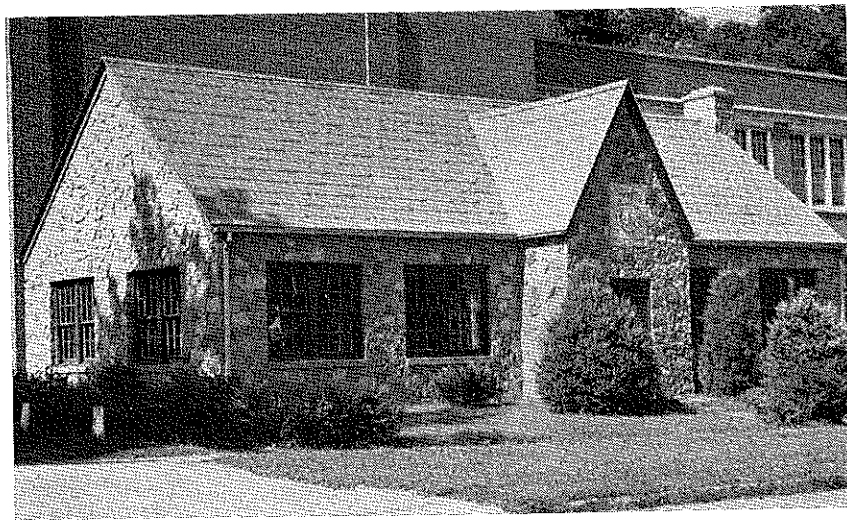
(Continued from page 108)

Three Teachers of Vocational Agriculture Tell Their Story:

1. "Young Farmers Carry on Under Their Own Power in My Community," Clarence B. Davenport, Teacher of Vocational Agriculture, Mt. Holly, New Jersey.
2. "Future Farmer Activities in a Gold Emblem Chapter," Robert Dahle, Teacher of Vocational Agriculture, Ferron, Utah.
3. "Committee Work Plays a Big Part in My Gold Emblem Chapter," John Weibes, Teacher of Vocational Agriculture, Albany, Oregon.

Discussion from the floor.

Business Meeting—H. C. Fetterolf, Chairman; Louis M. Sasman, Sec'y.



Proper exposure means regulating the amount of light entering the lens so that differences of brightness in the scene will stand out on the image recorded on the film. (Photo is that of F.F.A. chapter house, Clarinda, Iowa)

Young Farmers Under the Spotlight

L. R. HUMPHERYS, Teacher Education, Utah State Agricultural College, Logan, Utah

ASUCCESSFUL Future Farmer program is only a good beginning in a well-organized program to train for the business of farming. At least this is the judgment of the three agricultural teachers, Skinner, Bunnett, and Last, of Bear River High School, Garland, Utah. Like the high school farm boys, the Young Farmers and the adult farmers of this consolidated district have identified themselves with a vigorous organized instructional program including participating farm experience interpreted in terms of improved farm practices. The story of any one of these three agricultural organizations builds hope and confidence in the future possibilities of a community program in vocational agriculture. The following paragraphs will be directed to some of the accomplishments of the Bear River Unit of Young Farmers in the northern part of Utah.



L. R. Humpherys

Organization Established

Seventy-three young farmers of this area have pooled their interests in an organized way to better their social, educational, and economic conditions. Organized effort is the only term that expresses the development that is taking place in the 18 rural communities of this district at the present time. Yes, answering your question, let it be said that 80 percent of these boys are G.I.'s.

How shall these young men be organized for an educational program and at the same time make the most of the provision for veterans training? Socially is it desirable to have the two groups, veterans and non-veterans, together for all aspects of the training program? Do the best interests of the two groups dictate that they work together in the solution of common problems in becoming established in the business of farming? These and other questions present live problems which cannot remain unanswered for too long a period. Some of these questions are controversial. A strong case can be presented for either side.

The Bear River agricultural teachers take the position that every effort should be exerted to bring all of these Young Farmers, veterans and non-veterans, into one camp. Red tape in the veterans' training program which isolates these two groups should be reduced to a minimum. Each of these groups can help the other socially and in other ways. They need to integrate their efforts, cooperate and plan whole-heartedly for the com-

mon good. This is the philosophy of these three agricultural teachers. On the other side of the picture there is the problem of financing the prorated cost of the training program for the non-veterans. In some states this condition presents a problem.

Veterans and Non-Veterans

The Utah State plan for veterans training makes it possible, in fact lends itself, to the encouragement of planning a common program for the veterans and the non-veterans. The prorated cost of the non-veteran group can be financed by the provision in the state plan for part-time instruction. Thus the veterans and non-veterans in Bear River Valley have joined together in all seriousness for what might be appropriately termed "on-the-farm training." The program of this Young Farmer unit promises to furnish a deserving pattern for many other rural districts. Space will permit the enumeration of a few of their activities.

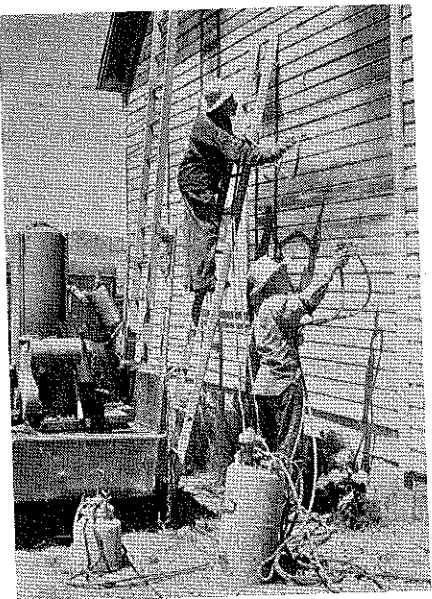
Possibly the most outstanding characteristics of this Young Farmer group are that it is able to recognize common problems and to realize a need for the element of cooperation in the solution of these problems. These Young Farmers have chosen deserving leaders for officers. A constitution and bylaws gives direction to their deliberations. The officers meet regularly and plan every aspect of their program—the educational instruction, cooperative agricultural projects, and the social get-together. Possibly the key to their success is, "put every member to work."

During the fall, winter, and spring months, meetings are held once each two weeks. In the summer meetings are held once a month. The program is an all-the-year-around affair. The permanency of the organization and its function are taken for granted. No one questions the desirability of belonging to the Young Farmers organization. In this program the agricultural teachers and the advisory council play an important part. But the boys for the most part analyze their own needs, make requests for instruction and supervisory help in specific areas. A number of cooperative projects are in full swing at the present time.

Cooperate With F.F.A.

The Young Farmers and Future Farmers of Bear River Valley cooperatively designed and constructed a pressure paint spray outfit. An air compressor, gas engine, high pressure air tank were assembled for a two-paint air gun capacity outfit. This paint equipment mounted in a pick-up truck cost approximately \$650. A Young Farmer is hired to operate the equipment. Needless to say it is kept busy. With the use of two paint guns, about 20

The Young Farmers and the Future Farmers of Bear River High School, Garland, Utah, combine their efforts in a paint-up campaign by the use of power paint spray equipment



gallons of paint can be applied to farm buildings per day. The paint is purchased cooperatively at a saving of about 25 percent. A charge of 25 cents per gallon is made to cover the cost of maintenance and pay the original cost of the equipment. It is estimated that the total cost of equipment will be paid after two seasons of operation.

This Young Farmer unit is ready to organize a unit of the national cooperative for the purpose of buying and selling. They have already discovered the power of cooperative bargaining. Rope, farm tools, and many other supplies have been purchased cooperatively to meet the needs of individual farms. Storing potatoes in a large potato storage plant cooperatively constructed and operated taught them the value of cooperation.

The eradication of weeds from the local farms is receiving major consideration by this Young Farmer group during the summer months. Cooperating, the Future Farmers and the Young Farmers purchased 100 gallons of 2-4-D at a saving of \$2 per gallon. The high percentage of kill of many of the weeds has been very encouraging. Some interesting experimenting with different weed killers is being done this season.

Possibly one of their outstanding projects this year is the responsibility which they have accepted of organizing and directing the Box Elder County Fair. Worthy educational exhibits are being encouraged; judging contests have been announced. In many ways the Young Farmers are in the saddle. Their younger brothers, the Future Farmers, are invited to share in these responsibilities and honors. The general public feels good about the accomplishments of this new generation of farmers. In short, the out-

(Continued on page 118)

Agriculture to G.I.'s

VERNON V. LUTHER, Teacher, Neponset, Illinois

THE present common problem of providing an agriculture course for veterans who are participating in the Government "On the Farm Program" is now being attacked by many methods. What system should we use to obtain the best results—(1) the 4-year high school vocational ag course; (2) the plan as you go course; (3) the seasonal basis; (4) the individual problem basis; (5) a college type of study; (6) or other?



Vernon V. Luther

Upon selecting a course of study, whether it be planned weekly, yearly, or on a 4-year basis, should we (1) lecture on facts and subject matter; (2) hold group discussion of facts and subject matter; (3) discuss seasonal farming problems; (4) discuss individual problems; (5) have veterans study from textbooks; (6) use the moving picture method; (7) use the recreational method; or (8) other?

Any system that is followed will vary per the instructor, the students, and the section of the country. The following methods which are used with the three classes of veterans at Neponset are not the answer to all the problems, but so far have been satisfactory in this department.

Phases of Instruction

The course offered for veterans is planned to cover four years regardless of the individual students' subsistence period. It is divided into four phases as follows:

I. The on the farm phase, which involves the two-hour farm visit per month, and the 2000 hour per year farming program of the veteran. It is here that the veteran and instructor discuss the individual problems and work out improvement projects such as sow testing, milk testing, temporary silo building, breeding stock, selection, etc.

II. The seasonal class phase, which involves a study of farm problems as they occur thru the year. A topic, for example, such as selecting the herd boar or sowing temporary pasture is selected by the instructor a short time before the job occurs on the farm. A problem is worked out on the topic, which may be (1) a series of questions; (2) a panel discussion problem; (3) a comparison or judgment problem; or (4) some other method designed to stimulate thinking. At the beginning of the class period, mimeographed copies of these problems are handed out to each student. About five or ten minutes are given to think it over, and reference books are available for information on the subject. The problem is then discussed for the first hour, with the instructor keeping the conversation on the topic and summarizing the comments put forth by the students.

III. The intensified phase, in which the second hour is devoted to the study of an

WINSTON PIERCE, Special Teacher, Brandon, Vermont

VERMONT veterans who desire training to successfully engage in farming are receiving that help thru the Institutional-On-Farm Training Program. The school at Brandon, Vermont, started June 10, 1946, with 14 veterans enrolled; six were receiving compensation for partial disability. The local school board employed a full-time instructor, and the program as a part of the local school system operated thru the vocational agriculture department of the Brandon High School.

The town of Brandon lies in the west central part of Vermont near Lake Champlain and New York State. Dairy farming predominates in the area because of its location with respect to markets and its natural adaptability to fluid milk production.

The farmer veterans were dairy farmers; six were owners and five were partners on the home farm. In all cases the veterans had complete operational control with agreements to fully protect their welfare. The farms varied in size from 130 to 640 acres.

The program was planned to provide a minimum of 200 hours of off-the-farm or class instruction to deal with those problems common to the entire group and 100 hours of on-the-farm instruction. The farm is considered a part of the school's facilities.

A course of study was developed for the group and the individual training programs drawn up after the instructor, the agricultural training officer, and the enrollees had determined immediate and subsequent training needs. The training program included nothing that would tend to aggravate a service connected disability.

It was decided by the group that the classroom portion of the course should be scheduled to take more time in the fall and winter months when work on the farm requires fewer hours per day. Meetings of three hours each were scheduled three times per month from April 1 to

agriculture unit which is continued for a period of about three months. Examples are farm record keeping, soil fertility, farm machinery and, the dairy enterprise. The discussions are lead by the instructor thru the use of questions. This way it is possible to find out what the students already know, and also give a means to teach important farming facts so that there is interest.

IV. The extension phase, which involves attending a county meeting where an outside speaker or an authority on some agricultural subject puts on a demonstration, shows slides, or uses some other type of instruction.

While this system is still in an immature stage, it can be partly evaluated on the basis of the interest shown and participation of the veterans. Thus far, there hasn't been a need for a council between the instructors and a representative from each class. Students are starting improvement programs such as sow testing and contour farming. Some veterans are entering into father and son agreements while others are becoming established in farming for themselves on the farm as they become available.

September 30 and twice a week from October 1 to March 31. All class work was scheduled in seasonal sequence. The on-the-farm instruction co-ordination with classroom work was achieved by careful planning.

Since the school started, farm problems of the veterans have furnished the basis of class discussion. The instructor made a complete analysis of the veterans' farm business at the beginning of the course and many times this has proven helpful. Because everyone enrolled in the course was trying to successfully establish himself on a farm, most of the problems have been common to beginning farmers. When problems could not be solved by the class the local advisory committee was contacted. Since representatives of the various agricultural agencies make up this committee the technical information or specialized aid needed was immediately available. The veterans themselves had had considerable experience in agricultural work and it proved important to get an active exchange of ideas concerning decisions involved in operating a farm. Many times the veteran who came in with an individual problem went away with a decision based on the experience of his fellow students.

The instructor makes two visits per month of four hours each to every veteran's farm. The purpose of the farm visits is to locate and aid in solving the farm problems at the time they become urgent. For this reason, the schedule of visits and classes was made flexible in order that instruction be based on needs and opportunities.

Farms Surveyed

Several farms have been surveyed for prospective veteran buyers. Aid in finding livestock has been given to those enrolled in the course. Similar aid can be given in locating farm machinery for sale in the community. Dairy herd improvement work has a prominent place in the course of study.

The instructor visits the farms and guides the farmers in carrying out the practices that have been decided in the classroom. One constructive activity on each farm was the establishment or improvement of a practical system of farm record keeping. The students have benefited from trips to the farms of other veterans or successful farmers in the community where they observed better farming methods.

The attitude of the enrollees may be summarized by the statement of one young veteran farmer who operates a 300 acre dairy farm: "The Institutional-On-Farm Training program is the best opportunity the farmer-veteran ever has had to get the help he needs at the particular time the problem presents itself. Farming is a more exacting business than it ever has been, and if a fellow is to be successful, he must get the proper start."

The work has only begun. The real test of the program can be made only in future years. In the Brandon community, this program is seen as a way to lay sound foundations for agriculture and to insure the veteran every opportunity to become a successful farmer and a good citizen of the community.

Farming Programs

C. L. ANGERER

Visiting Farming Programs an Opportunity for the Teacher

ROY A. OLNEY, Teacher Education, Cornell University



Roy A. Olney

SUPERVISING pupil programs of farming is a continuous activity of the teacher of agriculture from the time the pupil enrolls in vocational agriculture and for as long as the pupil maintains any connection with a program of systematic instruction in agriculture under the direction of the teacher.

We are aware of the fact that supervision of pupils must and will serve an important function in launching and further developing farming programs. The discussion of this broad idea of supervision will be limited to that which should take place at the homes of the pupils after the programs have been launched and planned. It will include the follow-up teaching and checking which the teacher should perform while the programs are in actual operation.

It is the responsibility of the teacher to fulfill this duty of follow-up supervision. The best type of farming program cannot be carried out until the teacher is familiar with the home situation of each pupil, the plans he has made for his program, and until the teacher has a close acquaintanceship with members of the boy's family. Teachers are employed for a 12 months' period with a limited vacation during the summer months. Such a period of employment enables the teacher to serve the pupils better, and to do his best teaching during the summer months when the farming programs are in full operation.

A procedure for making a supervisory visit to a pupil's program will be suggestive of several things that can and should be done on such a trip. There are at least six steps, namely:

1. Planning for the visit

This is important if we are to accomplish any real teaching on such a trip, which is our primary reason and purpose for visiting pupils. The teacher should determine the need for and plan the things to be done on each trip by reviewing the notes and records made on the previous visit or visits. Such planning will call for a decision on what supplies, equipment, and reference materials may be needed during the visit, and how to dress for the occasion in order to accomplish definite goals. The teacher should also take into account the best time for making visits. He should consider time of day, time in relation to meals, farm work likely to be in progress, and social activities of the family. He must decide whether or not it will be necessary to make previous ar-

rangements with the pupil before the trip is made. Adequate planning for each trip will accomplish definite results profitable to the pupil, so that he will look forward to future visits by the teacher. Also, the parents will recognize that the teacher has definite purposes for helping his boy on these visits. Under most circumstances, parents will be glad to cooperate in allowing the pupil time for such conferences and work.

2. Arriving at the farm

On arriving at the home, spend a little time about your car in order to give the women folk of the family an opportunity to adjust their personal attire, such as putting on a clean apron, or arranging room conditions—removing dirty dishes or the like, before you reach the house. Of course, if family members are in the yard or at the barn, one may not need to take these precautions. Talk for a short time with members of the family present on your arrival on general topics of interest to all and about the boy's work. If the boy is not present, ask where he can be located. In most instances, do not let a member of the family call or go for him, because finding him at work may provide valuable information as discussed under step 3, below. Obtain the boy's record book, look it over, and take it with you when you go to find him. Some previous arrangements should have been made between the boy and family so that all will know where his record book is to be found at the home.

3. Locating the boy at his work

The teacher locates the pupil after a member of the family has directed him to where the boy may be found. This will

Fig. 1. Notation Regarding Farming Program of Student

Merwin Jones - April 1944-45

Oct. 16

Assisted him to decide upon one of the two calves that he had picked out of four. Looked over calf quarters suggested the follow plans developed in class for fixing hay rack and feed box. Check best time need to provide acct. Need to feed 2-3rd more grain. Check water after class instruction on feeding. Talk with father.

Mentioned starting dairy herd management program, follow up with a visit before Nov. 15 and help him get started in taking samples and weighing the milk.

On next visit, if possible check field where potatoes will be planted next spring.

give the teacher an opportunity to observe conditions on the farm. He may see activities which the boy might well include in his farming program in order to broaden his training and experience.

When the teacher has found the boy he should observe carefully what he is doing. This may offer an opportunity for some additional teaching which may assist the boy to do the job more efficiently. The teacher will need to decide if it is possible and wise for the boy to leave his work and go with him to observe and discuss his farming program. You may wait for him or help him reach a stopping point, or make plans for returning at another time. However, be sure to see his farming-program activities before leaving the farm, with the boy alone if possible, with other members of the

Fig. 2. Record of Supervisory Visits to Farming Programs School Year 19.... 19....

Names of Pupils	Agriculture I, II, III, IV	Teacher.....												Total Visits
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	
Merwin Jones	1	10	16	14	25	3	15	20	4	2	12	10	17	
William Smith	1	12			10	20	23	6	19	26	3	16	15	12

Note: Enter the DATES you visit in the proper month
Key—Date in circle (27)—next visit should be made in a week or ten days

Book Reviews



A. P. Davidson

Farm Mechanics Text and Handbook, by Cook, Scranton, and McColly, pp. 744, illustrated, published by The Interstate, Danville, Illinois, list price \$3.15. The revision includes many helpful suggestions from teachers of vocational agriculture, conferences with agricultural engineers, teacher-trainers, state supervisors of agricultural education, and consultation with staff members of the Agricultural Education Service of the U. S. Office of Education. The enlarged edition follows closely the recommendations of the agricultural engineering subcommittee. In order to meet the new developments in farm-mechanics activities, over 200 new illustrations and the following chapters have been added:

- Providing and Equipping a Home-Farm Shop
 - Welding by the Oxyacetylene Process
 - Welding with an Electric Arc Welder
 - Selecting, Using and Caring for the Farm Truck
 - Constructing and Repairing Farm Buildings
 - Using Contour Farming and Strip Cropping Practices
 - Providing Farm Drainage and Irrigation
 - Providing and Equipping a School-Community Cannery.
- This text should prove especially helpful to teachers of vocational agriculture in their all-day, part-time, and adult classes. Teacher-trainers and farmers will find this book of value. APD

The Measurement of Understanding, Part I, The Forty-Fifth Yearbook of the National Society for the Study of Education, pp. 338, distributed by The University of Chicago Press, Chicago 37, Illinois, list price \$3 (paper cover \$2.25). Measuring the results of teaching is a problem in educational procedure which must be dealt with in some fashion in all areas and at all levels of instruction. "The place of this text in the literature of measurement is to be defined in terms of the impetus it will give to greater emphasis in testing programs on methods of appraising the student's readiness for intelligent behavior in normal situations which engender a feeling of need for purposeful action." Teachers in the field of agricultural education will be especially interested in Chapter 14 which deals with "The Measurement of Understanding in Agriculture." APD

Managing a Farm, by Sherman E. Johnson, et. al., pp. 365, illustrated, published by D. Van Nostrand Company, Inc., list price \$2.95. Emphasis is given to practical guidance in thinking thru the management problems on a full-time family farm, as well as to management problems affecting part-time farming. A national perspective is kept despite the fact that management problems are

(Continued on page 118)

family, or by yourself as a last resort. If the boy is not present, then a return visit should be made in the near future. The teacher is now ready to carry out the most important part of his supervisory visit—Teaching the boy.

4. Checking the progress of the farming program

This will be and should be the most time-consuming part of the teacher's visit. It should also be the most valuable for the pupil. The actual conditions at hand together with the materials which the teacher has brought with him provide an ideal teaching situation. While observing the progress made in his program, problems will be discovered. Some will need immediate attention, with the teacher assisting the pupil in performing the necessary practices. On some he may make certain comments and suggestions that can be carried out by the pupil and checked by the teacher at a later visit. Some thought and help should be given in anticipation of future needs and difficulties that may arise. This will require a review of job plans made during the school year for the activities to be encountered in the program. The financial records should be checked carefully and assistance given, if needed. Before leaving the pupil, some tentative plans should be made for the next visit. It usually will be desirable for the teacher to make notes for future use. This is discussed in the next step.

5. Making notes following a visit

There is some difference of opinion on when such notes should be made and whether the boys should receive a copy of them. We will not attempt to decide these issues. However, it is essential that the teacher keep for himself a brief but concise record of progress and accomplishments on each part of a pupil's farming program, if he is to carry on a continuous constructive program with the boy. Such a brief history of the program will not only help the teacher to serve the boy better, but also will provide information on any pupil on a moment's notice. The form in which such a record should be maintained rests with the teacher. Many

teachers are using small loose-leaf notebooks in order to provide for expansion of notes and comments made on each boy. Notes should be made for the teacher's use. The main purpose of such notes is for the teacher's use in planning further assistance or help to the pupil in advancing his program on an efficient basis. Usually entries are made after leaving the home, except when certain recommendations agreed upon with the boy are made at the time of the visit.

At each visit after the program is launched, a careful check should be made to see that the boy has made the changes agreed upon during the former visit. No teaching has taken place until he actually follows thru or improves upon the suggestions made and remedies the troubles that are existent. Also, the teacher should strive to build up better or improved practices over those that formerly have been in operation on the farm. Brief notes on outstanding accomplishments are also in order in the teacher's record.

An example of this type of record by the teacher for Merwin Jones is shown in Figure 1.

6. Leaving the home

This is the last step in making a visit to a boy's home. Return the pupil's notebook and make comments on the work he is doing. Seek the family's further help and cooperation, if needed. Leave them in a friendly mood so that they will desire your early return to the home.

How Many Visits?

The number and frequency of visits are determined by the type and scope of program which the pupil has under way. Close supervision probably is necessary at the start of any part of the program and at critical stages during the time it is in operation. For example, the arrival of baby chicks, the first 10 days when they are likely to be affected by diseases or parasites, are critical periods. The amount of instruction which can be given and the needs for assistance on the programs of the boys should be the basis for visits rather than a certain number.

(Continued on page 117)



E. W. Crane, Trumansburg, N.Y., checks records of pupil before leaving home of latter

Farm Mechanics

R. W. CLINE

Work Simplification Works

LOWELL S. HARDIN, Purdue University, Lafayette, Indiana

WORK simplification works, conclude researchers in several states who have been developing and testing easier, cheaper, and more effective ways to do farm jobs. Chances are that you will agree with them when you study the results of some of their investigations.



L. S. Hardin

Minnesota Dairymen

Take the Minnesota dairymen who keeps 13 cows and 15 other cattle. Work simplification reduced his daily winter chores from 3 hours 39 minutes to 2 hours 45 minutes. To make this 27 percent saving in time and reduce walking 38 percent, changes similar to those of a Vermont farmer who saved 2 hours 5 minutes work and 2 miles walking a day were made. Correct machine milking on a timed interval was introduced, the interior of the barn was rearranged, obstructing posts and sills were removed, loads were put on wheels, hay chutes were relocated, a new order of work was developed, and a work center was provided. In fact, these and other dairy studies suggest that if machine milking isn't completed in around four minutes average per cow, methods need improvement.

Indiana Hog Growers

In another study five Indiana farmers producing hogs using the two-litter system were studied for a year. By carefully studying and improving their methods these farmers were able to produce 225 pound market hogs in an average of 1.7 hours of work per head as compared to the Indiana average of 5 to 7 hours. A definite, planned system of management and housing was worked out and an easy method of watering, adapted to the farm, was developed. Feed was stored, prepared and handled with a minimum of labor and adequate economical equipment was provided. Most important, each job was planned thru ahead of time, preparatory work was completed in advance, and the enterprise was kept on schedule.

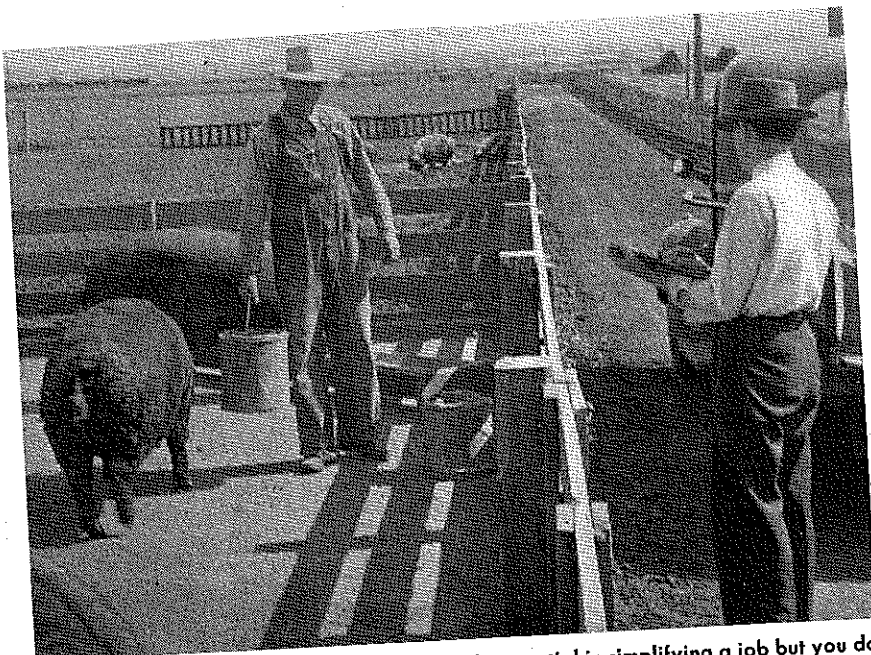
Preliminary studies of poultry work indicate that chore time can be reduced by as much as one-half thru proper plan-

ning, convenient feed storage, using deep litter and roosting racks, and making each trip count. By way of comparison, on some farms six times as much time is required to get the corn, carry it to the hens, and feed it as is required to grow, harvest, and store the corn in the first place.

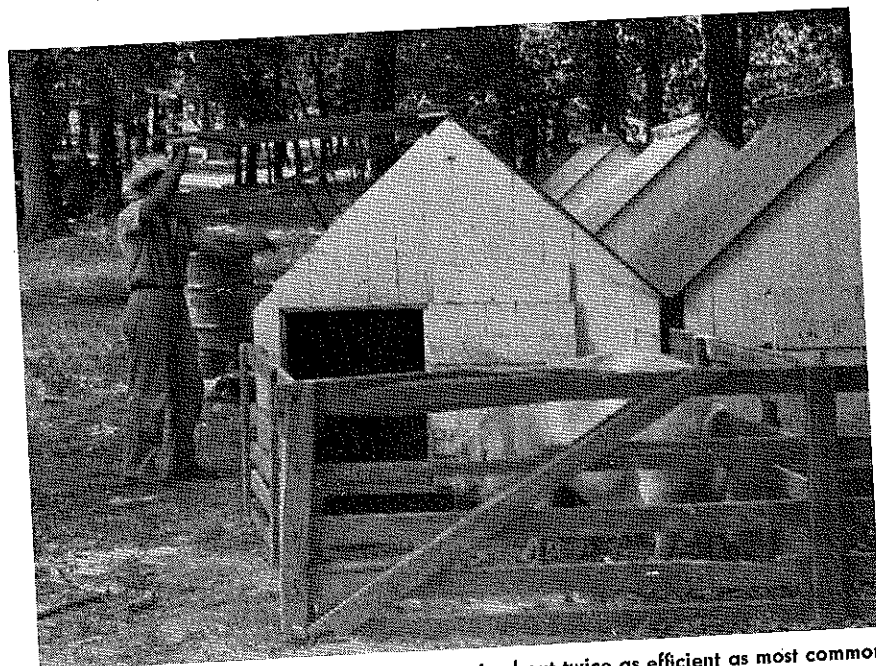
Study of haying jobs on 72 Vermont farms shows that how a man works is

more important than what he works with. Among the farms studied the 10 farmers handling the hay the fastest (62 to 85 man minutes per ton to move hay from windrow to the mow) used all types and combinations of equipment. They demonstrated that there is no one best way to make hay under all conditions. But there is a best way to utilize the crew and machinery irrespective of the particular method employed. Studies to date would suggest that most methods can be per-

³Carter, R. M., *Hay Harvesting*, Vermont Exp. Sta. Bul. 531, 1946.



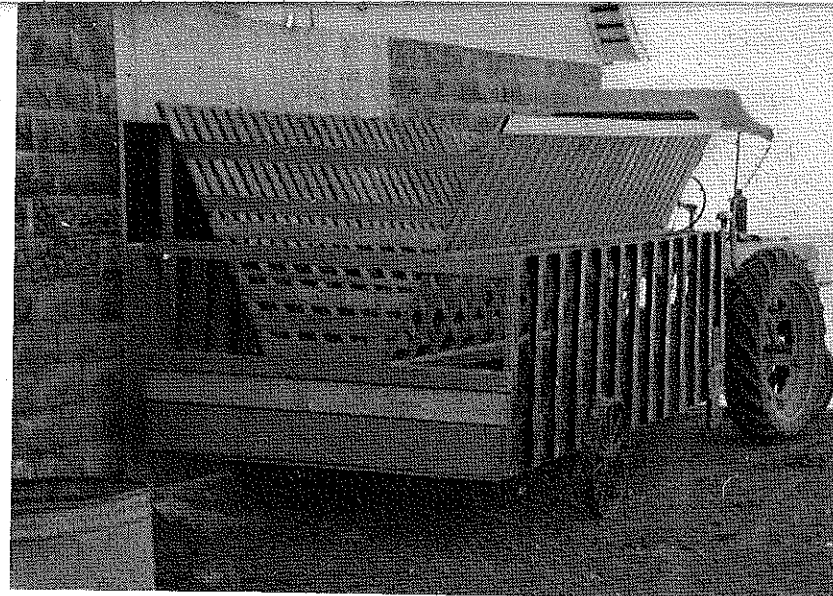
Stop-watch studies such as this are not absolutely essential in simplifying a job but you do need to know what you do and what it costs in time, equipment, and dollars



This double-row farrowing house arrangement is about twice as efficient as most common arrangements. Locations of livestock, feed, and equipment influence how we use about half of our farm labor hours

¹ Farm Work Simplification studies have been under way in 12 or more state land grant colleges for the last 3 years. See *Teaching Students How to Organize Farm Work to Save Time and Effort*, Agricultural Education Magazine, Sept. 1944, Vol. 17, No. 3, p. 46.

² Oberholtzer, J. W. and Hardin, L. S., *Simplifying the Work and Management of Hog Production*, Purdue Exp. Sta. Bul. 506, 1945.



Take the hay to the cattle on racks rather than in wagons and save the handling. Efficient use of properly adapted equipment is an essential part of work simplification

fect to the point where hay should be moved from windrow to mow in around 90 man minutes per ton.

Kentucky Tobacco Producers

In tobacco production and harvesting studies, improved methods saving from one-fourth to two-thirds of the labor previously required have been developed and tested for several important jobs. In Kentucky, methods of burley tobacco production have been developed which result in per acre savings of about 10 hours in pulling plants; 11 hours in machine setting; 19 to 20 hours in priming; 20 to 40 percent in cutting and spearing; and 15 percent in housing and stripping.⁴

Significant improvements in methods of harvesting the vegetable crops, tomatoes, celery, potatoes, green beans, have been made by studying and improving common practices. In Colorado an improved method of cutting seed potatoes was developed which enables the average farm worker to cut 25 percent more seed potatoes in a day than other methods.⁵ Pathological tests show the method successful in disease control. A stationary, vertical, double-edged knife attached to a gravity-feed cutting table is used.

Florida Celery Growers

In a Florida study of celery production, harvesting, and packing, improved methods resulting in an over-all saving of around 40 percent in labor requirements were developed.⁶

Results of additional work simplification studies are constantly being made available to farmers and teachers. Each suggested method must, however, be interpreted in the light of the particular farm situation it is to serve. At best, research workers can only scratch the sur-

⁴Byers, G. B., Nesius, E. J., and Young, Earl, *Easier Ways to Do Farm Work*, Series of Univ. of Ky. Extension Leaflets on tobacco, 1944, 45.

⁵Paschal, J. L., Lane, G. H., and Krentzer, W. R., *The Double-Edged Stationary Potato Cutting Knife*, Colorado Exp. Sta. Bul. 493, May 1946.

⁶Brunk, M. E., *Celery Harvesting Methods in Florida*, Florida Exp. Sta. Bul. 404, 1944.

face of the great number of possible ways to improve farm work methods. The primary contribution of this research, therefore, is to demonstrate what can be done to lessen the drudgery, expense, and inefficiency of many traditional work procedures. In this way farmers, teachers, and extension workers alike should be challenged to undertake their own studies in order that they may "make work simplification work for them."

Visiting Farming Programs

(Continued from page 115)

Probably each pupil should be visited at least two or three times each month during the summer, and a less number of times per month during the school year. The length of time spent on each visit is governed by the situation as it is found. Probably not long enough time is spent with the pupil, while the over-all time at the farm might be long because of unrelated activities with members of the family. A large percent of teacher time on a visit should be spent in working with and assisting the boy in his farming program. Some teachers keep a cumulative composite record of all visits made during the year similar to the suggested form, Figure II. It has these uses and advantages:

1. The teacher may determine at a glance, whether visits are needed.
2. By recording the date under the month when making a visit, information needed by the teacher for planning future visits is provided. One teacher suggested that he would work out a key to remind him of emergency visits. You may think of other uses of this form.
3. The teacher derives the greatest value from keeping this type of record, but occasionally administrative officials may have questions that can be answered by such a record.
4. The record will provide the basis for data on which the teacher can support requests for travel expense money.
5. The form may be suggestive to teachers for recording other data or uses that may be made of such data.

Suggestions for Organizing F.F.A. Leadership Training Programs

1. Arrangements—the chapter should organize special committees, such as:
 - a. Reception committee to meet incoming groups at the door and tell them where to put their wraps, the place for the general meetings, etc.
 - b. Music committee to arrange for special music, group singing, and band or orchestra numbers.
 - c. Recreation committee to arrange for group games or instruction in some phase of recreation.
 - d. Room arrangement committee to arrange for the rooms for general and special meetings and facilities such as tables, chairs, blackboards, and F.F.A. paraphernalia.
 - e. Meal committee to arrange for satisfactory eating facilities. If the home economics department or some church group puts on the meal, sell tickets, organize eating arrangements especially if cafeteria plan is used, and organize programs for return of trays, dishes, and napkins.
 - f. Clean-up committee—this committee could be same as the room arrangement committee. Facilities should be returned, rooms arranged and organized according to school standards.

2. Activities

- a. F.F.A. boys should be the chairmen of all groups, committees or meetings and assisted by an F.F.A. adviser. This experience is a definite part of the leadership-training program.
- b. Opening and closing ceremonies should be used to open and close meetings. Official paraphernalia should be used. The regular F.F.A. officers should be used; in most cases, this will be the host chapter officers.
- c. Some highly trained degree team should put on the Greenhand and Chapter Farmer initiation ceremonies.
- d. Classes should be held for F.F.A. committees, especially concerning the eight objectives of the program of work.
- e. F.F.A. officer classes should be conducted, especially for presidents, vice-presidents, secretaries, treasurers, and reporters.
- f. Demonstrations should be conducted by F.F.A. groups on such subjects as:
 - (1) "How to conduct a good F.F.A. meeting"
 - (2) "How to finance an F.F.A. program of work"
 - (3) "How to build an F.F.A. program of work"
 - (4) "How to utilize F.F.A. contests in a functional program of vocational agriculture"
 - (5) "How to conduct a public relations program"
- g. With the more definite district and regional organization for F.F.A. activities, it might be well to consider the advisability of electing a temporary set of officers for the district or region.

—The Michigan Future Farmer



Chas. W. Sylvester, Mrs. Sylvester, Sen. Olin D. Johnston (S. C.), Sen. Walter F. George (Ga.), M. D. Mobley, Mrs. Mobley, C. L. Greiber, Cong. Graham A. Barden (N. C.), Mrs. Dennis, Sen. Lister Hill (Ala.), L. H. Dennis, Ira W. Kibby. Also present—U. S. Com. of Ed. John W. Studebaker & Former Asst. Com. for Voc. Ad. J. C. Wright. Photo by Haris and Ewing

Provisions of George-Barden Vocational Education Act

UNDER the provisions of the George-Barden Act, which was signed by President Truman on August 1, there is authorized to be appropriated for the fiscal year beginning July 1, 1946, and annually thereafter:

- \$10,000,000 for vocational education in agriculture
- \$8,000,000 for vocational education in home economics
- \$8,000,000 for vocational education in trades and industries
- \$2,500,000 for vocational education in distributive occupations
- \$350,000 for the U. S. Office of Education

This bill amends and replaces the George-Deen Act of 1936. The funds authorized by it must be matched 100 percent by state or local funds or both. The funds may be used "in the maintenance of adequate programs of administration, supervision, and teacher-training; for salaries and necessary travel expenses of teachers, teacher-trainers, vocational counselors, supervisors and directors of vocational education and vocational guidance; for securing necessary

educational information and data as a basis for the proper development of programs of vocational education and vocational guidance, for training and work-experience training programs for out-of-school youths; for training programs for apprentices; for purchase or rent of equipment and supplies for vocational instruction. . . ."

The George-Barden Act makes possible a substantial extension of the program of vocational education. The fact that this Act was passed by Congress by practically an unanimous vote in both the Senate and the House indicates the public approval of the program of vocational education.

Young Farmers Under the Spotlight

(Continued from page 112)

look is good for all of these young men in becoming established in farming. New problems have arisen with this young generation of farmers. Not the least of these problems is acquiring capital, the purchase or rent of land, and securing livestock with inflation on the rampant. Wise counseling, efficient instruction, close supervision, long-time planning, the exercise of cooperative ef-

fort, public recognition of the need for this type of education by school administrators and patrons alike—these are the major requirements of a successful program for young men interested in becoming established in farming. The Young Farmer program presents the most fertile field in the agricultural education program in the next decade.

Book Reviews

(Continued from page 115)

treated in terms of the working operator of a family farm. The book is a revised and expanded version of Manual 810, "Managing a Farm," which was prepared for the Armed Forces Institute. Workers in agricultural education will find this text both interesting and informative. APD

Six outstanding Future Farmers from the southeastern states selected on their record in forestry farming, during the previous year, recently attended a forestry camp at High Springs, Florida. The project was made possible thru the cooperation of the Southern Railway and the Florida Forest and Park Service.

- John W. Studebaker—U. S. Commissioner of Education
 R. W. Gregory—Asst. Commissioner for Vocational Education
 W. T. Spanton—Chief, Agricultural Education
- Regional Agents:** H. B. Swanson—North Atlantic J. H. Pearson—North Central
 D. M. Clements—Southern E. J. Johnson—Pacific
 W. N. Elam—Special Groups
- 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 ts—teacher-trainers it—itinerant teacher-trainers
 nt—research workers sms—subject matter specialists

- ALABAMA**
 d—R. E. Cammack, Montgomery
 s—J. C. Cannon, Montgomery
 ds—H. F. Gibson, Auburn
 ds—T. L. Faulkner, Auburn
 ds—B. P. Delworth, Auburn
 ds—J. I. Dailey, Montgomery
 ds—H. R. Culver, Auburn
 ds—L. L. Sellers, Auburn
 t—S. L. Chesnut, Auburn
 t—D. N. Bottoms, Auburn
 t—R. W. Montgomery, Auburn
 sms—C. C. Scarborough, Auburn
 nt—Arthur Floyd, Tuskegee Institute
 nt—E. T. McQueen, Tuskegee Institute
 nt—E. L. Donald, Tuskegee Institute
- ARIZONA**
 d—Nolan D. Pulliam, Phoenix
 s—J. R. Cullison, Phoenix
 t—R. W. Cline, 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
 t—Roy W. Roberts, Fayetteville
 t—LaVan Shoptaw, Fayetteville
 nt—J. C. McAdams, 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—Harold O. Wilson, Los Angeles
 rs—H. H. Burlingham, Chico
 t—S. S. Sutherland, Davis
 sms—Geo. P. Couper, San Luis Obispo
 sms—J. I. Thompson, San Luis Obispo
- COLORADO**
 d—E. C. Comstock, Denver
 s—A. R. Bunger, Denver
 t—R. W. Canada, Ft. Collins
- CONNECTICUT**
 d—Emmett O'Brien
 s—R. L. Hahn, Hartford
 t—C. B. Gentry, Storrs
 t—W. Howard Martin, Storrs
- DELAWARE**
 d—R. W. Heim, Newark
 s—W. L. Mowlds, Dover
- FLORIDA**
 d—Colin English, Tallahassee
 s—Harry Wood, Tallahassee
 t—E. W. Garris, Gainesville
 it—W. T. Lofton, Gainesville
 it—J. G. Smith, Gainesville
 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—O. C. Aderhold, Athens
 t—R. H. Tolbert, Athens
 t—G. L. O'Kelley, Athens
 t—A. O. Duncan, Athens
 nt—Alva Tabor, Fort Valley
- HAWAII**
 ds—W. W. Beers, Honolulu, T. H.
 s—Warren Gibson, Honolulu, T. H.
 t—F. E. Armstrong, Honolulu, T. H.
- IDAHO**
 d—William Kerr, Boise
 s—Stanley S. Richardson, Boise
 as—Elmer D. Beinap, Idaho Falls
 t—H. A. Winner, 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
 t—H. M. Hamlin, Urbana
 t—J. N. Weiss, Urbana
 t—Melvin Henderson, Urbana
 t—H. J. Rucker, Urbana
 t—Harold Witt, Urbana
 t—L. J. Phipps
- INDIANA**
 d—Clement T. Malan, Indianapolis
 s—Harry F. Ainsworth, Indianapolis
 t—B. C. Lawson, Lafayette
 rt—S. S. Cromer, Lafayette
 it—K. W. Kiltz, Lafayette
 it—H. W. Leonard, Lafayette
 it—H. B. Taylor, 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—D. L. Kinachi, Des Moines
 as—H. H. Dockendorf, Des Moines
 t—Barton Morgan, Ames
 t—John B. McClelland, Ames
 t—J. A. Starrak, Ames
 t—T. E. Sexauer, Ames
- KANSAS**
 d—C. M. Miller, Topeka
 s—L. B. Polton, 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
 it—Carnie 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, Act., Baton Rouge
 as—J. J. Arceneaux, Baton Rouge
 as—C. P. McVea, Baton Rouge
 as—C. L. Mondart, Baton Rouge
 t—Roy L. Davenport, University
 t—J. C. Floyd, University
 t—M. C. Garr, University
 t—A. Larriviere, Lafayette
 nt—M. J. Clark, Scotlandville
 nt—D. B. Matthews, Scotlandville
- MAINE**
 s—Herbert S. Hill, Orono
 ast—Wallace H. Elliott, Orono
- MARYLAND**
 d—John J. Seidel, Baltimore
 s—H. F. Cotterman, College Park
 nt—J. A. Oliver, Princess Anne
- MASSACHUSETTS**
 d—M. Norcross Stratton, Boston
 s—John G. Glavin, Boston
 t—Jessie A. Taft, Amherst
- MICHIGAN**
 d—Ralph C. Wenrich, Lansing
 s—Harry E. Nesman, Lansing
 s—Luke H. Kelley, Lansing
 s—Raymond M. Clark, Lansing
 s—John W. Hall, Lansing
 t—H. M. Byram, East Lansing
 t—G. P. Deyos, East Lansing
 t—G. C. Cook, East Lansing
 t—Paul Swancy, East Lansing
- MINNESOTA**
 d—Harry C. Schmidt, St. Paul
 s—Leo Knuti, St. Paul
 as—Carl F. Albrecht, St. Paul
 t—A. M. Field, St. Paul
 t—M. J. Peterson, St. Paul
- MISSISSIPPI**
 d—H. E. Mauldin, Jr., Jackson
 s—A. P. Fatheree, Jackson
 as—E. H. Fiskerly, Jackson
 ds—E. E. Gross, Hattiesburg
 ds—E. E. Holmes, Oxford
 ds—V. P. Winstead, State College
 ds—V. G. Martin, State College
 t—N. E. Wilson, State College
 t—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—H. E. Rodeberg, Bozeman
 t—R. H. Palmer, 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. Minter, Lincoln
- NEVADA**
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 s—Lloyd Dowler, Carson City
- NEW HAMPSHIRE**
 d—Walter M. May, Concord
 s—Earl H. Little, Concord
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 d—John A. McCarthy, Trenton
 s—H. O. Sampson, New Brunswick
 s—E. V. Bearer, New Brunswick
 as—O. E. Kiser, New Brunswick
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 as—L. C. Dalton, State College
 t—Carl G. Howard, State College
 t—H. M. Gardner, State College
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 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
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 s—Roy H. Thomas, Raleigh
 as—E. 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. Chesnut, 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
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 s—Ernest L. DeAlton, Fargo
 t—Shubel D. Owen, Fargo
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 s—Ralph A. Howard, Columbus
 ds—W. G. Weiler, Columbus
 ds—E. O. Bolender, Columbus
 ds—H. G. Kenestrick, Columbus
 ds—F. J. Ruble, Columbus
 t—W. F. Stewart, Columbus
 it—C. E. Rhoad, Columbus
 rt—A. C. Kennedy, Columbus
 rt—Ray Fife, Columbus
- OKLAHOMA**
 ds—J. B. Perky, Stillwater
 as—Bonnie Nicholson, Stillwater
 ds—W. R. Felton, Stillwater
 ds—S. M. Crosnoe, Stillwater
 ds—Byri Killian, Stillwater
 t—C. L. Angerer, Stillwater
 t—Don M. Orr, Stillwater
 t—Chris White, Stillwater
 nt—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
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 d—Paul L. Cressman, Harrisburg
 s—H. C. Fetterli, Harrisburg
 s—V. A. Martin, Harrisburg
 t—Henry S. Brunner, State College
 t—William F. Hall, State College
 t—C. S. Anderson, State College
 it—Russell B. Dickerson, State College
- MISSOURI**
 d—Roy Seantlin, Jefferson City
 s—J. H. Foard, Jefferson City
 ds—Joe Duck, Springfield
 ds—C. V. Roderick, Jefferson City
 ds—J. A. Bailey, Jefferson City
 t—G. F. Ekstrom, Columbia
- MISSOURI**
 d—Lloyd A. LeZotte, San Juan
 s—Nicholas Mendez, San Juan
 as—Samuel Molinary, San Juan
 as—Rafael Mullar, San Juan
 ds—Frederick A. Rodriguez, San Juan
 ds—Juan Acosta Henriquez, Arecibo
 ds—Juan Robles, Cayey
 ds—Andres Ramirez, Mayaguez
 t—Lorenzo G. Hernandez, Mayaguez
- RHODE ISLAND**
 ds—George H. Baldwin, Providence
 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—W. G. Crandall, Clemson
 t—B. H. Stribling, Clemson
 t—J. B. Monroe, Clemson
 t—T. E. Duncan, Clemson
 t—T. E. Kirkley, 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**
 ds—G. E. Freeman, Nashville
 as—J. W. Brimm, Nashville
 ds—H. N. Parks, Gallatin
 ds—L. A. Carpenter, Knoxville
 ds—Ben Douglas, Jackson
 t—N. E. Fitzgerald, Knoxville
 t—J. B. Kirkland, 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
 s—R. Lano Barron, Austin
 ds—George H. Hurt, Austin
 ds—O. T. Ryan, Lubbock
 ds—C. B. Barclay, Commerce
 ds—C. D. Parker, Kingsville
 ds—A. B. Childers, Mart
 t—E. R. Alexander, College Station
 t—Henry Ross, College Station
 t—J. L. Moses, Huntsville
 t—Ray 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—R. M. Hargrave, Lubbock
 nt—F. M. Norris, Prairie View
 nt—W. D. Thompson, Prairie View
 nt—O. J. Thomas, Prairie View
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 s—Mark Nichols, Salt Lake City
 as—Elvin Downs, Salt Lake City
 t—L. R. Humpherys, Logan
- VERMONT**
 d—John E. Nelson, Montpelier
 t—C. D. Watson, Burlington
- VIRGINIA**
 d—Dowell J. Howard, 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
 t—H. W. Sanders, Blacksburg
 t—E. Y. Noblin, 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—H. M. Olson, Olympia
 as—E. M. Webb, Pullman
 ts—Oscar Loren, Pullman
- WEST VIRGINIA**
 d—John M. Lowe, Charleston
 s—H. N. Hansucker, Charleston
 as—S. D. McMullen
 t—D. W. Parsons, Morgantown
 t—C. W. Hill
- 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—Jack Ruch, Cheyenne
 t—Dean Pence, Laramie