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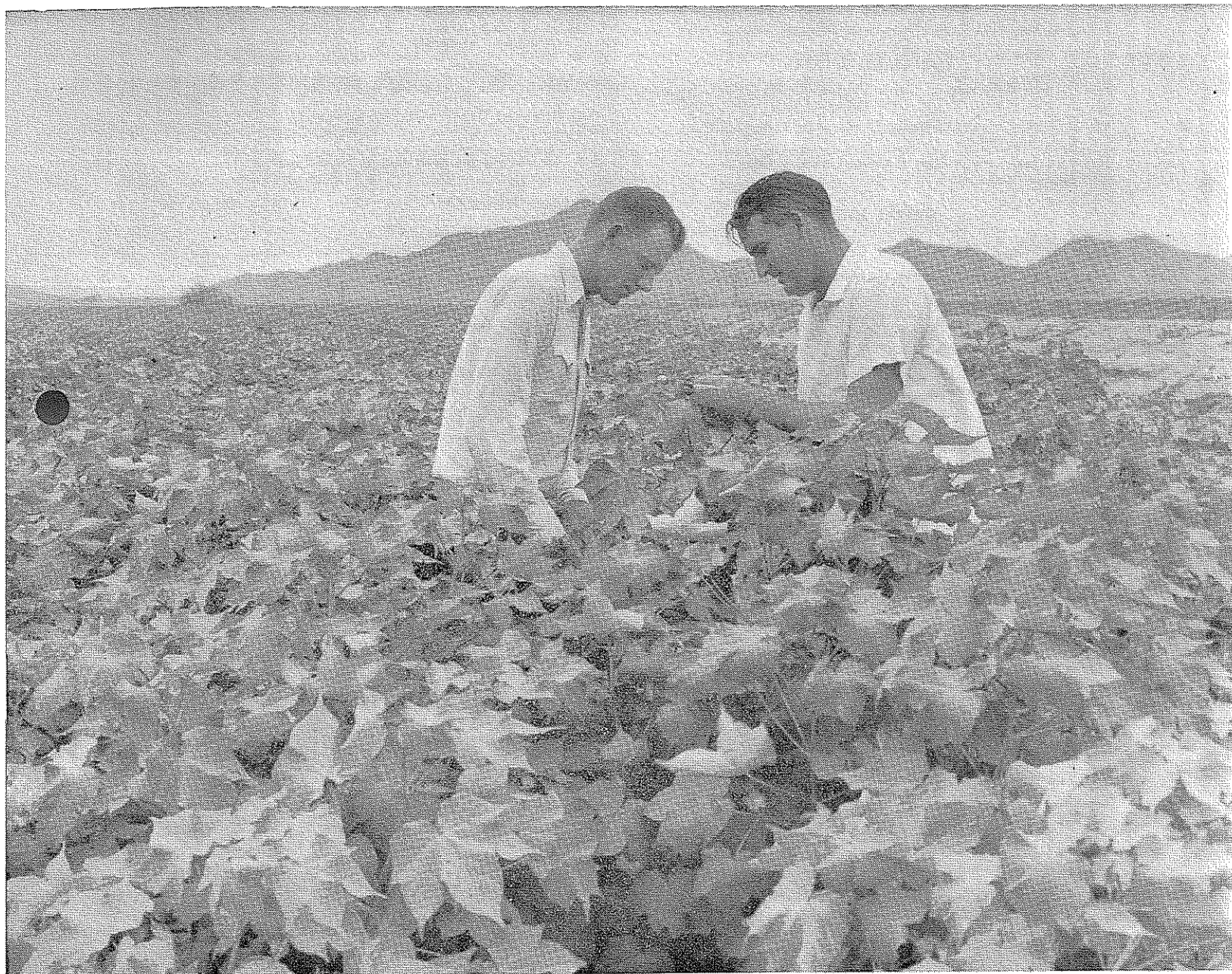
# AGRICULTURAL EDUCATION

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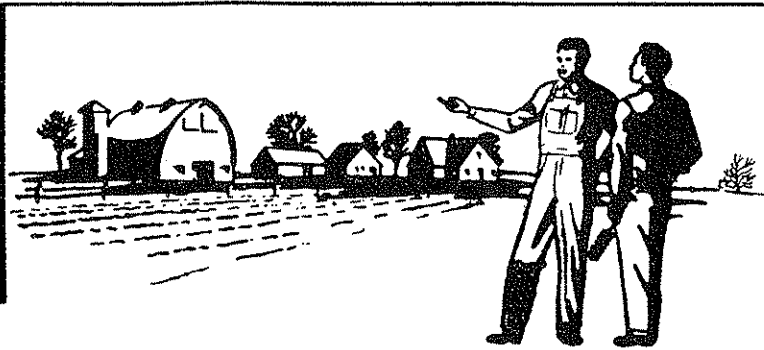
NUMBER 3



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*Featuring—*Use and Evaluation of  
Aids in Teaching

# The Agricultural Education Magazine



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 Interstate Printers and Publishers, Danville, Illinois.

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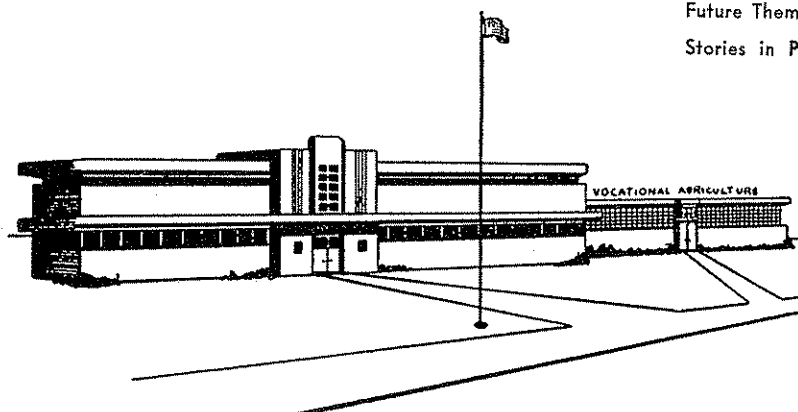
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# Editorials

## Instructional Materials

RAYMOND M. CLARK, Teacher Education,  
Michigan State University

"Help us keep abreast of the times!" is the appeal of teachers of vocational agriculture everywhere. In this era when more far-reaching changes have occurred in 20 years than occurred in the previous 200 years, this is a challenge that cannot be ignored. Science applied to farming has revolutionized the industry. New developments in the social sciences that have a bearing on teaching methods have made the science and art of teaching a profession undreamed of a generation ago. No wonder teachers of vocational agriculture are asking for help!

The help must be provided. A step in this direction is the creation of programs in teacher training institutions and in state departments of education for the development and distribution of instructional materials to teachers of vocational agriculture.

How can such a program be implemented? Obviously, it cannot be done by one or two individuals on a staff. It is the business of everyone. All members of the teacher training staff, members of the vocational agriculture teachers association, supervisory staff, and the colleges of agriculture and education must be involved. An organized program for preparation and distribution of materials must be prepared and followed.

Such a program has resulted in the creation in many states of a position called instructional materials specialist. The function of staff members in these positions is defined somewhat differently in the various states. In general it requires that materials dealing with technical agriculture be prepared in such a way that: (1) they may be quickly and easily understood by the teacher, (2) they can be easily used in teaching, (3) they will suggest and encourage acceptable teaching procedures, (4) they will suggest constructive and desirable programs of supervised farming and constructive Future Farmer activities, (5) they provide up-to-date information on the subject at hand or suggest easily available references to it.

In the area of professional materials, instructional materials specialists have a responsibility for making available pertinent materials in guidance, sociological aspects of communities affecting the program of vocational agriculture, and the best materials available related to child growth and development, adult learning, and curriculum construction. These, too, must be presented to teachers in easily understood terms with suggestions for use in their programs. Application of the materials to local situations and specific phases

## *From the Editor's Desk*

### Effective Use of Teaching Aids . . .

Teachers of vocational agriculture have been blessed with an abundance of teaching aids of various kinds, both man-made and produced by nature. As with most blessings, unless used properly, these aids can do as much harm as good. Teaching aids, effectively used, are brought into the teaching situation at the time they can contribute best to the teaching-learning process. This is a professional decision requiring sound judgment based on careful planning. Much of our use of teaching aids lacks both planning and judgment.

Sound planning is not indicated, for example, when teaching content is based on the teaching aids that happen to be available rather than on following a course of study based on community needs. Nor is planning for teaching evidenced by using the teaching aid as the area of instruction rather than as a part of a larger plan for teaching already developed, whether using directions accompanying the aid or not. In addition, simply following directions accompanying a teaching aid may indicate that the responsibility for determining how to teach has been turned over to someone who couldn't possibly be aware of the total situation in which the aid is to be used. These abuses involve aids in the area of methods of planning and teaching as well as content materials and come dangerously close to a course of study as fixed as if a single textbook were in use.

Some aids, unfortunately, lend themselves to even worse abuses of teaching responsibility than those mentioned above. Moving pictures, especially with sound, can be ordered by the dozen. With the heavy demand for various films, it becomes impossible to obtain them at the time they fit best into the instructional program. The result is that, if used, they are simply shown whenever they arrive. Sometimes the showing is made for each class taught with no regard for relation to content, preparation of classes for the film, or whether the film has been seen before.

Then there are some teachers who have never become acquainted with the newer teaching aids and are losing an opportunity to provide a more vivid learning experience than can be provided without the use of teaching aids. Since properly used teaching aids can stimulate learning, teachers not using them are denying their students the opportunity to learn all that they could learn.

Teaching aids are of many kinds. They include any and all materials used in instruction, whether man-made or made by nature. There is a great danger that

### Instructional Materials (cont.)

of the program of vocational agriculture need to be made clear.

The question of what kind of materials to prepare is often raised. We use printed materials for much of our communication, and much of the time this is essential. At the same time, the use of other media such as radio, TV, films, filmstrips, slides, specimens, recordings and charts cannot be overlooked. Actual materials for use in demonstrations, exhibits and study may be supplied. Suggestions for the use of local resources may be the most important contribution leaders can make.

The presentation of materials to teachers through informal area meetings, in conferences, or in organized credit classes is an essential aspect of the total program of preparation and distribution of instructional materials. No matter what form materials may take, teachers will need to review them to pinpoint best use of the materials in their programs.

Evaluation of the program of instructional aids or of individual items in it is a subject by itself. Eventually, the program must be evaluated in terms of its effect on teaching. Is the training in vocational agriculture more nearly up-to-date as a result of the program?

Are teachers using the best methods in the classroom, in the community and on the farms? Are the materials prepared and distributed to teachers helping them to better serve those who are farming or who are planning a career in agriculture? These and other questions related to the objectives of the program in instructional materials must be answered as we move toward further preparation of materials for teachers of vocational agriculture. □

### Effective Use of Teaching Aids (cont.)

the abundance of aids may either lead us to use them as our course of study or to be so overwhelmed by their quantity that we decide to ignore all aids except those provided on local farms and the common aids such as the blackboard, books and bulletins. We have scarcely scratched the surface in the development of quality aids for teaching. With sound pre-planning of our courses of study, it should be possible to determine in advance what aids could be used to advantage to accomplish our teaching objectives. We would then be in position to judge wisely regarding the effective use of currently available aids and to reach sound decisions regarding aids we should develop for ourselves. □

## Well Arranged Department Pays Dividends

### A Picture Story

W. R. CRABILL, Area Supervisor, Virginia

At Turner Ashby High School, Dayton, Virginia, R. C. Cupp and R. Z. Arey serve an enrollment of 81 high school boys, 32 active young farmers, two adult groups of 35 and 25 farmers and operate a school community cannery. The department slogan reads, "A place for everything and everything in its place."

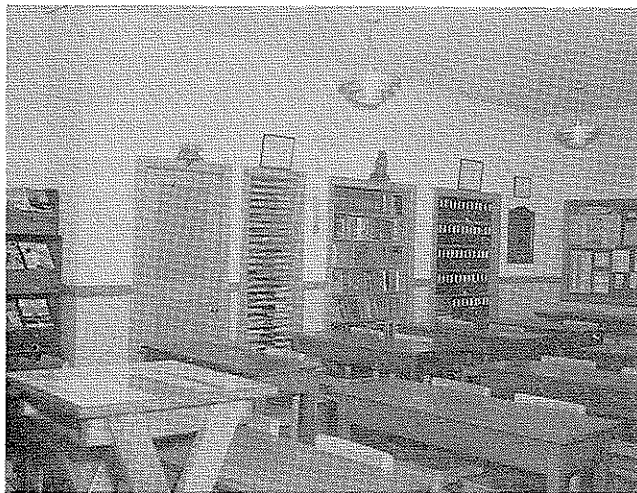


Figure 1

Reference materials such as books, bulletins, record books and magazines are readily available in the classroom, as shown in Figure 1. They are conveniently arranged and easily located by the student.

Visual aids such as film strips or slides may be planned for in the lesson. The projector on stand is rolled out of the adjoining visual aids room between classes, in a matter of seconds, and the screen which is attached to the wall in the front of the room under the FFA Banner is merely pulled down. If the room is not sufficiently dark, the blackout curtains may be instantly drawn.

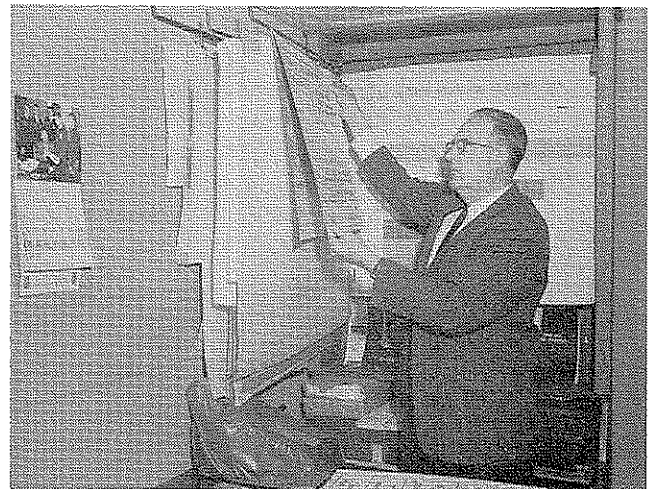


Figure 2

Perhaps a chart is planned for use at a certain time in the lesson. Prior to the beginning of class, it would be

selected from the convenient chart storage rack (Fig. 2) located in the visual aids room and brought to the classroom. At the appropriate time for the chart to be used in the lesson it is, without loss of time, suspended to the display rail located over the blackboard. Clamps on the display rail are adjustable to accommodate most any size chart.

Farm mechanics facilities are available and equally well arranged. This has unquestionably helped to create a desire on the part of the student to do his best in developing the skills which he is taught.

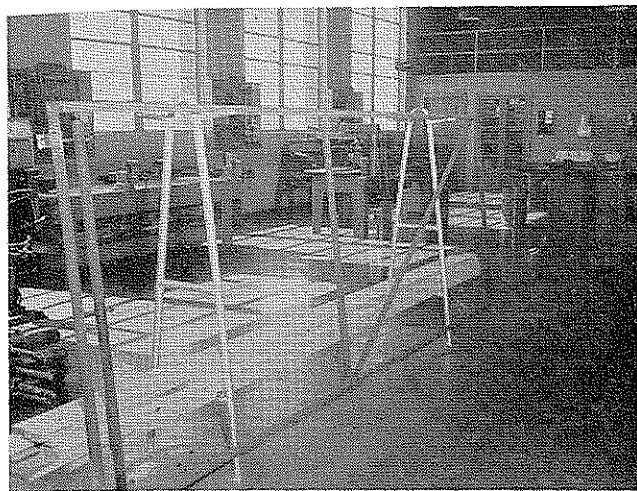


Figure 3

Floor space is at a premium in any shop; this portable gate rack (Fig. 3) serves as a practical device for storing metal and wooden farm gates during the process of construction. It consists of two separate parts made from one-inch iron pipe bent at the top and welded to a used twenty-inch plow disk on the bottom. Therefore it may be stored in a limited space when not in use. Not only does it serve as a space-saving device for ready made gates but it provides for the storage of lumber and metal cut for immediate use.

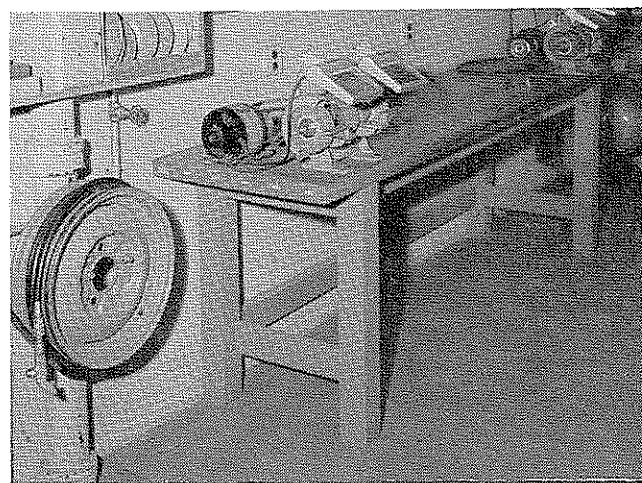


Figure 4

Proper storage of the air hose when not in use frequently becomes a problem. This can be neatly coiled on an old automobile wheel (Fig. 4) secured to the wall.

Metal plates (Fig. 4) attached to the bench under the four grinders in the tool-fitting area serve as a protection of that portion of the bench from metal cuttings and emery dust and make cleaning easy.

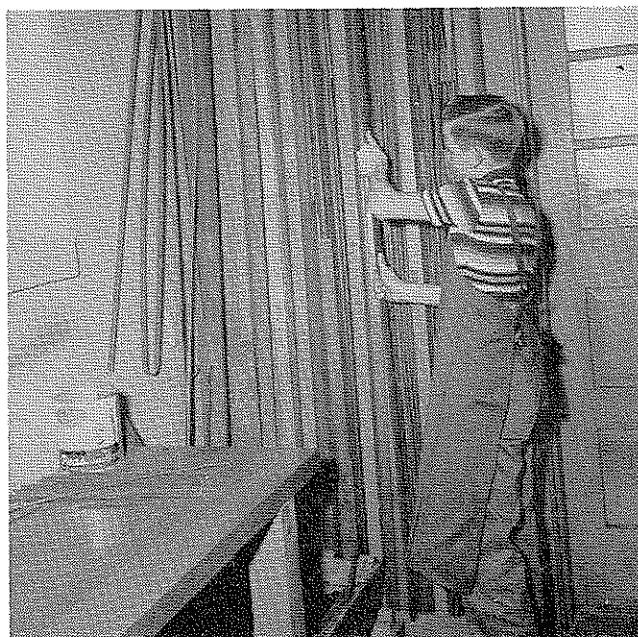


Figure 5

Storage of flat iron sometimes becomes a problem, especially when storage space is at a premium. This is overcome by storing it on end, in compartments according to size, in the corner of the shop near the metal working area. (Fig. 5)

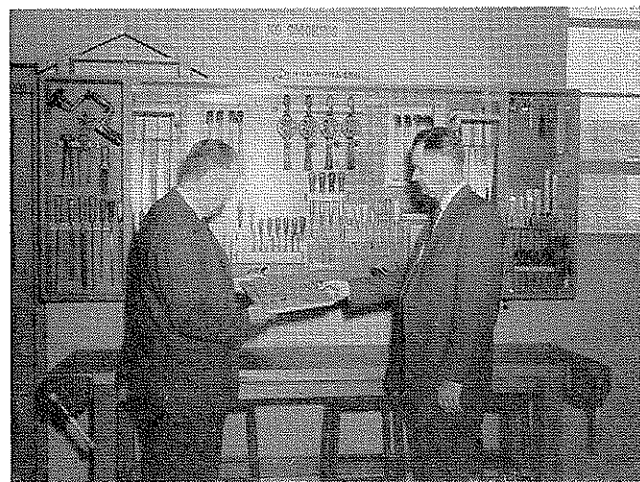


Figure 6

The quality of woodworking jobs and the process of the development of good woodworking habits on the part of the student depend largely on the accessibility and arrangement of the tools in this area as well as other farm mechanics areas. Not only are the more commonly used tools mounted in this cabinet, but they are arranged for convenience of selection and storage.

The soldering and sheet metal area includes the convenient cabinet (Fig. 7) containing the necessary tools to perform the more common skills and projects connected with soldering and sheet metal work. The metal covered work table is conveniently located in front of the cabinet with ample space to give the student access to the tools and materials needed in performing the various operations. The table is equipped with a vise on each corner, dual electrical receptacles on either side, and a storage shelf

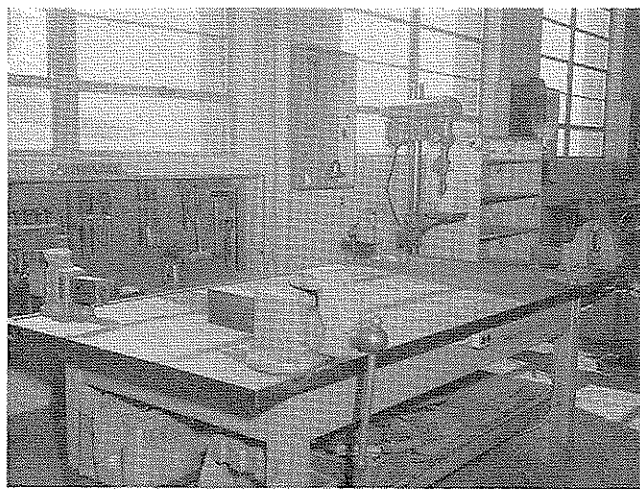


Figure 7

for sheet metal, thus providing a suitable working area for teaching necessary skills in sheet metal.

The growing importance of automation on the modern farm necessitates training of the farm boy in the skills of arc welding. Proper equipment conveniently arranged will aid greatly in the motivation of the student to develop a wide variety of technical skills in arc welding. The provision of individual booths, each having storage racks for electrodes, welding shields, and other equipment conveniently located, and a nearby grinder to fit the parts to be welded, help to facilitate the workmanship of the welder.



Figure 8

Tractor maintenance equipment is stored in a specially designed cabinet (Fig. 8) provided with doors. This cabinet is kept locked except when tools are used for tractor maintenance work, to prevent pilferage and general farm shop use.

**Good housekeeping** is a must in the operation of the farm mechanics program in a department of vocational agriculture. It requires cooperation on the part of everyone. Not only will a good clean-up system train students in performing work in an organized way, but it will develop individual responsibility and cooperation among the various classes using the shop. It will also aid in developing pride and respect for the tools and facilities, as well as greater efficiency and quality in workmanship.

The trash container (Fig. 9) is equipped with appropriate racks for storing brooms and dustpans. The con-

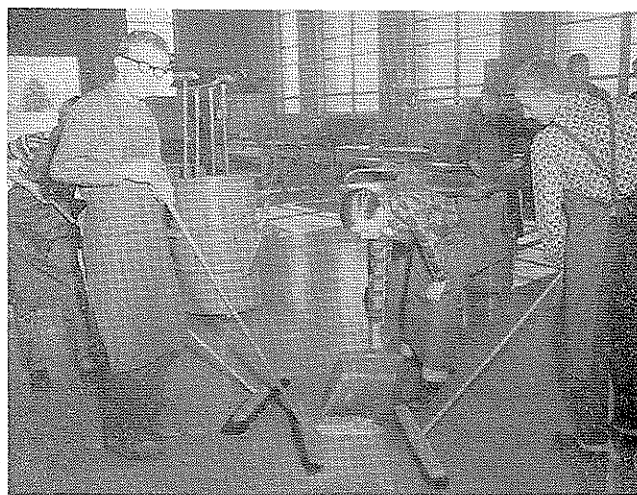


Figure 9

tainer is made of a metal drum mounted on casters and can be rolled from place to place to facilitate the clean-up procedure at the close of each shop class.



Figure 10.

**Coordination** of the program of work for the department of vocational agriculture, in the total school program, is imperative. This requires planning conferences of the teacher of vocational agriculture and the principal. This is especially true in a multiple-teacher department. A thorough understanding between teacher and principal is a prerequisite to an effective program. The problem of scheduling high school classes in vocational agriculture, the numerous FFA activities, and the broad program of adult classes necessitate careful planning on the part of the teacher and the principal.

These teachers find that a well-arranged department serves as one of the best motivating devices for building up the morale of all organized groups—all-day students, young and adult farmers—who meet at the department for organized instruction. □

## TIME TO RENEW?

The numbers on your magazine wrapper indicate the month and year your subscription expires. Check to make sure *you* don't miss any of these interesting issues.

# Are You Getting the Most Out of Field Trips?

H. PALMER HOPKINS, Teacher Education, University of Maryland

Effective teaching of vocational agriculture cannot be limited to the classroom. All teachers know it, all parents know it, and all administrators know it; yet the problems generated by field trips tend to hold them to a minimum.

Most agriculture teachers feel that they should take more field trips. This may be true and then again it may not be. Perhaps the quality of field trips needs increasing more than the number. Have you ever gone over your course of study and listed the essential field trips that you should take to accomplish your teaching objective? Isn't it possible that the administrator would approve field trips more readily if he could see the *whole list* at the beginning of the year? Principals like long-range planning; they react negatively to short range requests that upset the regular school routine. Before submitting the list to the principal to gain his approval, be sure you have objectives clearly in mind for each trip. Unless the trip will make definite contributions to your planned teaching program it should not be listed. Are there certain trips on which you take *all* your students *every* year? Examine such trips closely. The learning experience may be fine the first time, but subsequent trips may be wasteful of time. Unless a student is a participant in a fair, show or contest, more than one trip to such an affair is of doubtful value. Perhaps some of the trips should be made in alternate years or once every three or four years. The practice of taking "all or none" of the vo-ag boys on trips has grown up because of administrative difficulties in leaving part of a class at the school. The problem is more easily solved in multi-teacher departments, but the principle is the same: boys should not go on a field trip unless it contributes toward planned educational objectives in the course of study.

The long-range plan for field trips needs to be followed up with detailed and specific planning just prior to each trip. Students should understand exactly why the trip is planned, what they are expected to do and see, how they are to conduct themselves, and what is expected of them as follow-up.

Parents and administrators need to know some of the same things too, plus a few more. They are also interested in knowing about transportation arrangements, safety precautions, time of return, and who is in charge of the trip. Unless all these things have been properly planned, the trip is apt to result in a series of unanticipated difficulties with little understanding of why the trip was undertaken in the first place.

To insure preplanning, the accompanying form is suggested. It should be duplicated in large numbers so as to be available when needed. Before each trip give one form to each student and plan the field trip in class. After the form has been completed, have the student take it home to be signed by a parent. Parents like to know what is going on, and most administrators require parental permission before releasing students from school.

We believe good field trips are essential to good teaching. We believe proper planning will increase the number of trips you can justifiably take and the value of those taken. Effective teaching of vocational agriculture cannot be limited to the classroom. □

## FIELD TRIP PLANNING SHEET

(To be completed by teacher-pupil planning in classroom  
before the day of the field trip)

STUDENT'S NAME \_\_\_\_\_

Field trip planned (place) \_\_\_\_\_

Purpose of the trip \_\_\_\_\_  
\_\_\_\_\_

Teaching Unit \_\_\_\_\_

Teacher in charge \_\_\_\_\_ Date of trip \_\_\_\_\_

Time of leaving \_\_\_\_\_ Time of return \_\_\_\_\_

Transportation \_\_\_\_\_

Clothing to wear \_\_\_\_\_

What we expect to do or see as a group:

Individual student assignment for the trip:

Follow-up assignment:

Parent's signature to indicate approval of student making trip:  
\_\_\_\_\_

## The Cover Picture

Star Dairy Farmer of Arizona in 1958 and Star Dairy Farmer of the Pacific Region was Paul Luellig of Coolidge. His supervised farming program consisted of 42 dairy animals, 22

of which are cows of producing age; 40 head of beef cattle; 50 acres of hegarri for silage; 40 acres of irrigated pasture; and 10% interest in 16 acres of cotton. He and Cy Henry, his teacher of vocational agriculture, are shown inspecting his cotton crop. □

## Assigned responsibilities—

# Make Field Trips Educational

JAMES HAMILTON, Vo-Ag Instructor, Audubon, Iowa

Most vocational agricultural teachers conduct field trips as a part of a practical agricultural education program. Definite assignments are always made for the classroom instruction but they are sometimes neglected on field trips. Obviously, the student needs to have some assignment or objective on field trips or trips to conventions to gain the most from the trip. When written reports are assigned, they can cause the student to listen more attentively or observe more closely.

On long trips to state or national conventions or contests there may be an opportunity to visit an outstanding farm that will add to the interest of the FFA members in farming. A required report on at least the main points of any trip should be assigned.

The school principal or superintendent has excused the students from school for an educational trip. Although the trip should be pleasant for the FFA members, it should first of all be educational in nature and conducted on sound educational level using proven educational methods.

Some of the things that might be done to improve the educational value of all trips, including those to state and national conventions and contests, are listed below. A written report to the principal, superintendent, and community made by the FFA members and teacher will help justify another trip this year or next. Take the superintendent along to FFA meetings and contests as often as possible.

1. Plan the entire trip before leaving—making reservations, planning meal stops and speeds to travel, planning the reports desired by each member and reviewing the rules of conduct

that all FFA members should observe when they represent the standards of the chapter and the school. Also to be discussed are the hours to be in bed, the place to meet in the convention hall, courtesy to speakers, the need for attending sessions, dress to take and wear, eating habits, tours to take, etc.

2. Keep the FFA members informed of any changes in plans, meet together at regular intervals to check in the event of messages from home and view the sessions together.

3. Plan tours on your own such as a visit to the stock yards or the grain exchange and explain the operation of the yards or the exchange and how they serve the farmer.

4. Introduce your boys to some of the main speakers and state or national officers and other leaders. Take photos of the group at various places visited.

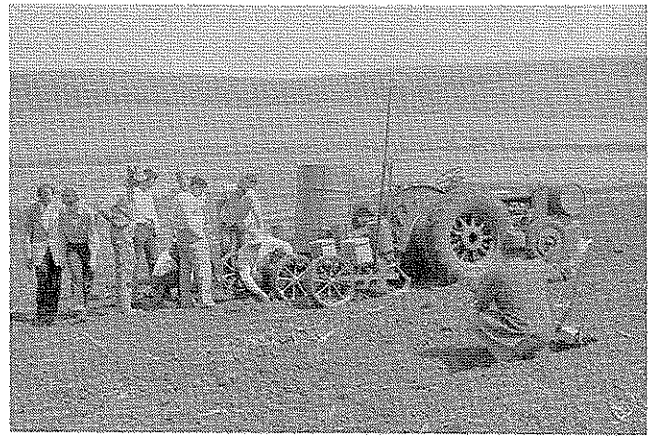
5. Assign responsibility for reports on the main speeches, the exhibits in the hallways, the different farming programs of the boys of the different states, the grain exchange, the stock yards, or other special tours or visits.

6. Attend all sessions of the convention. If the sessions are not worthwhile, probably the group should be back home attending school. The attitude of the instructor influences the attitude of the students. If the instructor

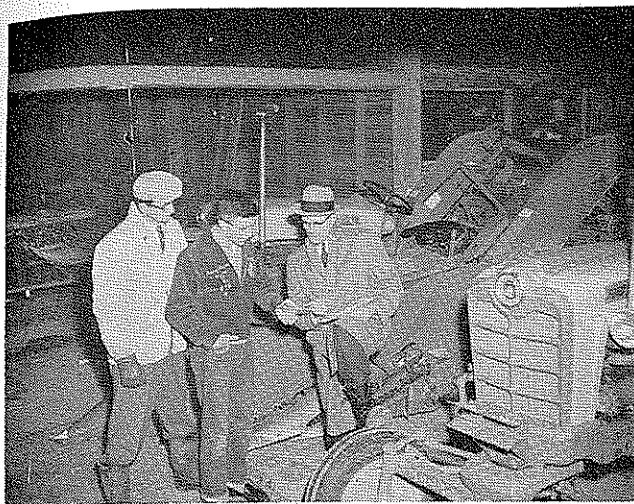
doesn't believe the attendance is worthwhile, the students will not attend or learn on their own.

The most interested and talented boys will do the things suggested on their own because they want to gain as much from their trip as possible. However, the average lad sees the trip to a state FFA contest, a state convention, the national convention, or any field trip as a time for fun first and as an opportunity to learn secondly. A student with an assignment and a job to do will gain much more from a trip because he is looking for something. If assignments weren't essential for learning, there would be no daily assignments in the classroom. If the student is able to learn more away from the convention sessions than in attending them perhaps he should not have wasted his time coming.

Have you ever watched two groups of boys at a convention where one group had assignments and had reviewed a code of behavior as compared to the second group where they were just attending? Which group would give your school the better reputation? A field trip or a trip to a state convention requires planning to be successful from a learning standpoint as well as from a public relations viewpoint. □







D. R. Purkey, Executive Secretary of Ohio FFA, believes in finding out what is happening on the farms of prospective State Farmers in Ohio. Here he is visiting Kenneth Calhoun of Ostrander, Ohio, while Jack Hill, local teacher of vocational agriculture, looks on.



Like father like son. David Purkey, son of D. R. Purkey, Ohio FFA Executive Secretary, graduates from a 4-year course in vocational agriculture this year. David will be farming nearly 300 acres this year. Sheep, hogs, and dairy cattle make up his livestock operations. In this picture David is showing some of his ewes to his father and to Jack Hill, teacher of vocational agriculture.

Is it—

## Time for Chains or Change?

LYLE H. MYERS, Vo-Ag Instructor, Fremont, Michigan

**Chains**—the ties that bind, the links that hold, the wedding of strength to strength, the power-line of progress!

**Chains**—the shackles that bind, the fetters that impede, the enslaving element, the termination of fulfillment!

Many Chapters have reason to be proud of their livestock chains. Many Future Farmers have started successful farm businesses through the help of these livestock chains. Much can be said for them. There are also a number of ways in which even the better livestock chains tend to resemble the concept of chains that bind, hamper, and impede.

When your Chapter follows the conventional pattern of livestock chains, you are bound in a number of ways. You are bound to a given breed. Joe wants a Landrace gilt, but your swine chain is Yorkshire. That's tough, Joe, but that's the way it is and you know that our Chapter just can't support two swine chains, can we?

You are often bound to a given season or a given size or age of animal to complete the agreement. Sure, Joe, we'll have a pig next spring—but not this fall. And it'll be weaning age, not the breeding age gilt you'd like to put you in the hog business *this* year.

Will Joe still be in the mood to get a pig when the pig is ready?

Has progress in market demand made the animals in your chain second choice? You are usually bound to registered animals to perpetuate the chain. In many cases it ultimately proves to be costly futility. But you are bound by tradition and the few boys who want papers—at the time. You may even be bound to certain breeders or a certain breeder. This places beyond your control factors of selection which can make or break the success of the livestock projects within your "chain."

You often bind your members to a poor bargain in financing and common acceptance of "easy" payments. It may be fine for a Chapter, but is it fair to a student to charge 100 percent a year interest on the money to buy a pig? Isn't that what you do when he "gives" back two gilts for the one he received the year before?

You often bind your Chapter's resources to a given type of livestock. Sure, Joe, a dairy heifer would be a fine project for you. But we can't help you there. However, we have these two nice gilts that. . . . .

The question—how to achieve the benefits of livestock chains without these handicaps. The local bankers held the answer for our Chapter. We believe that they may also have the answer for your Chapter.

We have on deposit \$200.00 in a savings account and a similar amount in U. S. Savings Bonds. This is our Chapter's collateral for loans to our members. The boy who needs financial help to start a project—almost any project—first gets the approval of our Chapter officers. They are not only our Board of Directors but also help supervise the progress of the project. With their approval, I send the applicant to the banker to arrange his loan—at six percent, not 100 percent. He and his father sign a note which is guaranteed by FFA funds. If at all practical, animals are insured.

The student is free to choose his breed, a particular line of breeding, a particular animal and the time at which he will start the project.

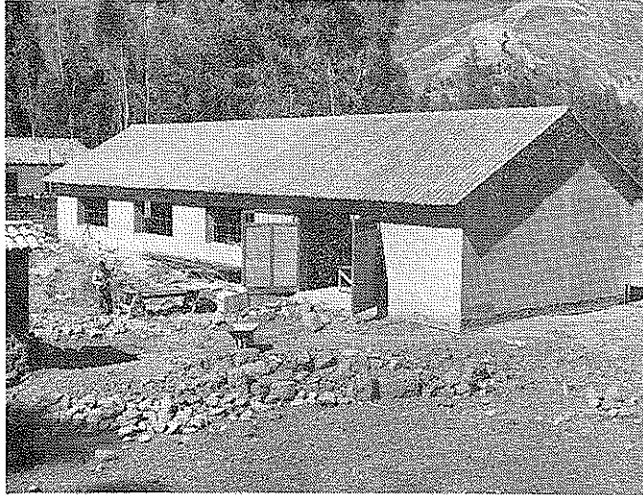
Naturally, we learned his intent when he applied to the Chapter officers and we expect him to follow through. He has had guidance in starting a farming enterprise—Future Farmer officers handling Chapter funds do not heedlessly grant such loans. Neither do bankers! (Look at the help the advisor is getting!) The student has made a valuable business contact with a local banker. Successful handling of this loan may well be the basis of his getting needed financing and financial advice later when he is ready to expand his farming operations. He has had practical experience in handling money and in securing a good loan. He learns the value of banking services. He learns that there are differences in loans and in repayment plans. A father who co-signs a note has full knowledge of his son's project plans and ambitions.

The Chapter (and the agriculture teacher) are relieved of a number of little and often not so little headaches which accompany the traditional livestock chain. More people in the community have made first-hand contact with the vocational agriculture pro-

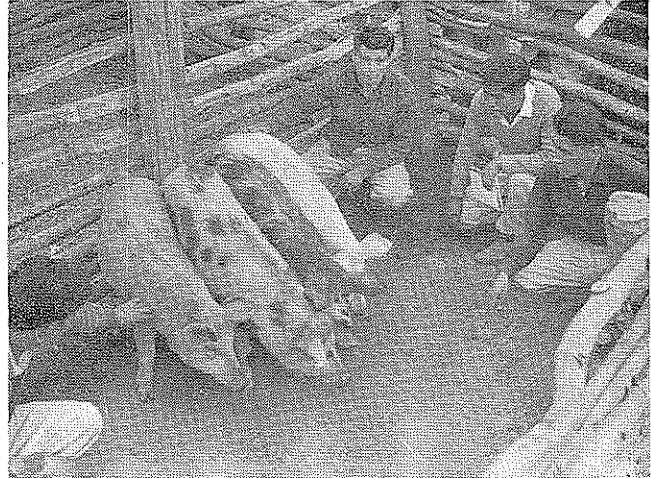
gram. Since they are directly involved, they become your best supporters.

We're glad that we liquidated our traditional chains and set up new ones in cooperation with our banks. These are truly chains of strength and assistance, not those which hamper and confine.

We owe a debt of gratitude to the cashier of our local bank for the aid which he gave our Chapter in developing our new chains. We're sure that your community also has a bank and banker who are eager to help you forge some new chains and slip the old shackles. □



Construction of a farm shop near completion at an agricultural school on the Altiplano (Huancayo, April, 1959).



A group farming project developed on the school farm by four third year boys (Huancayo, 1958).

## Vocational Agriculture Program in Peru, South America

J. GLENN COOMBS, Vocational Agriculture Advisor, U. S. Operations Mission to Peru

In August 1958, the Peruvian Minister of Public Education, Dr. Jorge Basadre, referred to the program of vocational education in agriculture as a model of what had been contemplated in Supreme Resolution No. 108 issued in 1956 pertaining to the "Reform of Public Education in Peru." Speaking to the first National Convention of Directors of Vocational Schools, he noted the curriculum improvements which had been planned in previous years. The "reform" had served as a vehicle to move forward the acceptance and initiation of the proposals. The Peruvian agricultural school directors attending this convention were much aware of the laborious planning and experimentation entailed in the reorganization of the educational program, since they had participated fully in this endeavor in numerous training conferences.

Vocational education in agriculture in Peru, organized in 1946, differs in certain aspects from that with which we are familiar in the United States. In Peru, special secondary schools known as "Institutos Agropecuarios" were created to provide as nearly as

possible the actual occupational conditions under which graduates would work. In such fashion, many of the thirty-two agricultural institutes use facilities, buildings and land that previously served for farming purposes. Admission is open to boys who have completed the six years of elementary school training, with preference given to those applicants who have ranked highest in the general comprehensive secondary school entrance examinations. Dormitory facilities are provided free-of-cost for approximately 75 per cent of the average school enrollment while rations are provided according to scholastic rank for about one-third of the students. The school term has recently been increased from four to five years and now corresponds to that of the common secondary school curriculum. The average enrollment per school is approximately 75 students. This figure does not present a real picture since a number of schools are included which have been created recently and are presently functioning with only the first years' of studies. The teaching staff consists of two college-trained agronomists.

"Ingenieros Agrónomos," one serving as school director and the other as director of studies; two technicians with complete secondary school training in agriculture; and four or five teachers of general education subjects.

### Major Problems Encountered

As a part of the research carried out in the reorganization of vocational education in agriculture, a study and analysis was made of data in the files of the Ministry of Public Education. School visits were made to observe teaching and to inventory facilities. These preliminary investigations revealed fundamental weaknesses which were analyzed for possible program improvement. Among the major problems noted were:

1. *Program objectives had not been developed.*

While the education law provides for organized instruction in agriculture for boys of secondary school age and also for adults engaged in farming, there was need for interpretation of these legal provisions as a basis for curriculum development.

2. *Teachers of the agricultural subjects lacked teacher-training preparation.*

Although each of the school directors and chiefs-of-studies are graduates of a five-year agriculture college curriculum, in most instances this training provided for only four semester hours in teacher education and included no provisions for teaching experience. A program of post-graduate inservice training for upgrading in educational methods and practices had not been planned.

3. *The official curriculum failed to provide for student interest and local agricultural needs.*

There are vast differences to be noted between the types of agricultural practices in the three distinct regions of Peru—coastal plain, high Andean altiplano, and humid jungle regions. The thirty-two schools were placed in the north, south and central areas of each region, yet the technical aspects of the curriculum included more than thirty courses which were to be taught with little or no allowances or variations for the basic geographical, climatic, and soil conditions of the area served by the schools. It was evident that student interest could not be maintained under such curriculum offerings.

4. *Lack of correlation between classroom teaching and work experience on the school farm.*

Each school was assigned a production goal in terms of cash crops, the sale of which was used to partially defray the expenses of school operation. To meet these goals, students were required to work more than one-half of their time on the school farm. The school day was thus divided between an unrelated production schedule and a curriculum of

technical studies which had little relationship to each other.

5. *Inadequate school plant facilities.*

The use of former haciendas for school purposes proved unsatisfactory. Approximately 50 per cent of the school buildings and farm lands were rented by the Ministry of Education, and owners as well as the Ministry failed to provide for maintenance, repairs, or to add much needed facilities.

6. *Lack of community-school relations.*

Under a highly centralized educational system such as is found in Peru, no responsibility for school operations is vested in a lay group as is found in the United States under our plan of having a board of education to supervise district operations. In general, less than 25 per cent of the students enrolled in the vocational agriculture institutes reside within commuting distance of the school. Under this combination of circumstances, there was little or no interest on the part of the communities to work with or support the activities of the school, nor was there an attempt made by the school authorities to keep the public informed of the work being done in terms of its researches or contributions.

7. *The scarcity of teaching materials.*

There are relatively few technical agricultural books and bulletins written in Spanish that are appropriate for use as teaching references at the high school level. The use of magazines and newspapers was very limited due to inadequate budget for the purchase of these materials.

8. *The lack of student organizations and extracurricular activities.*

The organization of student clubs

had not been encouraged. In part it was considered to be caused by the lack of teachers who had received the necessary training for guidance of extracurricular activities, and also that students in these countries had used "student-activity clubs" as a means of pressuring school administration officials with respect to policy matters. In most instances, the only organized extracurricular activities pertained to the field of sports.

The above educational problems were of major concern to the Cooperative Education Service, an agency of the United States Operations Mission to Peru, in their technical assistance program with the Ministry of Public Education. The following represents some of the more important accomplishments as a result of this joint effort.

#### Training of Personnel

Early in 1955, the school directors and directors of studies of the agricultural institutes were asked to attend a three-week workshop during their summer vacation. The facilities of one of the centrally located schools were used for this training conference.

Teaching demonstrations based upon actual farm problems were planned and presented. Materials and aids used in teaching were limited to those most commonly found in the schools in addition to those which could easily be prepared by the teacher. The two participants from each school were required to demonstrate their abilities to plan a program of work, to analyze farm enterprises in terms of appropriate teaching units, and to plan for and teach a unit of instruction. An important outcome of this workshop was the increased awareness on the part of the personnel in attendance that even with very lim-



Officers and advisors of the Future Farmer chapter of the Experimental Agricultural School located at Huancayo (April, 1959).



A vo-ag student on the arid coast displays his vegetable enterprise (Camaná, 1958).

ited facilities the quality of teaching could be greatly improved. Considerable time was devoted to the study and analysis of basic problems in agricultural education and to the preparation of recommendations which were later presented to the Director of Vocational Education. Because of the success of this first workshop, the administrative and teaching heads of these schools have attended one or more training courses or conferences annually during the past five years. The opportunity for professional improvement has been enthusiastically received without the motivation of certification improvement leading to financial remuneration.

The need for the preparation of leaders in vocational agriculture was recognized early and to date six school directors have returned from a year of training in Puerto Rico or the United States. Each of these persons now occupies a position of leadership, as: chief of the agriculture education department in the Ministry; technician in the U.S. cooperative technical assistance education program; teaching materials specialist; general and regional supervisor of vocational agriculture and director of an experimental school.

#### Additional Program Improvements

##### 1. *The organization of a teacher education program at the National Agricultural College.*

This program was initiated in April, 1958, and conforms to what may be considered as minimum standards for teacher preparation. The curriculum consists of 17 semester hours in professional education courses. In conjunction with this training, two secondary agricultural schools are being developed as teacher training centers. It is anticipated that this professional program may serve for the preparation of teachers for other Latin American countries where vocational education in agriculture is less developed.

##### 2. *The development of a flexible vocational agriculture program based upon predetermined educational objectives, community surveys, and student needs.*

The establishment of educational objectives of the program has provided the means for basic improvements in the overall plans. Using the experimental survey developed especially for one school, data were obtained which showed the need for developing both long-term and annual programs of work and courses of

study as out-growths of the needs of the rural community. The necessity was also shown for constant study and evaluation of the work plans so that these are more and more related to local problems in agriculture.

##### 3. *The development of a plan for supervisory assistance.*

Sixty-five visits were made in 1958 by Ministry and Cooperative Education Service specialists to the 32 institutes. The program of work calls for a minimum of two supervisory visits yearly to each school. The supervisory team prefers to remain at the school for approximately three days during which time they observe teaching, review administrative records, attend staff meetings, and hold conferences to plan program improvement.

##### 4. *The organization of demonstration schools.*

The agricultural institutes at Cañete on the coast and Huancayo on the altiplano were chosen as demonstration schools where experimental curriculum and administrative changes could be tried prior to nation-wide adaptation. These schools also serve as training centers associated with the teacher education curriculum offered at the National Agricultural College located at La Molina, near Lima. The facilities of the demonstration schools have been improved to more adequately serve the needs of the revised curriculum.

##### 5. *The development of supervised farming programs.*

The average size school farm consists of approximately 25 tillable acres. Of this area, it is recommended that a minimum of 40 per cent be reserved for the exclusive use of students in carrying out individual and group farming projects. The small farm animal enterprises on the school farm are likewise to be owned by the students. In addition, boys living in the vicinity of the school are encouraged to develop a farming program on their home farms. The Ministry of Education has accepted enthusiastically this method of developing practical learning situations leading to establishment in farming.

##### 6. *The organization of the Future Farmers of Peru.*

Future Farmer chapters were organized and closely supervised in two experimental schools in 1956. During the following year, the activities of this organization were extended to

include chapters in three additional schools. The annual report for 1958 shows 1622 members of a national organization representing thirty-two agricultural schools. An official Future Farmer Manual was developed by the teachers of agriculture and published as a guide for student use. Orientation and leadership training has been provided advisors in conjunction with workshops and conferences.

##### 7. *The organization of advisory councils.*

Advisory councils were organized in selected schools on an experimental basis similar to the procedure outlined for the Future Farmers organization. Many schools have had excellent results in improving community-school relations and in coordinating the efforts of local agricultural groups through the activities of the local advisory council. Recently, nine teams representing agricultural schools in the central region of the country met for a judging contest at the Agricultural Institute of Huancayo. The advisory council of the host school made all the plans for the meet including arrangements for judges, solicitation of prizes, reception of invited guest, etc. More than 50 per cent of the agricultural schools now have a functioning advisory group organized to assist the director with educational problems.

##### 8. *The establishment of training in farm mechanics.*

Since most of the agricultural schools are equipped with a tractor and the ordinary farming implements, provisions have been made in the curriculum for the teaching of farm mechanics. Adequate farm shop facilities are rapidly being developed for carrying out this training with young and adult farmers as well as full-time students. A farm shop teaching guide was recently written and published for use in vocational agriculture. The teacher personnel responsible for this training have received special preparation in farm mechanics.

##### 9. *The employment opportunities for graduates.*

The number of graduates entering farming varies considerably according to the importance of agriculture in the area served by the school. In the more fertile agricultural valleys as high as 95 per cent of the boys become engaged in farming upon graduation, while in areas where agriculture is less developed this figure

is as low as 20 per cent. In 1958, a commission was created to study problems related to the employment picture for agricultural school graduates. Representatives of the Ministries of Education, Agriculture, Public Works and the Agricultural Bank assigned to this commission are studying the needs for agricultural credit facilities, and also the possibilities for acquisition of land now being made available for cultivation due to newly completed irrigation projects. The work of the commission has already proved valuable through the development of a series of cooperative projects between agricultural schools and agricultural extension units.

#### 10. *The establishment of a teaching materials center.*

By early 1959, fifteen technical agricultural bulletins, a variety of charts and professional teaching materials had been published and distributed in quantities to the libraries of the agricultural schools. The Ministry of Agriculture, National Agricultural College and other agencies have found these publications very useful in their work. A department was recently created in the Direction of Vocational Education to give special emphasis to the preparation of teaching materials.

Prior to the "reform" of agricultural education in Peru, graduates of the secondary agricultural institutes were not eligible for admission to the National Agricultural College. Parents were reluctant to enroll their sons in schools in which the road to higher education was closed. Today, the first three years of the five-year curriculum in vocational agriculture provides for orientation and guidance in agriculture as well as the essential general education courses. A student may transfer to a common secondary school during the early years if his interests so dictate. These and other

factors account for the fact that the number of boys studying vocational agriculture has increased from 1,546 in 1955 to 2,432 in 1958.

The importance of supervised farming programs as a basis for effective teaching was readily accepted by the agriculture teachers. The school farm facilities used for planning and carrying out farming practices has proven highly desirable. Also, selected farms in the vicinity of the school are used to supplement teaching opportunities. With a staff of two teachers and two agriculture technicians, the essential individual instruction and supervision may be carried out. The classroom instruction and the practical experiences are now planned together in blocks of two-hour periods in the teaching schedule. Students are not now required to produce a certain quantity of products for market purposes in order to partially pay for the expenses of school operation, but they do study the working operations in order to learn basic skills of farm management.

The Future Farmers, "Futuros Agricultores del Peru-FAP," represents the only student organization for boys studying vocational agriculture. A great deal of enthusiasm has been shown on the part of teachers and students in the development of an official manual, emblem, jacket, and the necessary paraphernalia. In November, 1958, approximately 200 students representing twenty-three schools participated in regional judging contests. The winners participated in a national contest held in conjunction with the annual Agricultural Exposition at the Agricultural College. In this connection, various means were employed to acquaint the public with the vocational agriculture program, including: an exhibit portraying all phases of agricultural education; a television show given by members of the Future

Farmers; and a motion picture which was made of the judging contests and other competitions.

#### Remaining Problems and Current Plans

While the aforementioned improvements represent considerable progress over a space of five years, problems still remain. Still to be overcome if vocational education in agriculture is to continue its forward movement are such important considerations as: (1) the creation of new schools by Congress without the benefits of an educational survey and provisions for adequate school facilities; (2) the general inadequacy of school equipment and teaching materials; and (3) the lack of confidence on the part of the general public, particularly persons engaged in agriculture and related occupations, in regard to the importance of vocational preparation.

Plans developed for the 1959 year project considerable emphasis on certain other related phases, including organization of an educational program for young and adult farmers; closer correlation between technical and general education courses within the agricultural school curricula; and greater emphasis upon the organization and effective use of school libraries.

The words of the Minister of Education in recognition of the "reform" in agricultural education served as an additional stimulus to the personnel working in this program. Teachers of vocational agriculture, with the interest and support of local communities, are continuing to strive for more effective "vocational" education. They are most grateful for the technical assistance which has been made available through the joint effort of the Ministry of Public Education and the United States Operations Mission to Peru. □

## Expanding Vocational Agriculture Through Television

DONLEY HENNING, Vocational Education Student,  
Nebraska College of Agriculture

Are agriculture educators using the best possible method to inform and educate young and adult farmers?

Evidence indicates we are not. True, the programs presently operating are exceedingly successful. But the prob-

lem we are failing to solve is getting more people into these programs.

One of the most effective means of stimulating mass interest is through television. Today there are television sets in most farm homes and through TV, agriculture educators could expand young and adult farmer programs beyond all expectations. Admittedly, the commercial TV stations have farm directors and offer weather, markets, and some farm information on public service programs. However, in most cases this coverage is not adequate.

National Educational Television (NET) is a network dedicated to education and information. In this network there are presently 45 TV stations. These are located in areas of high population concentrations, but in looking at their growth during the past five years and future plans for the 1960's I feel that NET will expand tremendously and thus include large rural areas within its broadcasting range. So, by using NET facilities it may be possible in the immediate future to enter many farm homes with educational agriculture programs.

The question arises, "Just how popular is educational TV?" A survey was conducted in Allegheny County, Pennsylvania. The population of this area is about 1.6 million residents of which 73% watch WQED, the local educational station, at least once a week. This indicates NET can successfully compete with commercial stations.

At the present time plans are being made by the Midwest Council on Air-

borne Television Instruction to conduct an experiment using two DC-7 aircraft as flying TV stations. These aircraft will be equipped with TV transmitters and fly at an altitude of about 20,000 feet. They will alternate in broadcasting educational programs to high schools in that area. The estimated coverage from the "flying TV station" will be a circle 300-400 miles in diameter. This area includes parts of Illinois, Indiana, Kentucky, Michigan, Ohio, and Wisconsin. The programs will be telecast from ground based facilities at Purdue University in Lafayette, Indiana, to the circling four-engine aircraft.

This experiment, which may stimulate similar projects in other regions, is an attempt to cope with the increasing education problems developing in our nation's expanding school system. But this idea of flying TV stations also has another aspect in that a large rural population will be included in the broadcast area and agri-

cultural education programs may be quite feasible.

Thus, through the medium of TV, farmers may attend classes in their own homes. With the cooperation of departments of vocational agriculture, colleges of agriculture, local farm organizations and other agriculture leaders an educational system of monumental size could be inaugurated. Real farm problems could be discussed and demonstrated by men who are acknowledged leaders in their fields. Unanswered questions could be phoned or sent to the local vo-ag teacher or direct to the person presenting the material.

The growth of the TV industry and NET in particular should be watched with a speculative eye, and we as educators in agriculture must be ready for the challenge when technology and knowledge make NET available for our use in educating the rural population. □

## Beginning Teachers Become Acquainted with Their Communities

CLAXTON COOK, Teacher Education, Oklahoma State University



Claxton Cook

ONE of the first and most important problems that confronts the beginning teacher is how to become acquainted with the community. This must be done in an efficient manner as plans for action must be formulated. These plans must be based on the needs of the local community. Becoming acquainted efficiently has been accomplished by various methods.

Many teachers first acquaint themselves with the people. Becoming acquainted with the people is more effective if something is known about the individuals previous to the first contact. Where people live and the kind and scope of their farming operation is an important bit of information about each farmer. An efficient aid to assist in becoming acquainted is a large soils map of the community with land ownership

marked on the map. The Soil Conservation Service will usually be glad to supply you with a soils map of the area.

The County Assessor has information on land ownership. These records are public property. With his assistance a soils map may be marked to indicate the exact location of each farmer in the community and the size of the farming operation. The map will readily indicate the type of soils on his farm. Studying this information will be valuable as you study the community, the people, and their problems. Letting them know that you are interested in their problems and know something about their situation will help gain their confidence and lead them to develop an early appreciation for your work.

Armed with the soils map which indicates farm ownership, you can stop at each homestead and become acquainted. Tell them who you are, the purpose of your visit, and thank them for their assistance in helping you become acquainted with the community.

Letting the people know that you are interested in studying the community will bring a favorable response and many will volunteer information. The joy of sharing knowledge with individuals who care and are concerned about our problems is basic to our natural reactions.

Young teachers are sometimes reluctant to make new acquaintances. However, many report that once they have squared their shoulders and tackled the problem, they acquire a sense of joy and accomplishment. A recognition of sincerity on the part of the community for the new teacher's problem is readily recognized by all concerned.

Among the first people to visit are the members and former members of the vocational agriculture class. Get acquainted with each boy and his parents early in your contacts. They are the ones with the greatest concern, so early contact assures them of your sincerity toward your responsibilities. The local school administrators or former vocational agriculture teacher will usually be valuable in helping acquaint you with these people.

The young and adult farmers in the community are anxious to meet you. Many of their problems are pressing, so do not let too much time elapse between your employment and initial contact with them.

Do not hesitate to acquaint yourself with other agricultural agencies. The extension service personnel are valuable. Various farmer lending agencies are well acquainted with the local area. Among these are the Production Credit Association, National Farm Loan Association, Farm and

Home Administration, and other agencies providing for various area conditions.

The local bankers are well informed in regard to the local situation. Making their acquaintance, especially the agriculture representative, will usually lead to valuable contacts. Employees

of the local cooperative are representatives of the people. They are keenly aware of the local conditions. Becoming acquainted with them and showing an interest in their problems will open many doors where understandings can be acquired relative to the community. □

## The Occupational Experience of Students of Vocational Agriculture

*A forty year record of the occupational experiences of students in one department of vocational agriculture in Wisconsin. Sixty per cent of the students now in agricultural pursuits.*

M. W. COOPER, Supervisor, Wisconsin; and L. D. KOLAR, Vo-Ag Instructor, Fennimore, Wisconsin



M. W. Cooper



L. D. Kolar

The first students of the high school at Fennimore, Wisconsin, to have received a year of training in vocational agriculture were members of the graduating class of 1919. During the 40 year period beginning July, 1918, and ending in June, 1958, 428 boys had received one year or more of training in vocational agriculture in this school. What has happened to these boys? How many are farming? How many are engaged in occupa-

tions related to agriculture? How many have found employment in other fields? This is a brief summary of a study recently made to obtain the answers to these questions.

Fennimore is a community of approximately 1,500 persons located in a rolling but productive farming area in southwestern Wisconsin. Since the town has no major industry and is located about 50 miles from a city having industrial enterprises, the opportunity for off the farm employment in the community is very limited.

From the files of the high school, the names of the boys who had studied vocational agriculture at the Fennimore school at some time during the 40-year period were obtained and, with the assistance of the local school staff and others, as many as possible of the 428 former students were located.

Of the 428 boys, 18 were deceased and it was impossible to locate 42 others of the group. Schedules were therefore sent to the 368 students who were located. Of this number, 318 or 86 percent returned the completed schedules giving information concerning their occupational experience.

The following are a few of the findings obtained from the study:

1. Table II shows that of the 318 boys who returned the schedules, 284 or 89% graduated from high school. Ninety-two per cent of the boys in group B graduated as compared with 85% of those in group A. This difference probably was due in part to the economic advantage of the period in which those in group B attended school.
2. As Table III indicates, 218 or 68% of the 318 boys studied vocational agriculture at Fennimore for four years. There was little difference in the percent of the boys of each group who received four years of such training.
3. As indicated in Table IV, seventy-one of the 318 boys involved in the study attended college one or more years, with 32 receiving four or more years of college training. Twenty other members of the entire group attended a vocational school, 13 attended the college farm short course, and 61 attended young or adult farmer classes.

TABLE 1. POPULATION STUDIED, THE NUMBER OF QUESTIONNAIRES SENT, AND THE NUMBER RETURNED.

	Group A*	Group B	Total
No. boys having one year or more of vocational agriculture (1919-1958) .....	197	231	428
No. deceased .....	12	6	18
Unable to locate .....	10	32	42
No. provided with schedules .....	175	193	368
No. schedules completed .....	141	177	318
Percent of schedules returned .....	80	90	86

\*In view of the fact that for the major part of the period 1918-1958 the department of vocational agriculture in this school was under the direction of but two different instructors (the authors of the study), and

because the era was characterized by two entirely different economic periods, the findings were placed in two groups: group A for those enrolled during the period 1918-41, and group B for those enrolled from 1941-1958.

4. Table V gives the present occupations of the members of each group and for the entire group of 318 individuals. It is noted that of the boys in group A, 64% are either engaged in farming or in occupations related to farming and of those in group B, 57% are similarly employed. For the group as a whole, 60 per cent are engaged in farming and in related occupations while 40 per cent are employed in non-agriculture occupations.

Since the members of group A have been out of school 20 or more years whereas many of those in group B have but recently completed their high school training, it might be expected that more of those in group A than in Group B would presently be established in farming.

#### SUMMARY STATEMENTS

- Of those boys enrolling in vocational agriculture at Fennimore from 1918-1958, 89% graduated from high school. The economic situations throughout the forty year period no doubt had considerable influence upon the ability of many to remain in high school for a full four years.
- Sixty-eight per cent of those enrolling in vocational agriculture during the period 1918-1958 received four years of training in agriculture.
- Many of the students of vocational agriculture continued their training after leaving high school. Of the 318 boys involved in the study, 71 attended college one or more years with 32 of this number receiving four years or more of college training. Twenty attended a vocational school, 13 attended the farm short course and 61 attended young and adult farmer classes.
- The study indicated that many of those who finally chose the occupation of farming did not do so for several years after leaving high school and not until they had received experience in other occupations.
- Of the 318 boys involved in the study, 137 or 43 per cent are now farming and 53 or 16.6 per cent are presently employed

#### TABLE II. HIGH SCHOOL TRAINING RECEIVED

	<sup>1</sup> Group A (N = 141)		<sup>2</sup> Group B (N = 177)		Total (N = 318)	
	No.	Percent	No.	Percent	No.	Percent
Graduating from High School .....	121	85	163	92	284	89
Not graduating from High School ...	20	15	14	8	34	11

<sup>1</sup>Group A—Boys who completed their high school training during the period 1919-1941.

<sup>2</sup>Group B—Boys who completed their high school training during the period 1941-1958.

#### TABLE III. YEARS OF VOCATIONAL AGRICULTURE TRAINING RECEIVED

No. years:	Group A (N = 141)	Group B (N = 177)	Total (N = 318)
1 .....	8	7	15
2 .....	22	25	47
3 .....	11	27	38
4 .....	100	118	218

#### TABLE IV. NUMBER RECEIVING TRAINING AFTER LEAVING HIGH SCHOOL

No. years		Group A (N = 141)	Group B (N = 177)	Total (N = 318)
Attended College	1 .....	9	12	21
	2 .....	5	10	15
	3 .....	1	2	3
	4 .....	10	11	21
	5 .....	8	1	9
	6 .....	1	0	1
	7 .....	0	1	1
Attended college 1 yr. or more .....	34	37	71	
Attend college 4 yrs. or more .....	19	13	32	
Attended vocational school .....	9	11	20	
Took Farm Short Course .....	9	4	13	
Enrolled in Young Farmer, Adult Farmer, or Veteran On-Farm Training .....	32	29	61	
Did not continue education .....	57	96	153	

#### TABLE V. PRESENT OCCUPATION OF THOSE STUDYING VOCATIONAL AGRICULTURE (JUNE 1, 1958)

	Group A (N = 141)		Group B (N = 177)		Total (N = 318)	
	No.	Percent	No.	Percent	No.	Percent
Farming .....	69	49	68	38	137	43
Related Occupations .....	21	15	32	18	53	16.6
Total No. in Agriculture .....	90	64	100	57	190	60
Other .....	51	36	77	43	128	40

in fields related to agriculture making a total of 190 or 60 per cent who are employed in the field of agriculture.

- It was encouraging to find that a large number of those who had received training in vocational

agriculture had become leaders in their community. This leadership was evident in farm organizations, in public schools, in local government, and in numerous local, state and national organizations. □



# Vocational Agriculture Must Retain the Vocational Aspect

F. J. DOERING, Vo-Ag Instructor, Wittenberg, Wisconsin



F. J. Doering

Since entering the field of vocational agriculture some ten years ago, we have seen an almost continuous series of discussions, articles, speeches, and what have you concerning the topic of teaching for related occupations in agriculture. If a poll were taken among the instructors today, we would find most leaning toward teaching for related occupations. This was my opinion, too, until undertaking this topic as a group report in a summer school class under the direction of Dr. W. T. Bjoraker at the University of Wisconsin. After considerable reading, research, discussions, bull sessions and the like, my opinion now is that we must retain the vocational aspects of vocational agriculture.

Vocational agriculture instructors today are afraid—afraid that if we do not enter into teaching for related occupations there will no longer be a place for them in secondary education—afraid that the vo-ag program as we know it today will “die on the vine” without this change. Some magazines have helped this thought along and have become almost fanatical on the subject. These fears are not based on fact.

Let's examine some of the reasons to support the “vocational” plan, and at the same time take issue with the related occupation advocates.

(1) Vocational agriculture was intended and is still best suited to meet the needs of those who are farming or preparing to farm. All available statistics indicate that we will need just as many young men in training in 1980 as we have in training today.

(2) The farm surplus problem of today is no basis for neglecting education of farmers. With farms becoming so large, highly mechanized, and complex, it is imperative that the boy going into farming receives superior instruction.

(3) The point is often raised that most boys trained in farming do not farm. This point could be made for many other fields including the teaching for related occupations. It is true that most boys of 14-16 years of age do not know whether they are going to be farmers, salesmen, teachers, or preachers. How could you set up a program in related occupations to fit a couple of dozen different occupations? Our “vocational” program is basically sound. Men in industry have said they prefer boys with vocational training background, and they will give them special training in the phases of their work while they are on the job.

(4) Vocational agriculture instructors would feel quite inadequate in

teaching for related occupations. This type of program would best lend itself to multiple teacher departments. It would “water” down our vocational program. Agriculture is changing and changes in our program must be made, but teaching for related occupations is not the change we need. We need more emphasis on (1) the adult and young farmer program; (2) better teaching of farm management, farm mechanics, marketing, and farm accounting; (3) a more realistic supervised farming program for the student; (4) more active FFA chapters; (5) improved training of future teachers in our colleges and better inservice training for our present teachers; (6) an improved student counseling and guidance program; and (7) improved salaries which reflect merit as well as training. These are the things we need—not teaching for related occupations.

In closing, let me quote Ward P. Beard, Assistant Director of Vocational Education, U. S. Office of Education: “If a vocational agriculture department in the public school system can no longer justify its existence by the fact that it is training a sufficient number who are entering farming, but is trying to justify its existence by providing training for occupations for which it was neither set up to do, nor is prepared to do, it is educationally and legally unsound.” □

## Suggestions for—

# A United Front For Agriculture

PAUL G. BUTTERFIELD, Young Farmer Advisor,  
Weber College Chapter, Ogden, Utah

The voice of agriculture in world affairs is getting weaker each year. While there are many persons who are ready, yes, even eager to stand up and speak for agriculture, most of these are not familiar with our agriculture problems. Of those who should and could speak for the farmer, there are fewer each year.

During the early years of our country, it took nine farm people to feed one extra person. Today, a farmer feeds himself and 23½ others. There are only 11% of our people on farms. Not all of these are full-time farmers. In Weber County, for example, only 20% make their full living from the farm.

Of the farm people, only 50% belong to such organizations as the Farm Bureau. Of those who are members, only about 30% are active and let their problems be known. Many part-time farmers feel they are too small to matter, but number wise they would add much strength to the agriculture body.

Agriculture business is big business. Consider these facts:

- A. It is the biggest buyer, seller, and borrower in the United States.
- B. The inventory of farm machinery alone is greater than the assets of the American steel industry and five times that of the automobile industry.

- C. Agriculture in the U. S. uses 6½ million tons of finished steel a year—more than is used in a year's output of passenger cars.
- D. Agriculture consumes 17½ million gallons of crude petroleum—more than is used by any other industry.
- E. Agriculture takes 22 billion kilowatt hours of electrical power annually—more than enough to supply Chicago, Detroit, Baltimore, and Houston, Texas.
- F. The manufacture and distribution of farm machinery and other supplies and the processing and distribution of farm products are totally dependent upon the farm and, with actual production, are covered by the word agribusiness.
- G. Twenty-nine and seven tenths per cent of Utah's total labor force is engaged in either the manufacture and distribution of farm equipment and production supplies; in production of crops, livestock and livestock products; or in processing and distribution of farm commodities.
- H. Together, agribusiness enterprises account for 30.5 per cent of the total civilian income in Utah.
- I. Utah has about 24,000 farms, 5,000 regular farm employees and an additional 8,000 seasonal

farm employees for a total employment of about 37,000.

- J. For every 100 jobs on the farm, agribusiness employs 125 persons off-the-farm in Utah, a total of 82,457 jobs.
- K. Gross value of crops and live-stock products produced on Utah farms in 1959 is estimated to be about 170 million dollars.

Since food and fiber are so important to our national economy, I would like to use the analogy of the well-known top and point out that while we may be small in number, the farmer's position is at the very base upon which the rest of the economy balances. Destroy this base and its productivity, and the rest of our economy would be of little use.

I have pointed out that our voice is weak in our rapidly changing economy. I have pointed out also that our position should be recognized as strong.

The following are some things that I believe are most important, and what we as young farmers can do about them:

- 1. We must encourage the people involved in all phases of farming, part- and full-time, to take an active interest and add their voice to the cause by being a good member of a group with enthusiasm for agriculture and its progress.

- 2. We must encourage those in occupations closely related to farming to support farm groups as though their jobs depend on it; for in the light of reality, they do.
- 3. We must encourage professional groups in related fields to become familiar with each others' problems as they relate to the whole agribusiness field and point out their responsibility to keep abreast of new developments and legislation so that it may be disseminated to the layman.
- 4. We must develop leadership in our farm people so they can think clearly and speak intelligently in representing us. The farmer of today cannot be the example of the "Hay Seed" of yesterday, but must meet other businessmen on common ground, equipped with all of the necessary business qualifications to meet the challenge of greater output per man in this complex business of farming.
- 5. We must make sure that we keep such programs as vocational agriculture and that the programs are up-to-date and offer the youth and adults the program of improvement necessary to keep pace with a changing agriculture in a complex world. □

Understanding leads to belief in—

## The School Farm

DONALD W. BALLARD, Vo-Ag Instructor, Lee, Maine



Donald W. Ballard

Many persons question the value of the school farm and feel that it cannot be justified in most teaching situations. Administrators and school committees hesitate to spend the required amount of money for the establishment of a school farm and to back the school farm program with necessary operating funds. Many people believe that if a school farm is part of the vo-ag program the teacher becomes a farm

manager and the students, farm laborers. To an extent this is true, but even so it is not entirely an undesirable situation. Those who oppose a school farm program do not usually understand the program and its objectives. Therefore, we should make every effort to inform the public about the advantages of a school farm and what we are trying to accomplish through its use.

Each school that offers a program in vocational agriculture has its own problems and needs. The help that a school farm might provide in solving these problems and meeting the needs of a vo-ag department will vary a great deal from school to school. To

fully appreciate the value of our school farm at Lee Academy and its objectives one should have a little knowledge of our school.

Lee Academy has been an area school from the time it was founded in 1845. We serve a large, sparsely populated area consisting of many small towns and plantations. A good portion of our students are transferred to school by bus and those living beyond commuting distance live in the dormitories. The chief enterprise in most of the areas the Academy serves is forestry. The past 10 years has seen a decline in the amount of farming that is carried on in the area and this in turn has resulted in fewer vocational agriculture students who have good facilities for a farming program. This is one place where our school farm ties in with the farming program of students and I feel it may be of more value in the future if this trend continues. Also, the fact that

several of the boys enrolled in vocational agriculture live in the boys' dormitory points out even further the use to which our farm can be put in providing facilities for individual farming programs.

The chief enterprise at the farm is dairying with a small number of laying hens as a minor enterprise. The herd is composed of about 15 Guernsey and Holstein cows of milking age with the replacements that we raise bringing the total number in the herd up to about 25 head. The chief market for our milk and eggs is our own dining hall which serves meals to the students living in the dormitories. The farm is located at the boys' dormitory. This has made it possible for our herdsman to live in the dormitory where he serves as custodian and assistant dormitory master. This has been one reason our farm has been able to pay its way financially. It is too small an operation to afford a full-time herdsman and a part-time herdsman would not likely be available if it were not for the salary of the other part-time jobs available to him.

The farm at Lee Academy is not new or just in the experimental stage. It started years ago when the boys' dormitory, which was at one time a hotel, was purchased. The land and buildings adjoined the hotel and were included in the purchase. The primary purpose of the farm at first was to supply farm products for the dining hall. Later, as the vo-ag program progressed, it became useful as an opportunity to offer on-farm instruction. After teaching at Lee Academy for nearly 10 years, I have found there is much to be said for school farms and some things may be said against them. The advantages which I have found to hold true in our situation and which I believe may exist in other schools may be summarized as follows:

1. *Managing a farm helps to better understand a farmer's problems.* The teacher is more aware of what a farmer is receiving for his products and what he is paying out for such items as fertilizer and feed. This helps to obtain first hand the information and facts needed to determine necessary production goals and to recognize the standards of efficiency a farmer must meet to stay in business.

2. *Students have the opportunity to get some experience doing farm labor.* Ads appearing in newspapers and farm magazines for help on farms state that an experienced man is

wanted or at least preferred. It therefore is evident that a boy needs training and experience to be even a farm laborer on today's modern farm. For example, the feeding of dairy cows must be carried out in a scientific manner in order to reach the standards of production necessary to make the enterprise pay. Even the task of handling manure, which has been jokingly referred to as a job requiring little skill and knowledge, has undergone changes. Barn cleaners and hydraulic loaders mounted on tractors represent a considerable investment and skills in operation and maintenance are essential.

3. *The school farm provides facilities for the dormitory students and some of the town boys to carry out a farming program.* I realize that this advantage, which has been previously mentioned, would not apply in many school situations. However, in our case the farm has been useful in furnishing facilities for these students to carry on their farming programs under easily supervised conditions. In using home facilities it is difficult and in some cases impossible for a boy to get six months of project work when he lives in the dormitory for nine months of the year. It takes a lot of cooperation and help from the parents and there may be some question as to how much a boy gets out of a project that is taken care of completely at times by his father. Also, as the number of families that carry on a little part-time farming in our area is declining, town boys occasionally take advantage of the school farm.

The most popular enterprise project in the last few years has been breeding ewes. The results we have had have been quite favorable.

4. *Part-time employment is offered to dormitory students.* The daily chores involved in taking care of the Academy herd offer three boys an opportunity to earn part of their board. These jobs are given to boys who need work to help pay their school expenses, preferably boys who are enrolled in vocational agriculture. This makes it possible for them to get some worthwhile experience in dairying while at the same time earning some money toward their school expenses.

5. *The school farm ties in well with the farm mechanics program.* Just a few of our students have tractors and farm machinery that they can bring into the school shop and work on as part of their program in farm

mechanics. Therefore, the machinery that is available on the school farm can be used to good advantage. Our farm is equipped with two tractors, the usual tillage equipment, and the equipment necessary for the haying operation. Most of the maintenance and repair work on the equipment is performed as part of our shop program. In the past we have also constructed labor saving devices such as a hay elevator. Construction of farm buildings and general building repair work has also been included as part of our farm mechanics program. The new construction has had to be limited to small buildings such as a milk house and a small poultry house but has still offered challenge enough to the students to stimulate an interest.

6. *The school farm serves as a laboratory for the teaching of farm enterprises.* There are many skills connected with the teaching of farm enterprises that can be taught by providing students with the opportunity to learn by doing. Examples of some of the skills practiced on our farm include dehorning calves, treating cows for common diseases, clipping cows, docking and castrating lambs, shearing sheep, cattle judging, poultry judging and, whenever possible, work in the field such as preparing land for seeding.

7. *The school farm helps sell the summer program.* Selling the summer program in vocational agriculture has been a problem in some communities. Even after a department has been in operation for a number of years the teacher is sometimes asked what he is doing for the summer or how he has been enjoying his long summer vacation. In some cases school boards have been reluctant to hire a teacher on a 12-month basis and pay him accordingly. The summer activities of the school farm eliminate any element of doubt as to the fact that the agricultural teacher is employed on a 12-month basis. Opportunities are also offered some of the boys living in town for summer employment as well as a chance to obtain useful experience in performing such tasks as operating the haying equipment.

8. *The school and the vo-ag department receive publicity through the farm.* A school that has a farm should use it to advantage in its publicity program. Articles concerning the school farm activities should appear in local newspapers, school newspapers and any other publication available. The D.H.I.A. report of an

Academy cow completing a 500# butterfat record is an example of the kind of publicity we like to work for in our department.

Anyone who has had experience with school farms will readily admit that they also present problems to the vo-ag teacher and take large amounts of time and effort on his part. The standards by which a school farm is judged are high. Buildings are expected to be kept attractive and in good repair, machinery and equipment in top notch condition and traded in on new models when outdated. If the school farm is to set a good example,

new farming methods should be promptly adopted. These things are not always possible due to a lack of time on the part of the teacher and to a lack of available funds.

The financial worry of a school farm could be another burden to a teacher. In years of low farm prices it may not be possible for the farm to pay its way. The financial return should not be placed above the value of instruction but in some cases probably would be, especially by members of school committees who have little knowledge of farming and may expect too much of a school farm from a financial standpoint.

In conclusion, I would like to point out again that the value of a school farm varies with the school situation. Much thought should be given to the need for a school farm before one is established. The number and quality of boys enrolled in agriculture, the facilities the students have at home and the use to which the farm would be put are things that warrant careful consideration.

I feel that our school situation at Lee Academy is one in which the school farm has met a real need and with careful planning will continue to do so in the future. □

## Helping Vo-Ag Students Weak in Math

J. O. TRESSLER, Vo-Ag Instructor, Greenwich, Ohio



J. O. Tressler

No doubt many teachers of vocational agriculture have students who are weak in mathematics. Mental arithmetic seems to be a thing of the past. Too often the pencil goes to work before the thinking apparatus is engaged. What can we do to help remedy these common deficiencies?

The modern farmer is faced with problems many of which require careful calculations if he is to make wise decisions. He meets salesmen of all sorts. He must be equipped with information and problem-solving techniques if he is to hold his own in modern-day competition.

I find many of my students poorly trained in decimal fractions. These pupils must use their pencils and paper to divide a number by ten or 100. We can show them the easy way of moving the decimal point one or two places to the left as the case may be. We can do likewise in multiplying by ten or 100 by moving the decimal points to the right.

When it comes to percentage and interest, they have even more difficulties. Six per cent interest is often used in our project accounts. Most of them can multiply by one and point off two places to the left if the interest

period runs for two months. For four, six or eight months we can multiply by two, three or four fractional parts of a year. A little mental drill will soon accomplish the desired results and will help point out if the result is reasonable.

In teaching the understanding of fertilizer analyses, we can soon show how 500 lbs. of 4-16-8 fertilizer contains 20 pounds of nitrogen, 80 pounds of phosphate and 40 lbs. of potash by the point-off method of dividing the pounds of complete fertilizer by 100.

Last year a farmer in our community was approached by a liquid fertilizer salesman. He promised as good a corn crop with two gallons of a 10-20-10 liquid fertilizer costing \$10 per acre as he would get in applying 400 lbs. of 4-16-16 solid fertilizer costing \$14 per acre. The farmer tried some of the liquid fertilizer and, of course, was very disappointed in the results.

First, the pupil must know that two gallons of liquid fertilizer will not weigh more than 25 pounds. The analysis is based on the percentage of the total weight, whether liquid or solid. Then, we can easily find the number of pounds of each nutrient. Twenty-five pounds is one-fourth of 100 pounds. Thus, one-fourth of 10 is 2.5 lbs. of nitrogen and potash and one-fourth of 20 is only 5 pounds of phosphate. Then compare this with the 16 pounds of nitrogen, and 64 pounds each of phosphate and potash

in the 400 pounds of 4-16-16 solid goods.

Another favorite fertilizer problem is to compare the value of a ton of 16-8-8 fertilizer priced at \$77 with a 14-7-7 fertilizer priced at \$70 per ton. Here direct proportion may be used. The students can see, we hope, that it will take one-seventh more of the 14-7-7 to provide the nutrients found in the 16-8-8 fertilizer. When we add one-seventh of \$70 to the \$70 price we come up with a cost of \$80 for the 14-7-7 compared with \$77 for the 16-8-8 fertilizer.

A more difficult fertilizer problem is to determine the kinds and amounts of fertilizers needed to meet the needs of a certain crop. In Ohio agronomists say that, in lieu of soil tests and recommendations, a corn crop following a corn crop on average soil needs 110 pounds of actual nitrogen, 80 pounds of phosphate and 40 pounds of potash. We first look for an analysis which will meet the phosphate and potash needs. We select a 4-16-8 fertilizer and find that 500 lbs. of it will furnish 20 pounds of nitrogen, 80 pounds of phosphate and 40 pounds of potash for our row application.

We find we still need 90 pounds of nitrogen—110 minus 20. We can plow down 200 pounds of 45 per cent urea, about 450 pounds of 20.6 per cent sulphate of ammonia, about 270 pounds of 33.5 per cent of ammonium nitrate, or about 220 pounds of 41 per cent nitrate, a liquid nitrogen solution. The latter would be about 20 gallons per acre.

A still more involved fertilizer problem would be to determine the amounts of the three fertilizing elements which would be needed to make up a home-mixed complete fertilizer of the analysis desired. We do

not home-mix fertilizer here, so there is no practical value in the exercise. The point to observe is to keep under a ton with the ingredients and add enough filler to round out the ton.

I find it desirable to teach how to find the weighted average. Examples are the determining of the protein content in a grain mixture or the expected can test (butterfat percentage) of milk from a group of cows on test.

A swine ration might consist of 400 pounds of ground shelled corn, 100 pounds of ground oats and 100 pounds of a 35 per cent supplement. To make it simple, we use 9 per cent crude pro-

tein in corn and 12 per cent in oats. Four times nine is 36; one times 12 is 12; and one times 35 is 35. The sum of protein in these three feeds is 83. Invariably, the students will divide by 3 (three feeds) rather than by 6—the number of cwt. in the mixture.

The same procedure may be used in determining the approximate butterfat test of a can of milk. First, determine the pounds of butterfat produced daily by each cow. Add the total pounds of milk and the total pounds of butterfat for each cow. Divide the pounds of milk into the pounds of butterfat and determine the

expected butterfat test in the can. Too often they wish to add up the tests and divide by the number of cows involved.

If we find our students ill-prepared to handle these types of problems, it becomes our duty as instructors of vocational agriculture to teach them so that they may gain a better understanding of our farm problems. I trust my suggestions may be helpful to beginning teachers who may be unaware of the problems in teaching or who may have to learn, as I have, by the old trial and error method □

## WAVAI Committee Completes Course of Study

GEORGE JOHNSON, Vo-Ag Instructor, Mt. Horab, Wisconsin



George Johnson

The Curriculum Committee of the Wisconsin Association of Vocational Agriculture Instructors has just completed a two-year project of revising the course of study for vo-ag students. Using Forrest Erickson's Master's thesis as a base for its project, the Committee called upon Wisconsin vo-ag instructors to work out lesson units in fifty subject areas. The instructors were chosen for their abilities and interest in each particular field—two teachers

per specified unit—and for two main purposes; first, as a guide in preparing lesson plans and secondly, as an aid in preparing information bulletins. Each unit was also divided into three parts as follows:

1. To list suggested learning activities.
2. Subject or problem areas.
3. List of references.

Following the return of the written units to Mt. Horab Committee Chairman, George L. Johnson, they were proofread for content by personnel at the Platteville and River Falls State Colleges, the U. of Wisconsin Agricultural College and the state supervisory staff. A committee of vo-ag

teachers attending the University of Wisconsin Summer Session then re-wrote the material in a standardized form prior to distribution at the Fall District Conferences where further comments or changes could be forthcoming from all the agriculture teachers.

The Curriculum Committee incorporated the changes into a final standardized copy by January, 1960, which was read and approved by the Executive Board of the W.A.V.A.I. for publication. It is anticipated that copies will be ready for sale and distribution by early summer from the Association Secretary, Mr. M. S. Murray at Cameron, Wisconsin.

Other committee members were: M. W. Cooper, State Supervisor; Walter T. Bjoraker and George W. Sledge of the Agricultural Education Department, U. of Wisconsin; and vo-ag instructors Forrest Erickson of Mauston, Frank Fentress of Lodi, and Farres Harrison of Verona. □

## Axioms and Maxims as Guiding Points

L. C. SCHANK, Supervision, Nevada

1. *Plan Each Day and Work Your Plan*



L. C. Schank

A successful teacher of vocational agriculture knows what he should accomplish each 24 hours. At the end of the day he will look over the list of things he planned to do. He will cross off those

things that were done and take a second look at those items not accomplished. With these in mind he will set down the items he should work on tomorrow.

It is surprising how well this plan works in accomplishing the many things that an instructor has to do. Try it, it will help you progress.

2. *Do a Little Gratuitous or Displeasing Work Each Day*

The many jobs a vocational agriculture instructor has to do are not al-

ways rewarding and pleasant. Have you ever done a vexing job enough times that it finally becomes pleasant? The teacher who gets his work done not thinking of who is going to get the credit for it usually is ahead in the end. Christ gave free service to his fellow men.

3. *Good Teaching Is Efficiently "Passing the Buck"*

The key word in this maxim is *efficiently*. To get the student, or the other fellow, to do the job is real teaching. We learn to do by doing. This does not mean a teacher can and should get out of work. It means that his main job is to create an interest in his students so they study hard and want to carry out new ideas and

methods.

#### 4. *Cooperation Is So Ordering Myself That Others Can Work with Me*

Some school administrators think vocational agriculture instructors are not as cooperative with other teachers and administrators as they should be. It pays to offer your help in the extra curricular activities of the school, such as hall duty, taking tickets at games and chaperoning parties. Try to see

the other fellow's position and offer to make his work load lighter.

#### 5. *As Long As We Are Green We Are Growing but When We Ripen We Begin to Rot*

We are never too old to learn. We can always learn something even from the "dumbbell" of our class. The teacher who does not know it all and admits he has learned something new from others is generally liked.

#### 6. *Look Toward the Sunshine and the Shadows Will Fall Behind*

A cheerful teacher can do much for the happiness of others. He is the mirror of his class. Have you noticed how a happy smiling teacher draws others to him? Students and people like to be in his company.

Fear, worry and hate vanish when the soul is filled with sunshine. □

### Tips That Work — Annual FFA Barbecue

FFA members, mothers, and advisor of the Wah-Pung-A-Haben FFA Chapter just completed their annual barbecue on May 7th. Had you ever considered this type of project for the annual money raising event of the chapter? Maybe these ideas and suggestions can be used by other FFA chapters.

A "wood" committee takes care of locating, sawing in lengths, splitting in 6" x 6" pieces and hauling wood to the barbecue pit. This committee also has charge of tending the fire for 16 hours to insure a good bed of coals that will provide the heat.

A "pit" committee takes care of cleaning out the barbecue pit which is a permanent type that was constructed of reinforced concrete and plastered with fire clay. The pit is 4' wide and 8' long by 5' 6" deep, covered with a divided sheet of 4' x 8' x ¼" sheet iron which has appropriate handles attached for easy removal. Large rocks are placed to the depth of 1 foot in the bottom of the pit for added extra heat. The fire is started 20 to 24 hours before the desired time to cook the meat, and is

tended for 16 to 18 hours and let burn down to a good bed of coals that will be about 1 foot deep over the rocks. Length of fire time and cooking time depends on the amount of meat to be cooked. Twelve hours will sufficiently cook a 700# carcass.

A "food" committee arranges for the beef; decides on the amount of vegetables for a good tossed green salad (1½ crates head lettuce, ½ crate romaine lettuce, 12 heads of endive, 12 bunches of green onions, 1 crate of radishes, 2 dozen cucumbers, 12 bunches of celery and a good home made salad dressing will serve 600 people.); 8 dozen loaves of bread; 10# margarine, 10# coffee; 2 quarts half & half; 4# cubed sugar; 40 gallons of punch; 50 cakes and a good home made recipe for barbecue sauce; and 70# of dry beans.

A "paper" committee takes care of ordering the paper plates, napkins, plastic forks and knives, 1 roll butcher paper, hot cups for the coffee and cold cups for the punch.

The salad is prepared at the Agriculture building and the bread is

sliced and hot buttered the night previous to the serving. Two cakes are assigned for each boy to bring.

A "serving" committee composed of FFA boys and mothers meets and decides who will help where on the serving line and when they will take their turns serving. One mother is appointed by the committee to serve as cashier to help the chapter treasurer.

A "ticket" sales committee composed of every FFA member gets out and sells tickets in advance. We have found by past experience that for every 100 tickets sold in advance an additional 75 persons will attend because they have been invited by those who have already purchased a ticket to the barbecue. This also provides the FFA boys with the ability to meet the public, as well as become acquainted with our local business people.

I hope that these comments will help some other FFA chapter, and if additional information is needed, I am as close as a 4c postage stamp.

Sincerely,

Alfred Wm. Hansen, Nevada  
VATA President

## News and Views of the Profession

### Smith to Replace Gadda for 1960-1961



James M. Smith

James M. Smith will assume the teacher training duties of H. W. Gadda at South Dakota State College during 1960-1961 while Gadda resumes work on the doctorate at Michigan State University.

Smith was graduated from South Dakota State College in 1954 and taught vocational agriculture at Lemmon, South Dakota, for five years. He

has been a Graduate Assistant in Agricultural Education at South Dakota State College during the past year and will complete his work for the Master's degree in Agricultural Education and Animal Husbandry.

H. W. Gadda will be on sabbatical leave from September, 1960, to June, 1961. He will hold a part-time appointment at Michigan State as an instructor. He has been teacher trainer at South Dakota State College for the past four years. □



**CROPS: PROFITABLE SOUTHERN CROPS** by E. V. Walton and O. M. Holt. Prentice-Hall, Inc., Englewood Cliffs, N. J., 504 pp., illustrated. 1959. Price \$5.25.

This new book deals with southern crops. The authors indicate in the Preface that the book supplies information on every phase of the most important crops grown in the South and Southwest. Many crops of commercial importance have not been included in this text. Some crops have been omitted because they are of localized importance while others are of such highly specialized nature that more complete coverage would be needed than is feasible in a book of this nature.

Each crop is covered in a separate chapter. Within each chapter, the different steps in producing a crop are taken up in the sequence or order of production. The questions and references at the end of each chapter should be helpful to students and teachers. Some chapters have both summaries and a list of activities. Other chapters have one or the other or neither.

There are ten chapters, including an introductory chapter dealing in broad, general terms, with crops and fertilizers. The text is illustrated with numerous photographs. Late information from experiment stations is presented. A larger amount of up-to-date information could have been included. The book is written for the high-school level and should be useful in young-farmer groups.

Mr. Walton is Professor and Head of Department of Agricultural Education and Mechanical College of Texas. Mr. Holt is Associate Professor in the same college.

Harold Binkley,  
Teacher Trainer,  
University of Kentucky

**BEEF CATTLE SCIENCE** by M. E. Ensminger. The Interstate Printers and Publishers, Inc., Danville, Illinois. 822 pp., illustrated. 1960. Price \$5.00.

This new book deals with a comprehensive study of the beef cattle industry. It incorporates the most recent advances

and trends in beef cattle production and management based on the combined knowledge of research centers throughout the nation and of outstanding experts in all aspects of the field.

*Beef Cattle Science* is a revision of an earlier book by the author, *Beef Cattle Husbandry*. It is technical and complete enough to be used as a basic text for the high school or college student and informative and practical enough to be used as a reference by the beef cattle producer. Significant aspects of the book are illustrated by photos and tables which add to the usefulness and completeness of the book. Each chapter begins with an outline of its contents, and at the end of each chapter are a number of thought-provoking questions and a list of selected references for the reader who wishes to go further into the subject treated in the chapter.

Dr. Ensminger is chairman of the Department of Animal Science at Washington State University.

Denver B. Hutson,  
Teacher Trainer,  
University of Arkansas

**BEEF CATTLE** by Roscoe R. Snapp and A. L. Neumann. John Wiley and Sons, Inc., New York, N. Y. 684 pp., illustrated. 1960. Price \$8.50.

The fifth edition of this book, written by A. L. Neumann, is a revision of the book by the late Roscoe R. Snapp. This edition of the book has been revised thoroughly. It includes the latest practices and science in producing beef cattle. Discussions dealing with new developments, such as hormones, antibiotics, pelleting, and soilage, have been enlarged. Two new chapters have been added. One of them deals with heritable production traits of beef cattle; the other is on principles of feeding beef cattle, with special emphasis on the science involved in feeding ruminants.

This book is very complete. It probably has its widest use as a college text. It should be valuable to teachers of vocational agriculture in beef-producing areas as a teacher reference. It is probably slightly advanced for most high-school classes; however, teachers in some areas where beef production is important may wish to use this book as a student reference with junior or senior classes.

The book has 30 chapters organized into these five parts: (1) general aspects of the beef-cattle industry, (2) the commercial cow-and-calf plan, (3) the

stocker and finishing programs, (4) specialized beef-cattle programs, and (5) special problems in beef production. It is well illustrated and contains numerous charts and tables.

Dr. Neumann, author of this edition of *Beef Cattle*, succeeded the late Dr. Snapp, author of the first four editions of the book, as Professor of Animal Science at the University of Illinois.

George L. Luster,  
Teacher Education,  
University of Kentucky

**FRUIT GROWING** by G. W. Schneider and C. C. Scarborough. Prentice-Hall, Inc., Englewood Cliffs, N. J. 307 pp., illustrated. April 1960. Price \$5.25.

*Fruit Growing* is a new book written for persons interested in the basic principles of plant growth and fruit production. It is an excellent source of information for high school boys, young farmers, and adult farmers in vocational agriculture who are studying horticulture. It would be a suitable teacher reference.

The book is easy to read and presents a clear understanding of the principles of fruit production and their application to the practical problems involved. It includes all the major fruit crops; the significant problems involved in producing each one are discussed in much detail.

There are two major divisions in the book. *Part I* deals with the factors that affect plant growth and fruit development; *Part II* discusses the major fruit crops in terms of the basic production problems.

The book is well illustrated throughout. At the end of each chapter, questions for self examination and supplemental references for further study are included. Also the glossary of terms, in the Appendix, should be very helpful.

The authors suggest that this book is not intended to solve problems of a local nature and that information on local practices furnished by the State agricultural colleges should supplement it. A list of the State agricultural colleges is in the Appendix.

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Carl F. Lamar,  
Teacher Education,  
University of Kentucky

## Future Themes

October—Keeping Pace with Developments in Agriculture

November—Keeping Pace with Developments in Education

December—Policy Formation in Agricultural Education

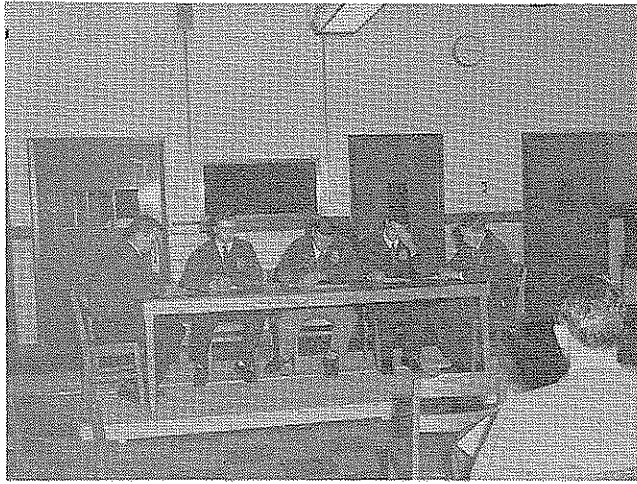
January—Evaluating the Farm Mechanics Program

February—Relationships Among Agricultural Education

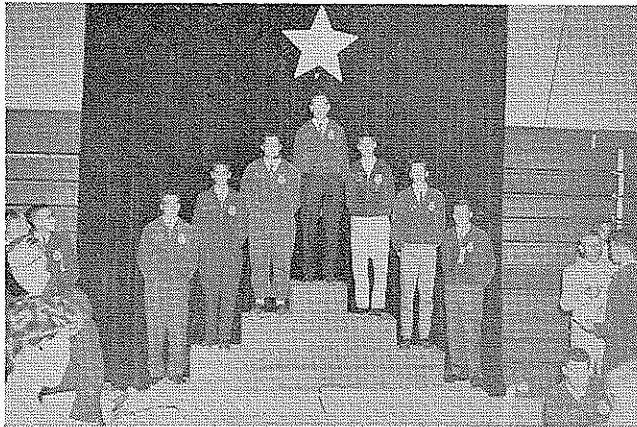
Agencies

March—A Modern Philosophy for the FFA

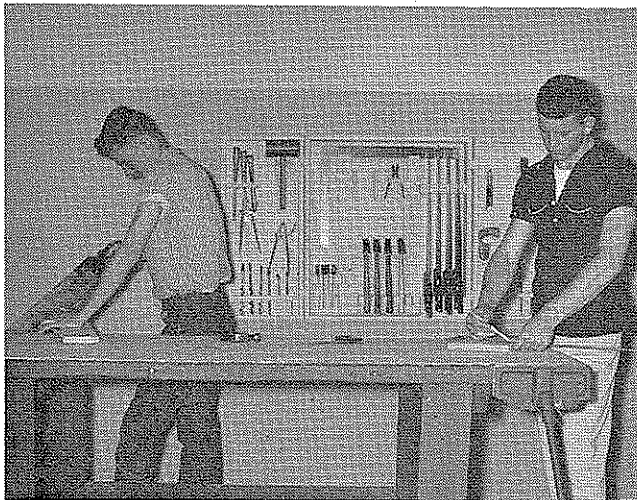
(Deadline for copy is three months in advance of publication. Copy should be submitted through the Special Editor for your region.)



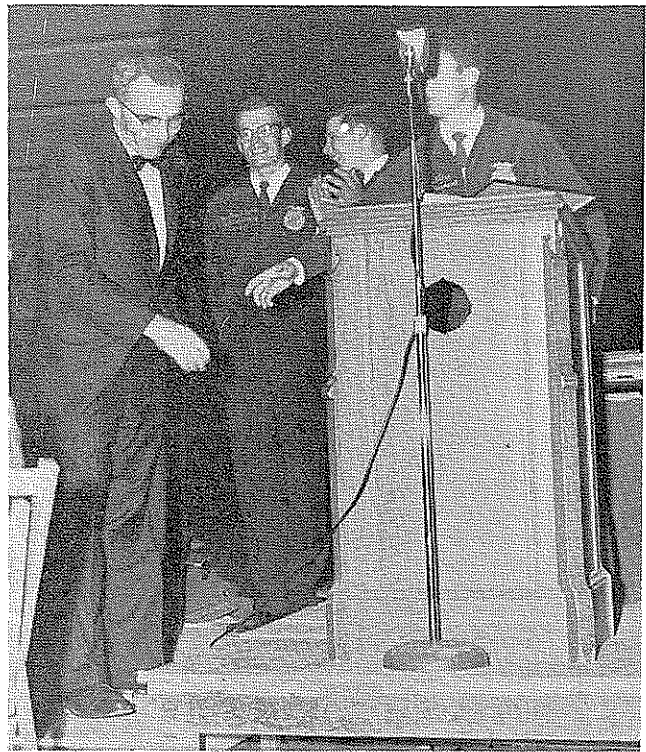
New York State Farm Forum Discussion by winning chapter team from Perry as they appeared during a tense moment of the discussion conducted in the State Convention finals held at Wellsville, New York, May 13, 1960. There were 79 chapters participating from among the State's total of 300 Vo-Ag Departments in the county and district preliminaries.



Gordon L. Lamb, 17, New York Star Farmer of 1960, Corfu, stands at the apex of the pyramid at the State FFA Convention, Wellsville, New York, May 14, 1960. He is flanked on either side by other highest National FFA Foundation Award winners. Left to right: Dean Hoffer, 20, National FFA Vice President, Manheim, Pennsylvania, who presented the awards (substitute in picture for Robert Cummins, 17, Warsaw, winning agriculture study trip to Russia) Carl Joslin, 17, Boonville, Public Speaking; Leon Teresko, 17, Elnora, Farm Mechanics; Gordon Lamb; Ryan Kilmer, 17, Walton, Soil and Water Management; Earl George, 17, North Syracuse, Poultry Farming; and David Zilker, 17, Delevan-Machias Central School, Delevan, Farm and Home Safety. (Photo by Edwin Russell, Teacher of Agriculture, Heuvelton, New York)

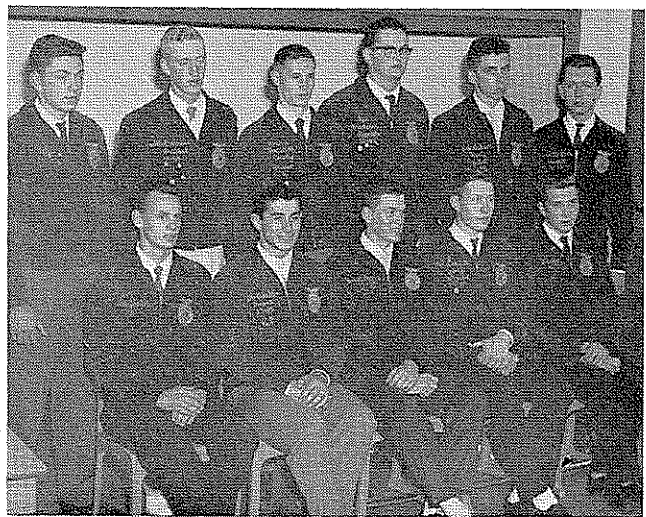


Two Town Creek FFA members using one of the new woodworking lockers in their new Vo-Ag building. (Photo by J. L. Yates)



Julian Carter, President of the National Vocational Agricultural Teachers Association (left), makes a humorous response on being presented as a former recipient of the Honorary Empire Farmer Degree during ceremony at the New York Association of FFA 35th Annual Convention May 12-14, 1960, at Wellsville, New York. Mr. Carter was host teacher-adviser for the Convention and adviser to a state Vice President during the year. He has served as chairman of the Board of Trustees for the New York FFA Leadership Training Foundation, Incorporated for the past ten years and has served continuously as a member of the Board since the establishment of the Foundation in 1944. Others in the picture are (left to right) State FFA Officers, Martin Sierk, Secretary; Otto Schroll, Reporter and Duane Niles, Vice President who has just completed the hand clasp of commendation. (Photo by Perry Cobb)

## Stories In Pictures



Officers elected at the 35th Annual Convention of the New York Association of FFA at Wellsville, May 14, 1960. Left to right (seated) Carl F. Joslin, Boonville, President; Michael Franklin, Homer, Secretary; David Evans, Canton, Treasurer; William Randall, Gouverneur, Reporter; Daniel Moore, Cherry Valley, Sentinel; (Standing) Vice presidents elected for the six districts of the State Association: Richard Barie, Alexander, District 1; Roderick Prutsman, Troupsburg, District 2; Ronald Marshall, Genoa, District 3; M. Lyndon Matteson, Jr., Belleville, District 4; William Erickson, Cobleskill, District 5 and Peter DeBlock, Jr., Minisink Valley Central School, Slate Hill. (Photo by Perry Cobb, Teacher of Agriculture, South Otselic)