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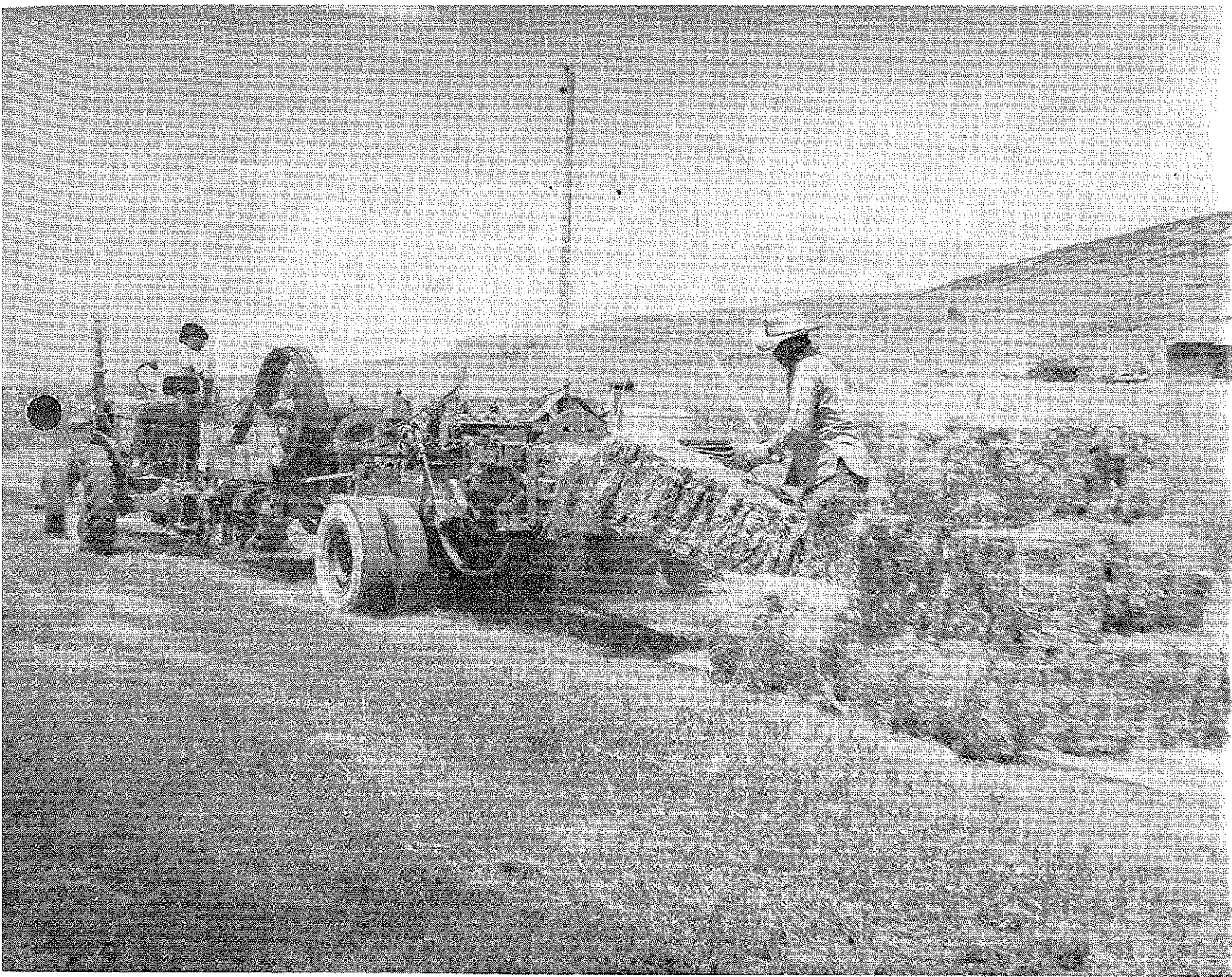
# AGRICULTURAL EDUCATION

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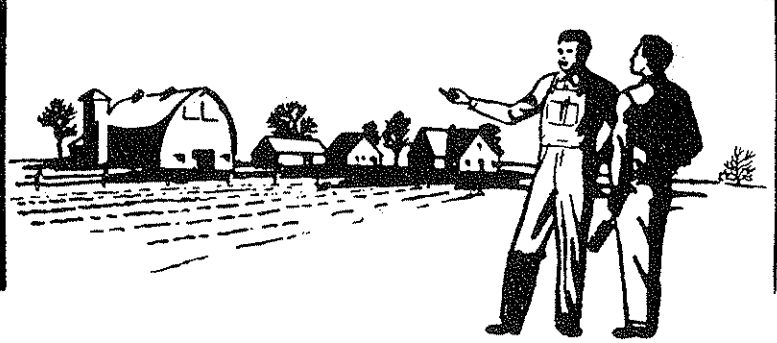
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*Featuring*—Summer Programs of

Vocational Agriculture Teachers

Department of  
AGRICULTURAL EDUCATION  
UNIVERSITY OF ARIZONA  
TUCSON, ARIZONA

# 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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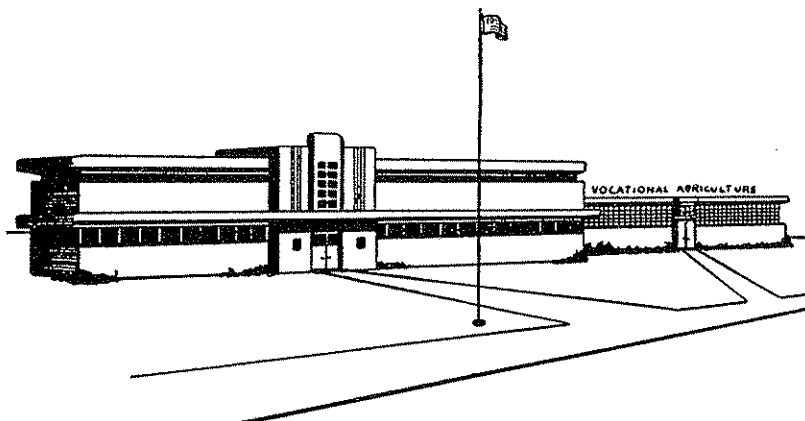
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# Editorials

## From the Editor's Desk

### "Death Watch" for the Summer Program . .

We can ill afford to continue devoting large blocks of the summer weeks to such archaic activities as contests and preparing for and showing at fairs. This time must be devoted to activities which will contribute more than do fairs and contests to a strengthened educational program in agriculture. Some of the needed activities have always been recognized as the "heart" of the summer program, but implementation of them has been of the "lip-service" variety. Other activities have been in the "talking stages" for years. Let's examine a few of the major activities which are "musts" in the summer program:

#### 1. On-farm-instruction for all age groups—

This has long been accepted as a major summer activity. However, an evaluation of accomplishment based on the number of young and adult farmers visited, and the purposes for the visits, would reveal a sad tale of neglect. Actual visits to high school student farms provide a fine numerical record, but the purposes for the visits too often show only preparation for showing, trucking of exhibits, or preparation for and participation in contests.

#### 2. Replanning of programs and organization of facilities and equipment—

Although much is done on this point, more could be done if time could be found for doing it.

#### 3. Organizing young and adult farmer courses—

The importance of this activity is not to be denied, but almost nothing is done about it until after school has started.

#### 4. Visiting prospective students and their parents—

Teacher attitude toward this activity ranges from one of a refusal to do anything that might be construed to be recruiting to one of getting this activity completed 100 per cent.

#### 5. Studying the agriculture of the school district—

We are critical of the general public for its lack of knowledge of agricultural problems and consistently fail to include *all of agriculture* in our own studies of agriculture. Studies of the agricultural businesses and of the occupations of wage earners living in our school districts are rare.

#### 6. Informing businessmen of how employees with agricultural backgrounds could be of value to them—

A great deal of talking has been done about agricultural occupations, but little or nothing has been done to acquaint businessmen with the kinds of agriculturally trained persons available or how such men could be used to advantage in their businesses. There have been frequent contacts with businesses, but the contacts have resulted in little enlightenment for the participants (teachers, students, businessmen, etc.) regarding the placement of agricultural program graduates in these businesses.

#### 7. Professional improvement—

Some of the activities already indicated contribute to professional improvement. Other activities need to be planned in order that the teacher may be enabled to keep up-to-date on the latest developments in technical agriculture and methods of working with people.

The summer contains a limited number of days; the list of summer activities and duties of vocational agriculture teachers seems unending. A week for the state conference, a week for the state FFA convention, from two to four weeks for fairs and contests, a week for a camping trip and leadership training school, a few days for planning and holding FFA meetings and a short vacation leave little time for the major purposes of summer employment. It is time we began our summer planning with the scheduling of activities for the accomplishment of our major purposes and let the other activities fill in the remaining time. We can either be the "death watch" for our summer program or face up to the challenge of making it a potent force for an ever improving program of agricultural education. It appears that there just isn't time enough in the summer to do everything. □

## THE COVER PICTURE

Picture shows students of the Vocational Agriculture Department at Owyhee, Nevada, baling hay.

The chapter owns a mower, rake, baler and other haying equipment enabling them to do custom work for ranchers as well as bale the hay from their own chapter farm. Since most of the boys from the chapter live on the Indian Reservation, their opportunities for supervised farming programs are limited.

Mr. Roy Butler, vocational agriculture teacher, along with his chapter officers borrowed the money from the bank to purchase the equipment. During the past two summers they have paid off the notes and now have money to run their chapter activities.

Mr. Butler has trained every boy to operate, service and repair all of the equipment. □



# "The Use of Professional Time

## During the Summer Months by Teachers of Vocational Agriculture in Ohio"

GILBERT S. GUILER, Teacher Education, Ohio State Univ.

It's the summer program of vocational agriculture that separates the men from the boys in terms of using professional time. Were you completely satisfied with the way your professional time was used last summer? Your ability to budget and use time effectively during the summer months may be the supreme test of your perceptions of the job. During the other nine months of school your job as a teacher of vocational agriculture is structured to a more rigid schedule.

About 25 percent of the teacher's professional time in one year is spent during the summer months of June, July, and August. There appear to be differences in opinion as to how teachers use this professional time. Research pertaining to how teachers of vocational agriculture use their time during the summer months or their employer's appraisal of the value of this period has been rather limited. The 70 "work days" of time spent by teachers of vocational agriculture has sometimes been questioned by those who are not familiar with the teachers' work.

### Improvements in Use of Teacher Time

After 320 Ohio teachers looked at their "Use of time during the Summer months," they said next year they could improve the effectiveness of their summer work by tripling the amount of time that they are presently spending with *young farmers* and doubling the amount of time now spent on *departmental program planning* and *teaching preparation*.

During 1959,<sup>1</sup> it was found that Ohio teachers of vocational agriculture spent only 1.5 percent of their professional time in the summer on young farmer program, 1.3 percent on departmental program planning and 4.8 percent on teaching preparation. The greatest change as suggested by

the teachers was focused on these three areas of responsibility in which teachers spent only 7.6 percent of their total time.

The teacher also favored a slight increase in time that should be devoted to the adult farmer program which accounted for 3 percent of their time. They were of the opinion that more than 11.7 percent of their professional time now spent should be devoted to on-farm instruction to high school students.

### Little Change in Some Areas

Generally, teachers were of the opinion that little change should be made in the amount of time presently spent in areas such as, in-service education, (18 percent); vacation, (15.6 percent); county & state fairs, (8.8 percent); physical facilities, (7.7 percent); office routine, (4.2 percent); individual group conferences, (2.1 percent); and miscellaneous activities, (1.6 percent).

These activities accounted for 58 percent of all time spent in the interest of vocational agriculture, by teachers, during the summer months. The greatest portion of teacher time, an average of 12 days, was devoted to in-

service education in which teachers agreed that slightly less time should be devoted.

### Purpose and Procedures of the Study

The major purpose of this research was to evaluate the use of professional time by Ohio teachers of vocational agriculture during the summer months.

There were 320 teachers who cooperated in the study by keeping a diary of their daily activities. By random selection, one-third of the teachers of vocational agriculture reported their activities for each of the three summer months.

The second phase of the study was to secure the appraisals of school administrators and presidents of boards of education in schools offering vocational agriculture concerning "how well" their teacher of vocational agriculture used his time during the summer months. The statistical model *rho*, a measure of rank correlation, was used to show relationship between appraisals of school administrators and board presidents. The rank order correlation of weighted ratings given teachers by the two groups of evaluators was .85. This was significant at the .01 level of significance.

FIGURE 1

Teachers' Time Distribution in Days by Areas of Responsibility

"Work Days"	Area of Teacher Responsibilities	Percent of Total Time
12	In-service education	18.0
11	FFA activities	17.0
10	Vacation	15.6
8	High school (on-farm instruction)	11.7
6	Fairs (county and state)	8.8
5	Physical facilities	7.7
3	Teaching preparation	4.8
3	Office routine	4.2
2	Adult farmer program	2.9
2	Community act. & public relations	2.8
1.5	Conferences (off farm)	2.1
1	Young farmer program	1.5
1	Departmental program planning	1.3
1	Miscellaneous	1.6

<sup>1</sup>Guiler, Gilbert S., "Use of Professional Time During the Summer Months by Teachers of Vocational Agriculture in Ohio"—Dept. of Agricultural Education—Ohio State University.

The time report data were tabulated and presented to all teachers in form of an evaluative instrument. This instrument secured their opinion concerning the changes that should be made as compared to the amount of time spent during the summer of 1958. Teacher training and supervisory staff members also employed the same instrument to evaluate the expenditure of time by teachers. A comparative analysis of opinion as expressed by teachers and staff was made for purpose of arriving at suggested use of time standards for each teacher responsibility.

**Teachers' Time Distribution**

The 320 teachers reported an average of 66.5 "work days" (10 hour basis) for the summer months. The greatest portion of teacher time, an average of 12 days, was devoted to in-service education. Ohio teachers of vocational agriculture have many opportunities to participate in summer school credit courses and workshops designed for their needs as well as noncredit workshops, in-service training work by districts or in specific geographical location depending upon request.

According to Figure I, the teachers spent nearly one half of their total summer time in in-service education, FFA activities, and vacation. These three areas accounted for 33 "work days" as compared with 33.5 days for the 11 other areas of responsibility.

**General Appraisal of Summer Activities by "School Employers"**

Questionnaires were received from 94 percent of the school administrators and 70 percent of board presidents who appraised their teachers' use of time in certain areas of summer activities of vocational agriculture.

Fourteen percent of the school administrators and 26 percent of the board presidents considered the summer activities in vocational agriculture to be of "great importance." One third of each group indicated that the activities were of "considerable importance."

Over half of all school administrators believed the summer activities of vocational agriculture to be of "some" or "little importance" as compared to 31 percent of the board presidents expressing similar opinion. It may be safe in concluding that many teachers need to take a sharp look at the way their time is being used during the summer months in

**FIGURE II**

Number of "work days" spent as compared with number days recommended in selected areas by 297 teachers

Area of Teacher Responsibilities	No. of Days	
1. In-service Education	12	ssssssssssssssssssss
	11.0	rrrrrrrrrrrrrrrrrrrr
2. FFA Activities	11	ssssssssssssssssssss
	9.5	rrrrrrrrrrrrrrrrrrrr
3. Vacation	10	ssssssssssssssssssss
	10	rrrrrrrrrrrrrrrrrrrr
4. High School (on farm instruction)	8	ssssssssssssssssss
	10	rrrrrrrrrrrrrrrrrrrr
5. Fairs (county & state)	6	ssssssssssss
	5.5	rrrrrrrrrr
6. Physical Facilities	5	ssssssssss
	4.5	rrrrrrrrrr
7. Teaching Preparation	3	ssssss
	5.0	rrrrrrrrrr
8. Office Routine	3	ssssss
	3.0	rrrrrr
9. Adult Farmer Program	2	ssss
	3.5	rrrrrrrr
10. Community Activities & Public Relations	2	ssss
	2.0	rrrr
11. Conferences (off farm)	1.5	sss
	2.0	rrrr
12. Young Farmer Program	1	ss
	3.0	rrrrrr
13. Departmental Program Planning	1	ss
	2.0	rrrr
14. Miscellaneous Activities	1	ss
	1	rr

KEY: Time Spent sssssssss Time Recommended rrrrrrrrrr

order to more nearly meet the expectations of their school employers.

The school administrators and board presidents were asked to evaluate their local teachers' use of time in certain areas of responsibility. The school employers were not aware of the time spent by their teachers as found in this study, but they expressed a need for greater improvement in areas in which teachers had generally spent the least amount of time. These areas as listed in order of needed improvement were young and adult farmer program, public relations, informing school administration, community activities and physical facilities.

**Time Needed to Carry Out Major Responsibilities as Expressed by Teachers**

This part of the study dealt with 297 teachers who had experienced a full summer program of work. Figure II shows the amount of time in "work days" that teachers thought was necessary to carry out their responsibilities during the summer months.

The 297 teachers indicated that 72 days were needed to carry out their summer program of work, including 10 days for vacation. A decided *increase in time* was suggested by teachers in five major areas listed in order—(1) high school on-farm instruction, (2) teaching preparation, (3) adult farmer program, (4) young farmer program and (5) departmental program planning.

**Summary**

It's obvious that the demand for a teacher's time during the summer months requires a careful budget of time which can easily separate the men from the boys.

Perhaps greater emphasis should be given to—

1. Teachers' reappraisal of their use of professional time during the summer months.
2. Teachers' overall summer schedule submitted June 1st to school administrators, supervisors, president and clerk of board of education.
3. Teachers' daily plan of activities

provided for their school administrators by the week.\*

4. Greater communication between teachers of vocational agriculture and school administrators. If the teacher is a professional worker during the summer months, then his daily work schedule should be known by the school employer.
5. Perhaps state supervisory and teacher training staff members need to take a sharper look at the demands made for teachers' professional time for vocational agriculture activities during the summer months.

### \*TEACHER'S DAILY WORK SCHEDULE

Name \_\_\_\_\_ School \_\_\_\_\_ Week \_\_\_\_\_

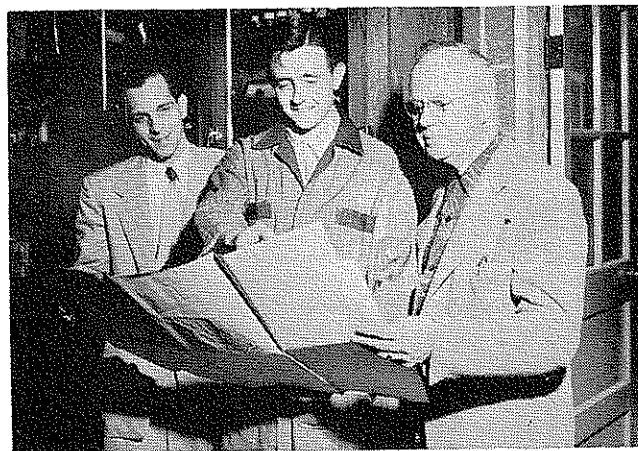
	Planned Activities		
	AM	PM	Evening
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			

The accompanying form may serve as a guide to assist you in making up your daily schedule which should be

submitted each Monday morning during the summer months to your school administrator.



Ohio teachers rated on-farm instruction as one of the more important duties of a teacher of vocational agriculture during the summer months.



More effective use of teacher's time during the summer months may result if planned with school administrator and district supervisor. (Photo by R. J. Woodin)

### Tips For Planning—

## Your Summer Program of Work

P. R. TESKE and K. W. KILTZ, Teacher Education, Purdue University

As a community professional agricultural leader and educator, are you satisfied with the scope and quality of your summer program of professional activities? Does your school administrator understand and support your summer program? Are the taxpayers of your school service area satisfied that you earn your salary during the summer months? Do other teachers in the school system understand your summer program and appreciate its values as an extension of classroom group instruction to individualized on-farm instruction? Do you plan and utilize your summer work period toward maximum development of your students, your total program, your school, yourself, and the farm families of your school

area? These, and similar questions, should be considered by every vocational agriculture instructor. The fundamental questions concern the "why" and "how" to plan and conduct a quality summer program of work.

Seeking solutions to the various problems involved in planning and conducting a summer program of work, a conference for vocational agriculture instructors and school administrators was conducted in each of the twelve vocational agriculture districts in Indiana during the 1958-59 school year. The central theme for each of these twelve conferences was "The Summer Program of Activities of Vocational Agriculture Instructors."

The primary objective of each conference was to develop mutual understandings between administrators and teachers concerning various aspects of the summer activities of vocational agriculture teachers. A total of 263 vocational agriculture instructors, 130 superintendents and principals, 18 school trustees, 13 department advisory council members and seven other persons attended the district meetings.

Opinions expressed by the 431 conferees relative to the summer program of work of the vocational agriculture instructor were summarized and are presented below. This summary provides a frame of reference which can be used by vocational agriculture instructors and school administrators toward planning, conducting and evaluating the summer activities of a local "vo-ag" instructor and his department.

#### Administration of the Summer Program

*Planning the Summer Program—*  
Prior to completion of the school

year, the instructor should prepare a plan showing his proposed activities for the summer months and the amount of time (in days) allotted for each activity. The budgeting of time and the selection of activities to include in the summer program are major problems. School administrators, members of the department advisory council, and students are human resources available to assist and advise the vocational agriculture instructor in planning and conducting a quality summer program of work. Preparation of a program of work containing jobs to be accomplished or activities to be participated in for each day of the summer months gives direction to and provides a basis for the evaluation of the summer program.

*Jobs and Activities to Include in the Plan*—Time should be allocated for the administration of the program, development of plans, preparation and revision of courses of study and lesson plans, ordering supplies, repairing shop equipment, answering correspondence, vacation, farm visits, county fair activities, state fair activities, etc. Later sections of this article give additional suggestions for activities to include in the summer program of work. It was recognized by the conferees that many activities, due to their unanticipated occurrence, cannot be programmed in advance. This does not destroy the value of the total plan of work, rather it increases its value because time provision has been made for the accomplishment of primary activities. In developing the daily plan, the general opinion was expressed that approximately one full day per week plus the equivalent of one hour per day for other days of the week should be scheduled as office time. The main activities of these periods of time would concern administration of the program including working on reports, preparing plans, ordering supplies, repairing shop equipment, answering correspondence, revising the course of study and maintenance of department files. Time should also be allocated for the school administrators, advisory council members, FFA leaders and instructor to evaluate cooperatively the previous year's program and to plan the program for the coming school year in regard both to scope and quality of the local program of vocational agriculture and to service conducted by the instructor. While some administrators and teachers were not averse to farming and/or other supplementary employment by

the "vo-ag" man, such employment should not interfere with the operation and effectiveness of the vocational agriculture program. The vocational agriculture program should receive first priority on the time of the instructor.

*Keeping Others Informed*—The vocational agriculture instructor should keep his administrator informed of his summer activities. The general opinion was that a schedule of planned activities for the following week should be submitted each Friday. Some conferees indicated that a proposed monthly calendar of activities was adequate. A few conferees expressed the opinion that an accurate, complete monthly travel report showing what had been accomplished was sufficient. There was wide-spread agreement that office hours should be scheduled and that this schedule should be made known to the administration, community, and students as time available for consultation and work on individual problems. The administrator should be kept informed of proposed times for farm visitations, attendance at the county fair, vacation, attendance at summer conferences, etc., so that he always has some idea of where his "vo-ag" man is and what he is doing.

#### Farm Visits

Farm visits provide the agriculture instructor unique opportunities for giving individualized instruction; providing guidance and counseling services; identifying jobs and skills to include in the in-class instructional program; maintaining contacts between the school, the agriculture program and the students; assisting with the application of in-class instruction to the solution of on-farm problems; and for performing other activities of a quality summer program of work.

*Whom to Visit*—Farm visits should be made to the homes of high school vocational agriculture boys, and to young farmer and adult farmer program members as a follow-up to in-class activities and to provide professional advice toward the solution of on-farm problems. Farm visits should also be made to the homes of pre-vocational agriculture students to provide guidance and counseling relative to their future enrollment in vocational agriculture and/or other school instructional programs. Farm visits should also be made to the homes of other farm families in the school service area to assist them

with their farming problems and to encourage their participation in organized group instructional programs conducted by the department. Farm visits should also be made relative to a planned farm survey program to further identify characteristics and needs of the farm clientele in the school area as basic information from which to plan annual programs of work and courses of study.

*Frequency of Visits*—The general opinion was that one visit per student per summer is an absolute minimum acceptable goal. One visit per student per month (three per summer) is a reasonable objective. The frequency of visits to each student, in excess of the one visit minimum, should be determined by the nature and scope of the problems of the student and the student's ability to cope with his problems.

#### Public Relations

The vocational agriculture instructor is a key public relations representative of the school. He holds a unique position for maintaining contacts between the school and the rural clientele. He must be prepared to offer guidance and counseling services, and provide professional agricultural advice and assistance. The vocational agriculture instructor should conduct himself and his program in a manner such that the rural clientele will look to him as the community's professional agricultural leader and adviser.

#### Counseling and Guidance

The summer months provide the agriculture instructor with opportunities to accomplish guidance and counseling activities. Follow-up activities of graduates and other students should further assist them in becoming established in farming or in another occupation. One or more meetings should be held with pre-vocational agriculture students to counsel and guide these students into or away from vocational agriculture as appropriate to each boy's interests, abilities and opportunities. A significant amount of counseling and guidance can also be provided during the course of farm visitations. As a representative of the school system, the vocational agriculture instructor's guidance and counseling services should be in terms of the entire school program, not just vocational agriculture.

### Cooperative Activities

As a professional agricultural educator and member of a public school faculty, the vocational agriculture instructor should cooperate with other community agencies for the betterment of the farm people. Preparing FFA judging teams and assisting FFA members with the preparation and showing of individual exhibits at county and state fairs is a usual activity included in a quality summer program of work. The vocational agriculture instructor is not subordinate to any other professional agriculture worker servicing the school area—he is a cooperator. The amount of time available, the nature of his primary responsibilities, and benefits to be derived by his farm clientele should determine the scope and nature of cooperative activities engaged in by the vocational agriculture instructor.

### Professional Improvement

The vocational agriculture instructor, as a professional worker, should allocate time for his professional improvement. He should participate in vocational agriculture and FFA district and state conferences. On a time-available basis he should attend summer school, workshops, field days,

educational tours and similar activities which provide professional improvement.

### Group Instructional Activities

While it is generally recognized that most of the "vo-ag man's" summer work is through individual contacts and small group meetings, certain other group instructional activities should be planned for as a part of a quality summer program of work.

At least one FFA meeting should be held each month during the summer as well as during the regular school year. Each of these meetings should include business, instructional and recreational activities.

Monthly meetings of adult and young farmer classes should be held to provide year-round programs of instruction for these groups. Summer-time sessions of the adult and young farmer classes should provide both instructional and recreational activities such as would occur through field days, tours, picnics, etc. Summer monthly sessions of adult and young farmer classes provide opportunities for maintaining contacts with these groups and reduces problems involved in initiating or reorganizing these classes each fall.

At least one meeting per month

during the summer of the advisory council can be profitably utilized for evaluation of the past year's accomplishments and planning for future activities, events, and courses of study.

### Vacation

The general practice is to provide two weeks vacation during the summer months. The general opinions of the 431 conferees were (1) that the "vo-ag man" have up to four weeks vacation in the summer if he works full-time during Christmas, Easter, and other regular school vacation periods, and (2) that the "vo-ag man" have two weeks vacation in the summer if he does not work during Christmas, Easter, and other school vacation periods.

### Summary

In summary, as concluded by 431 conferees, the activities to be included in a quality summer program of work are many and of vital importance to the total program. Advice of the superintendent and advisory council should be secured to help plan the summer program. The budgeting of time is a prime necessity in order to accomplish the essentials of a quality program. □

# What Should Vocational Agriculture Be Like in the 60's?

## A Study of Vocational Agriculture: Its Function and Clientele

G. HERMAN PORTER, Research Analyst, State Curriculum Study, Raleigh, N. C.

Vocational education in agriculture has grown to be an important part of the secondary schools. The present status of vocational agriculture, together with the occurrence of tremendous changes in education and agriculture, caused the writer to search for evidence which would imply direction and changes that should be made in order that vocational agriculture might be most effective and efficient.

This article presents an account of such an inquiry<sup>1</sup> including a brief explanation of purpose, methods employed, and selected findings and recommendations.

The purpose of the study was to give an overview of vocational agriculture relative to (1) conditions in education and agriculture which influence its clientele and function, (2) who were its clientele as reflected in programs of vocational agriculture, and (3) who should be its clientele as reflected in the acts and policies and opinions of writers and selected persons who were interviewed.

The study was divided into the three general phases indicated in the above purpose. Two studies<sup>2</sup> that were conducted in North Carolina by study groups composed of lay and professional persons were the chief sources of data for phases (2) and (3). Other data for the study were obtained from related studies, literature, acts, policies, and records.

<sup>1</sup>G. Herman Porter, 1960. An Analysis of the Clientele for Vocational Agriculture. Research Problem. M. Ag. Ed., North Carolina State College, Raleigh, North Carolina.

<sup>2</sup>One study was sponsored by a District Advisory Committee for improving vocational agriculture and encompassed 96 schools in 25 counties. The other, a related study, was sponsored by a county Agricultural Curriculum Study Committee and involved five schools.



### Findings

The findings showed that the policies, objectives, and the ideal methods for planning and carrying out vocational education in agriculture were directed toward farmer clients. Yet, most of the boys who were enrolled as high school students had vocational interests other than farming, many had nonagricultural occupational interests and were enrolled largely to get the shopwork.

Thus, in many schools there is an apparent inconsistency between vocational interests and objectives of many of the enrollees and the policies, objectives, and methods designed to meet their vocational education needs. Said another way, the teacher of agriculture finds it difficult, if not impossible, to satisfy the vocational education needs of his students and stay within the bounds of the "above the local level" stated policies, objectives and ideal methods of planning and carrying out his program.

Vocational agriculture has often been provided to youth who will likely not work in agricultural occupations even to the exclusion of providing education to adults who were farming. From the school's viewpoint, the education provided through vocational agriculture to these youth was desirable and valuable because it came nearest of the subjects available to meeting the students' needs. In evaluating vocational agriculture in such schools, it appears that the greater need for agricultural education was at the adult level rather than to those youth who did not have agricultural interests but rather had interest in the shopwork included in vocational agriculture. Some things in education influencing this condition are lack of sufficient high school teachers, courses and schedule flexibility, together with the ability and willingness of teachers of agriculture to provide useful and valuable instruction. Also, the type of shop facilities were readily adapted to the education of these youth.

Except for the value of providing vocational agriculture to high school students for exploratory purposes, the need for such education and its effectiveness indicate that the balance of emphasis should be strongest at the late high school and adult levels.

### Conditions in Agriculture

With conditions like we have had in recent years such as national economic growth, high consumer's income

and technological advances, agriculture experiences many changes. Thus, adjustments especially in number and kind of farmers are needed.

Some needed changes that agricultural education and research has and should continue to enhance in agriculture are (1) a decrease in number of farms and farmers, (2) an increased use of and need for management, mechanization, and operating capital per farm, and (3) an improvement in the living conditions on farms.

Many of the changes that have occurred have created a need for adjustments to be made, especially in number of farmers. Thus, many people in agriculture have need, perhaps unrecognized, for understanding their opportunities in agriculture compared to other opportunities plus an understanding of the forces affecting the opportunities.

The curriculum in vocational agriculture was, in ideal if not in practice, structured around the students' educational needs in farming. Yet, education for agricultural adjustments would consider an individual's overall vocational educational needs rather than just his educational needs in farming or agriculture.

### Recommendations

The lack of change in the educational objectives and purposes of vocational education in agriculture, while changes in agriculture and education have been almost revolutionary, implies a need for a thorough examination of our program. In order that needed changes would be identified, understood, and implemented, study should be made on all levels; federal, state, and local. Each study group should have sufficient representation to insure adequate consideration of conditions in agriculture and education and support for implementing the needed changes. Some changes or actions recommended as a result of the findings of this study follow.

*Federal Level.* The educational objectives for vocational agriculture should be modified so as to give additional emphasis to needed education for adjustments in agriculture resulting from changes. Such modification would include a consideration of (1) over-all needs of enrollees, (2) non-farming agricultural occupations, (3) guidance for those who may leave farming, (4) part-time farmers, and (5) economic and management phases of agriculture. The requirement that supervised or directed practice be conducted "on the farm" should be

broadened to include "in an agricultural occupation." Some broad policies and perhaps federal funds should be provided for in-service education to encourage personnel at all levels to keep abreast of changes.

*State Level.* The changes in conditions surrounding vocational agriculture and the necessary involvement in developing a curriculum designed to fit the local needs make it essential that more consultant help be provided to local people. Too, a strong in-service education program should be launched. Such education initially should emphasize an evaluation of local programs relative to conditions in education and agriculture and forces contributing to changes.

*Local Level.* One of the more urgent needs on the local level is for citizens, both lay and professional, to define the role that vocational agriculture should fill. Some problem areas which any local study group should especially consider are (1) guidance as a basis for enrolling students, (2) scheduling school time for adult education, (3) using teacher-time for community services versus education, (4) the place of the shop in providing vocational agriculture, (5) the addition of courses which are more suitable than vocational agriculture to meeting students' needs, and (6) the establishment of policies to insure that the defined role is carried out.

### New Approaches

With the increase in specialization and diversity of agricultural occupations, to insist that agricultural education be of high quality and provided to all who have need for such education is to insist that there be provided vocational education in agriculture in addition to that presently offered.

New approaches should be explored for providing agricultural education to two groups: (1) those whose educational needs could be fulfilled in the existing high school departments of vocational agriculture, but who are too few in number to make such offering economically feasible, and (2) those whose educational needs in agriculture are so technical as to require specially trained teachers and/or special facilities.

Area vocational schools have been organized and other similar schools are being planned. Special consideration should be given to determining whether certain types of vocational education in agriculture should be provided in these centers. □

**Don't let your local summer program "slide" . . .**

## Plan for Summer School

DONALD SCHWARZ, Vo-Ag Instructor,  
Platteville, Wisconsin



Do your plans for the summer include attendance at summer school? If they do, early planning is essential.

Summer school is a phase of professional improvement that is valuable to the overall program in vocational agriculture. Advanced schooling provides additional training and insight that can be of great benefit to the instructor and to his local programs—benefit, that is, if the attendance at summer sessions is carefully planned for and carried out. On the other hand, if one approaches this attendance without careful consideration, the local summer program may “slide” to an extent that would offset any benefits.

### Local Summer Program

Successful instructors have a full slate of summer activities even before they consider summer school. Certainly the most basic of these activities is the individual on-the-farm instruction and the supervision of farming programs. In addition, instructors must contact prospective students, make the general plans for the coming academic year, and develop new teaching aids and materials. They will also review, evaluate, and prepare reports on the previous year's activities. Young and adult farmer classes and visitations must be included. Much time will be spent in preparing for and working on fairs, exhibits and other cooperative and community activities. Of course, Future Farmers and their activities are extremely important to the summer program. Also, many instructors work on maintenance and improvement of their department and its physical facilities. Furthermore, the summer provides the ideal opportunity to strengthen the public relations program.

### Why Attend Summer School?

To be successful, the teacher of vocational agriculture must be constantly on the alert for new ideas and methods. He must seek professional improvement. Attendance at summer school is the most effective single tool

that is available for the instructor seeking professional improvement. Summer school is a time of learning and a time of sharing ideas with other instructors and with other personnel in the field of agriculture and education. The result will be better teaching in the classroom and on the farm—teaching that will be more up to date and more effective. It provides a stimulus that leads to higher quality programs on the local level.

School administration and local communities recognize the values of summer school. Such recognition is borne out by the fact that many require a planned program of summer school attendance for their teachers, and many provide salary increases based on summer school attendance.

### Local Problem Can Develop

Vocational agriculture being a twelve month program, the community expects a full-time job to be performed by the instructor. The instructor should expect to deliver a full twelve-month program. If the instructor goes off to summer school without proper preparation, problems will inevitably develop: individual on-the-farm instruction may suffer, and farming programs may not receive the attention they deserve. This is especially dangerous when remembering that they are the basis of the instructor's summer work. There may be weakening of any or all phases of the summer program, and, in fact, some may get no attention at all. This could lead to questioning the necessity for a twelve-month program.

### Plan for Summer School

Summer programs can and often should include attendance at summer school. The “trick” required to make it work is careful planning and preparation for the summer activities.

It is absolutely essential, in fact, that one approach summer school attendance with a well-worked-out plan of activities. The plan must be developed long before the end of the school year. It should be developed

in cooperation with and have the approval of the local board. The members must understand that there is a need for a twelve-month program and also a need for professional improvement.

In developing the plan, the instructor should first set down his specific objectives for the summer—objectives concerning his individual instruction and supervision of farming programs, Future Farmer activities, cooperative and community activities, departmental work, public relations activities and professional improvement. Once this is accomplished, he must then budget his time and efforts accordingly.

In working out a plan including summer school attendance, the instructor should make several specific considerations. First, he should try to attend summer sessions of short duration—sessions of three or four weeks in order to reduce the time lost from local activities. Often the college will be within commuting distance from his home and he can conduct a modified local program even while attending classes. If it is necessary to attend full-length summer sessions, it is advisable to consider engaging a “trainee” substitute to help in conducting the local activities. In addition, the teacher should plan to space his summer schooling over a period of years rather than attend for several successive summers.

Summer vacations are certainly another important phase of the instructor's program. However, regardless of the length of summer sessions, the instructor should plan to give up his normal summer vacation when he attends summer school.

A carefully worked out visitation program will help maintain effectiveness of individual instruction. Probably most important here is that cards be sent in advance so the student will be expecting the visit.

Public relations will be especially important to the instructor at this time. He must let the community know why he is attending school and how he is planning his program. His plans can be explained through a departmental newsletter and through personal contacts. He must be sure that the summer plan is put in writing and made known not only to the school board, but also to the advisory council, other teachers, local business men, farmers, and students.

The instructor should expect that, because of summer school attendance, he will actually put in more total

time during the summer period. This is a small price to pay for the advantages of attending summer school. The dedicated instructor should be willing to make sacrifices in order that he, his local program, and especially his students can benefit from his professional improvement.

**Summary**

The local summer load of a vocational agriculture instructor is usually heavy and capable of demanding his full time efforts. Even so, a long range program for summer school attendance over a period of years is recom-

mended. There are dangers, however, that overemphasis on attendance at summer school could damage the local vocational agriculture program. The problem is basic and it has a basic solution. That solution is a plan—a written plan that is carefully considered, developed, and carried out.□



**Sage advice—**

# Plan Your Summer Work

PHILIP E. SCHMIDT, Vo-Ag Instructor, Oconto, Wisconsin

Well, school is out, suppose you're on vacation now.....No, I work at school.....Oh, are there still classes going on??.....Oh, no, I mean I am working with the Ag students now.....

Is this typical conversation for you during the early part of the summer? It should not be. Are you making the most of your summer time? A little planning before and during

the summer will help you use your time better.

Figure 1 illustrates a form that can be used to plan your summer weeks. This can be carried on the clipboard. First, list the dates of each week on one sheet. Second, list in the proper days those activities that are planned ahead such as convention, district meeting, field days, and your vacation. Third, plan a fairly definite procedure for each week. Here is an example:

	Office	On Farm Calls	
Monday	8-12	1-4:30	
Tue., Wed.,			
Thurs., Fri.	8-9	9-12	1-4:30
Out Of Town Dates			
June 21 and 23			
July 7 and 11			
Aug. 20 and 29			

FIGURE 1

Agricultural Department Weekly Call Outline

Week of \_\_\_\_\_

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A. M. 8						
9						
10						
11						
P. M. 1						
2						
3						
4						
Eve.						
Students	_____					
Adults	_____					
Y. F.	_____					
Meetings	_____					
Miles	_____					

FIGURE 2

FARM CALL

Date \_\_\_\_\_ time \_\_\_\_\_

If you do not plan to be home on the above date please call the H.S. office and let me know.

PES  
Agr. Inst.

This is turned into the superintendent and posted on the school doors nearest the vo-ag department.

Fourth, set a goal or standard. Plan to visit each student monthly during the summer and each adult and young farmer twice. Since each visit should be about an hour in length, it is now possible to plan a daily schedule of calls. Allow a few open spaces per week to get any calls missed or for a longer call than planned.

On Thursday morning of each week make out a post card for each student call for the following week. This card is duplicated on the back as in Figure 2. It is desirable to have the card reach the student a few days before the call. It may be desirable to send cards to the adult and young farmer for that week also.

When you arrive at the farm you should have something to offer. For students, a number of things seem to suggest themselves. They could use such things as a free sample of weed killer, feed, or other items. A study on weighing pigs, feeding cows, rec-

ord checking, and milk record analysis can be conducted. With adult and young farmers, a bulletin may be of help. It is probably important to leave something with them each time you are there.

Either after leaving the farm or arriving back at school, write a fairly accurate account of your call. A large, loose leaf notebook with a page for each student is desirable. This record should include date, time spent with

the student and items discussed.

So this summer, plan a schedule, send a card and keep an accurate account of the call, and then if someone asks, "What are you doing this summer? . . . . . □

## Reading ability and readability as a basis for—

# The Selection of Reference Books

RALPH R. BENTLEY and R. EDWARD GALLOWAY, Teacher Education, Purdue University

Teachers of vocational agriculture often complain that their students do not understand what they read. In vocational agriculture, as in other high school subjects, reading is one of the most effective and efficient tools of learning. However, the usefulness of this tool is lost if the material to be read does not reasonably match the capability of the reader. If the material is too difficult, the student will not comprehend; if it is too simple, the student may be insulted and bored. In either case, learning suffers.

How well does the material to be read in agricultural reference books match the reading capability of the vocational agriculture students who are using them? Are the books too difficult for these students? How well can they read? This article reports on a research study which attempted to answer these questions.

It was the purpose of this study to compare the readability of certain vocational agriculture reference books with the reading ability of the students using them. In order to make this comparison, it was necessary to measure both the readability of reference books and the reading ability of vocational agriculture students.

### Procedure

The basic information for this study included readability measurements for ten vocational agriculture reference books and measurements of reading and mental ability for 760 students of vocational agriculture in the four high school grades in the cooperating schools.

Students were tested in one relatively large and one relatively small high school in each of the twelve vo-

vocational agriculture districts in Indiana. Two tests were used in this study to measure reading ability. The *Cooperative English Tests*, Test C1: "Reading Comprehension" was chosen to measure general reading ability and the *Iowa Tests of Educational Development*, Test 6: "Ability to Interpret Reading Materials in the Natural Sciences" was chosen as the most appropriate available test of ability to read technical materials in agriculture. The *Verbal Battery* and the *Nonverbal Battery* of the *Lorge-Thorndike Intelligence Tests* series were used to determine the mental ability of these students.

Responses of the cooperating vocational agriculture teachers to a survey indicated that almost 100 reference books were available in their libraries in quantities large enough for class use. Ten of the eighteen books found most frequently in the cooperating schools were chosen for readability measurement. The Dale-Chall Readability Formula was chosen to measure readability, or reading difficulty, in this study.

Both book readability and student reading ability were expressed in grade level units. For example, a pupil with ninth grade reading ability as measured by the Cooperative Reading Test has a score equal to the median score made on this test by students in the publisher's norm group who were half-way through their ninth year of school. Ninth grade readability implies that the reading material in a book can be read by students who are half-way through the ninth grade. The expression of book readability and student reading ability in grade level units made direct comparisons of these two measurements possible.

### Findings

In order to show the comparisons between book readability and student reading ability more clearly, Figure 1 was prepared. The upper portion of this figure presents the data for the following ten reference books: (A) *Your Farming Program*, (B) *Shopwork on the Farm*, (C) *Profitable Farm Management*, (D) *Beef Production*, (E) *Livestock and Poultry Production*, (F) *Approved Practices in Beef Production*, (G) *Veterinary Guide for Farmers*, (H) *Crop Production*, (I) *Productive Soils*, and (J) *Feeds and Feeding*. Each bar in this portion of the figure shows the mean and the range, minus one to plus one standard deviation, in grade levels of book readability. For example, the first bar in Figure 1 shows that book A, *Your Farming Program*, has eighth grade mean readability and that two-thirds of the reading material in this book falls between grade levels 6.4 and 9.6.

The lower portion of Figure 1 graphically presents information about the reading ability of the students. Each bar in this portion of the figure shows the mean and the range in grade levels of student reading ability from minus one to plus one standard deviation. Thus, the ninth grade students of vocational agriculture in the cooperating schools had mean general reading ability of grade 7.5 as measured by the Cooperative Reading Test and two-thirds of these students had a reading ability within the grade range 5.0 to 10.0.

The mean reading ability of students did not differ significantly among schools except in two instances. (1) Since significant differences were found for tenth grade students among schools with respect to the Iowa Reading Test, only the highest and lowest means and standard deviations were shown. (2) Significant differences were found between large and small schools for the twelfth grade students with respect to both reading tests; therefore, the means and standard deviations were shown separately in Figure 1 for the large and small schools.

It will be noted that the mean reading ability of students for each grade level was higher when measured by the Iowa Reading Test than when measured by the Cooperative Reading Test. It will also be noted that for each test the mean student reading ability was higher for each succeeding high school grade except for twelfth grade students in the large high schools. However, reading ability as measured by these tests failed to increase a full grade level for students in each succeeding high school grade.

When the mean reading ability as measured by the Cooperative test was compared with the mean readability scores of books, it was found that all ten books were too difficult for ninth grade students. When Iowa test scores were used, nine of the books were too difficult for these students. On the basis of standard deviations for books and students, ninth grade students could be expected to read only two of the ten books.

Nine of the ten books have mean readability scores higher than the mean reading ability of tenth grade students as measured by the Cooperative test. The lowest tenth grade class mean on the Iowa Reading Test was below any book mean, while the highest class mean on this test fell above all ten book means. On the basis of standard deviations for book readability and student reading ability, the most able tenth grade students should be able to read a major part of the material in the selected books and even the poorer readers could read certain portions of them.

The average reading ability of eleventh grade students and twelfth grade students in the large schools as measured by the cooperative test was above the mean readability of two of the books and below the other eight book means. When the results of the Iowa test were used, five of the books' means were higher and two were lower than

the reading ability of these students. Comparison of standard deviations showed that the more able readers in this group should be able to read practically all of the material in the ten books and would find some of it too easy. The materials in books A, B, and the easier portions of the other eight were shown to be readable by the poorer eleventh grade students but not by the less able twelfth grade readers in large schools.

Twelfth grade students in small schools possessed mean reading ability equal to or above five of the books on the basis of their Cooperative test scores. On the basis of Iowa Test scores their level of reading ability was slightly above the five most difficult books. A comparison of standard deviations showed that most of the twelfth grade students in small schools would find most of the material in all ten books readable. However, the least able readers in this group would find very little readable material except in book A.

Conclusions and Implications

The following conclusions were drawn on the basis of reading ability data obtained from the vocational agriculture students in cooperating schools and readability data from reference books selected from the libraries of those schools. In the interpretation of these conclusions, one should be mindful of the limitations imposed by the design and measurements used in this study.

1. Each of the vocational agriculture reference books had a mean readability appropriate for students of average reading ability in one of the four high school grades.

2. Twelfth grade students, especially those in large schools, were characterized by their low reading ability.

3. In general, reading ability did not differ with respect to school size and location.

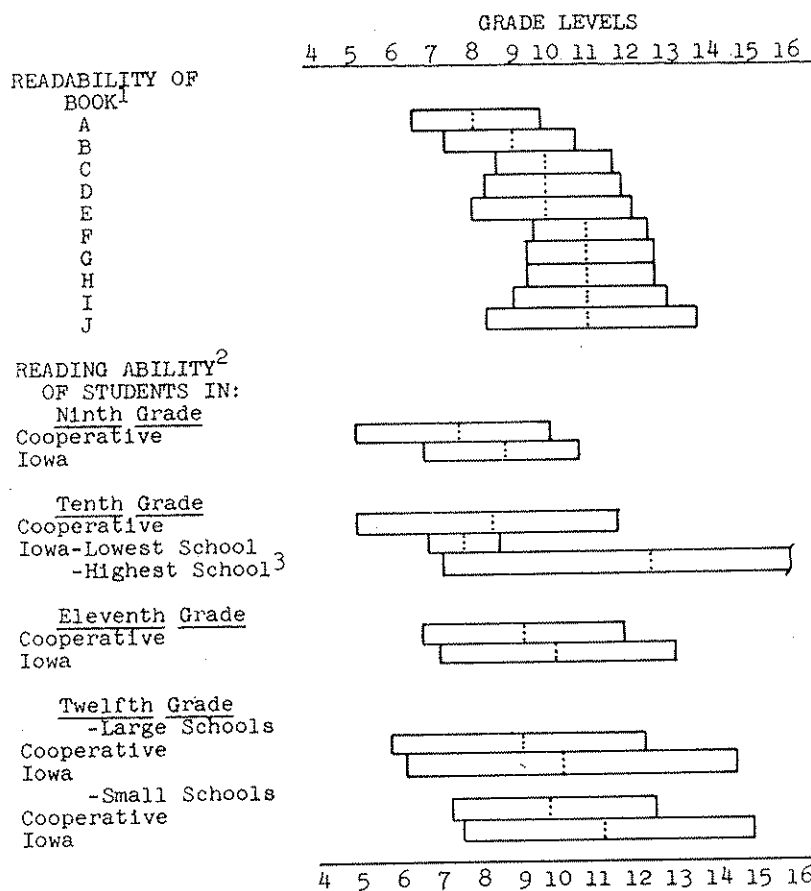
4. In general, verbal mental ability did not differ with respect to school size and location.

5. Nonverbal mental ability varied widely among individual schools.

6. Reading ability varied widely both among vocational agriculture classes and within classes at a given grade level.

7. Students of vocational agriculture scored from one to two grade levels higher on the Iowa test of reading in the natural sciences than they did on the Cooperative General Reading test.

8. Vocational agriculture students had mean reading abilities which



<sup>1</sup>Titles of these ten books are found in Table 4.2.  
<sup>2</sup>Reading ability as measured by the Cooperative and the Iowa reading tests previously described.  
<sup>3</sup>Since no pooling was permissible here, only the extreme schools are shown.

FIGURE

GRAPHIC ILLUSTRATION OF MEANS AND STANDARD DEVIATIONS FOR DALE-CHALL READABILITY OF TEN AGRICULTURAL REFERENCE BOOKS AND FOR READING ABILITY OF VOCATIONAL AGRICULTURE STUDENTS AS MEASURED BY THE COOPERATIVE AND IOWA READING TESTS

ranged from zero to three grade levels below their peers on the basis of publisher's norm groups.

9. Although there was wide variation from school to school in the mental ability of vocational agriculture students, in general, their mental ability was similar to that of their peers as represented by publisher's norm groups.

10. In general, the agricultural reference books used by the students of vocational agriculture tended to be too difficult for their reading ability.

The findings and conclusions of this study appear to have several implications for workers in the field of education. These are listed as follows:

1. It seems apparent that if a single vocational agriculture textbook were selected for use by students in a given grade, some students would experience difficulty reading any but the most readable portions and some would find all but the most difficult portions distressingly easy. Therefore, it seems desirable to use a variety of reference materials with varied readability in each agricultural subject area.

2. Teachers cannot assume that a student is an average reader because he possesses average mental ability.

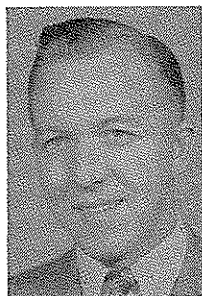
3. When authors and publishers prepare agricultural reference books, they should give special attention to

book readability and the reading ability of vocational agriculture students.

4. The fact that vocational agriculture students consistently scored higher on the test of ability to read natural science materials than on the general reading tests suggests that the ability to read agricultural references may be specific and different from general reading ability.

5. Teachers of vocational agriculture should include readability as a factor in the selection of reference books.

6. Teachers of vocational agriculture should give special attention to the reading problems encountered by their students. □



## Using Competition to Promote Desirable Learning

### In Vocational Agriculture

PAUL E. HEMP, Teacher Education, University of Illinois

Competitive activities play a dominant role in the instruction of students in vocational agriculture. Award programs, contests, and systems of assigning marks to students usually involve pitting one student against another in the achievement of a particular goal. Most people recognize the value of competition as a motivating factor in learning, but many are not aware of the bad effects of too much competition or the conditions under which learning may actually be impeded by an overly-competitive learning atmosphere.

Competition for a grade or prize often causes undesirable human behavior. Most teachers can recall incidents in which students have resorted to cheating, lying, or stealing in an effort to win or to achieve a goal imposed on them by adults. These behaviors are more pronounced when only a few have a chance to win. Students often develop hostile attitudes towards one another when school activities become overly competitive. In many classroom situations, the only way a student can achieve a goal is to keep his fellow students from succeeding. These situations are commonly described as "cutthroat situations."

Another bad effect of those competitive activities which separate people into "winners" and "losers" is the depressing effect which failure has on those who lose. It is true that nothing begets success like success. By the same token, continual failure works against students by decreasing their interest in a learning task and squelching their desire to continue with the task.

Perhaps one of the most alarming results of overly-competitive learning situations is that by stressing these activities the school often teaches students a false sense of values of what is involved in successful living in a modern world. Students who are continually cast into competitive situations soon get the idea that a successful life comes from working solely for one's self and against other persons. Thus, classroom activities which are highly competitive fail to prepare students for living in a world where survival hinges on their ability to work and live together with many groups.

Two types of competitive activities commonly used in most vocational agriculture programs are contests and awards and the "grading" of students' work. While both types of activities

have a place in vocational education, wise use of each appears to be based on certain principles or conditions.

With regard to FFA contests and awards, one of the chief misuses of these activities is the overuse of them. Overemphasis of contests and awards has probably come about because of possibilities of creating interests among the participants and capturing the attention of the public. Contest activities which exist solely for these purposes probably cannot be justified at all in an educational program. Contests and awards are educational tools but should not replace other methods of good teaching. Contest and award programs will contribute most to the instructional program when they are carried out under the following conditions:

1. There is a balance between competitive activities and cooperative activities.
2. Competitive activities are varied enough so as to give all entrants a chance to experience some degree of success.
3. Students competing in contest or award programs are taught how to compete, how to win, how to lose, etc.
4. Awards are spread out over

a large group as they are when the Danish system of scoring is employed. Most teachers recognize the fallacy of trying to "place" boys or animals.

5. Groups or individuals entered in the activity are fairly evenly matched. Even in a foot race all contestants start from the same beginning line.
6. Contests and awards are set up to attain worthy educational objectives.
7. Participation in contests is motivated by the educational values of the contest.
8. Losing a contest is not considered as failure.
9. Contest or award programs which enable a boy to compete against himself or to raise his own standard of performance are given as much or more emphasis than those programs which encourage a boy to beat his neighbor.

10. All the boys in the chapter have a chance to participate in the contest at least at the local level.

Many of these principles apply to student evaluation as well as to contest and award programs. Many teachers attempt to reduce the competitive element in the classroom by grading students on the basis of the progress they make towards their own goals rather than holding all members of a class to a common standard.

Other ways in which teachers can reduce the pressure of competition are as follows:

1. Play down the importance of grades as ends in themselves. Emphasize the importance of the development of abilities, attitudes, and interests—the development of a better person.
2. Help students to evaluate their own progress. The end result of

evaluation should be increased self-evaluation.

3. Use as broad a base as possible for evaluating students' work. We do not have all the answers or know-how to measure a boy's progress in becoming a farmer, but mastery of agricultural subject matter is probably not the most important attribute of successful farming.

Competitive activities in vocational agriculture do have a place in the instructional program if they are used wisely. Each teacher must survey his own situation to determine whether or not he has gone overboard in promoting competitive activities. Advisory councils can contribute a great deal to departments of vocational agriculture by helping evaluate the present array of contests and awards using appropriate criteria consistent with the latest learning theory and the social realities of modern living. □



## Financing Farming Programs

### A Thesis Summary

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*Title:* A Study of the Methods Used in Financing the Supervised Farming Programs of All-Day Students of Vocational Agriculture in South Carolina. M. S. Thesis, Clemson College, by Floyd D. Johnson, 1960.

#### Purpose of the Study

Some of the objectives in the study were stated as follows:

1. To determine to what extent credit was being used by all-day students in their supervised farming programs during the school year 1956-57.
2. To determine if the use of credit had any effect on their farming programs.
3. To determine which farm enterprises seemed to require most credit or financing.
4. To determine how the teachers of vocational agriculture rated the various methods of financing available to their students.

5. To determine how much time teachers devoted to teaching the importance of credit and sources of credit.

#### Source of Data

The data used in the study were obtained by means of a survey form mailed to 207 white teachers of vocational agriculture in South Carolina. Seventy-one percent of the teachers completed the survey forms. These were tabulated and form the basis for the facts presented.

#### Summary and Interpretation of Data

A summary of the data showed that slightly over 25 percent of the boys enrolled in vocational agriculture secured credit, or loans, in carrying on their supervised farming programs. On a class basis, the results were as follows:

Class	Percent of Students Securing Loans
First Year	24.1%
Second Year	28.3%
Third and Fourth Year	29.0%
Average	26.5%

The students who used credit or loans had more enterprises in their farming programs.

Students using credit had 1.8 enterprises; students not using credit, 1.3 enterprises.

Nearly 73 percent of the teachers had students who secured loans, while 27 percent did not have any boys with loans during the school year.

During the year 1956-57, a total of 1,358 students secured 1,981 loans, nearly 1.5 loans per student.

In general, the data showed that teachers with more experience and longer tenure had more students who secured loans; however, these results were not very consistent. Teachers

with less than four years experience or more than twenty years experience or tenure had secured fewer loans for their students.

The percentage of students with various farm enterprises in their farming programs and the percent of students in each enterprise that secured loans were shown to be as in Figure 1:

The highest percentage of loans was secured on tobacco, beef cattle, corn, pastures and cotton in that order. The median size of loans secured on the various farm enterprises was as given in Figure 2:

Approximately 51 percent of the loans on these enterprises was for less than \$50.00. Approximately 22 percent of the loans was for \$100.00 or more, and 27 percent of them was for loans of \$50.00 to \$99.00. Only eleven of the loans, or 0.56 percent, were for as much as \$500.00.

The data indicated that more loans were secured from parents than from any other source. Most of the parents charged 4 percent interest or less for these loans. Quite a few loans were secured from local banks. Some banks charged only 4 percent interest, some 5 percent, some 6 percent, and some 7 percent. A few loans were secured from Production Credit Associations, usually at 5.0 to 5.5 percent interest. Other sources of loans in order of importance were reported as follows: livestock chains financed by business firms and civic clubs, Future Farmer Chapters, farm supply dealers and individuals other than parents.

The rate of interest charged on these loans varied from nothing to 7 percent, however the most usual rates were 4, 5, and 6 percent. Next to parents, local banks were used more than other sources. Interest on loans was generally paid at the time of maturity, however, 37 percent of the banks deducted interest at time of making the loan.

Teachers stated that 35 percent of the loans were made without any note, lien or mortgage. Probably most of these loans were made by the parents of the boys. Usually one or more of the following conditions were reported:

Simple note by student	682 loans
Note with co-signer	431 loans
Lien on enterprise only	214 loans
Mortgage on chattel or property	17 loans
Insurance required on livestock	15 loans
Agriculture teacher signs note	138 loans

FIGURE 1.

<i>Enterprise</i>	<i>No. Students</i>	<i>No. Students With Loans</i>	<i>Percent of Students With Loans</i>
Swine	2,240	733	33%
Corn	2,222	320	14%
Truck Crops	855	141	16%
Poultry	656	146	22%
B. Cattle	630	231	37%
Cotton	574	139	24%
D. Cattle	556	177	32%
Tobacco	323	141	44%
S. Grains	244	10	4%
Forestry	86	2	2%
Home Orchards	46	5	11%
Hay Crops	40	0	0%
Pastures	23	6	26%
Peanuts	17	0	0%
G. Sorghum	13	0	0%
Sheep	5	0	0%
Greenhouses	2	0	0%

FIGURE 2.

<i>Enterprise</i>	<i>Median Size Loan</i>	<i>Range</i>
Tobacco	\$162.00	\$12.50-\$400.00
Beef Cattle	77.00	12.50- 500.00
Dairy Cattle	75.00	12.50- 500.00
Cotton	72.00	12.50- 500.00
Poultry	65.00	12.50- 500.00
Truck Crops	50.00	12.50- 250.00
Corn	42.00	12.50- 250.00
Swine	31.00	12.50- 500.00
Home Orchard	500.00	500.00

FIGURE 3.

<i>Sources of Credit</i>	<i>Good</i>	<i>Fair</i>	<i>Poor</i>
Student finances himself	103	21	3
Partnership with parents	59	47	5
Loans by parents	40	19	5
Loans by banks	27	6	0
Loans by PCA	9	2	0
Loans by farm dealers	8	7	9
Chains—civic clubs	15	3	5
Chains—business firms	17	10	3
Chains—individuals	5	5	1
Future Farmer Chapter	21	7	1

When the agriculture teacher signed a note as co-sponsor, he was generally not legally responsible for paying the note if the boy or his parents failed to do so. It was felt, however, that he was morally responsible to assist and supervise the boy and his parents carefully to see that they met the obligation involved in the loan. Thus he assumed a moral obligation to see that the loan was paid.

The records reported by the teachers showed that only 30 boys out of 1,981 failed to repay their loans on time (1.5 percent) and of these only 2 boys failed to make a satisfactory

adjustment in the repayment of their loan.

The teachers were asked to evaluate the various sources of credit that had been used by their boys. Their ratings are given in Figure 3.

Practically all of the teachers, 96 percent, felt that it was important for their students to have a good understanding of the various sources and availability of credit that could be used in carrying on their supervised farming programs.

An attempt was made to determine if the number of hours devoted to teaching credit during the year had any effect on the number of loans



secured by these boys. This was summarized as follows:

15 teachers	0.0 hours	10.9 loans
13 teachers	1-5 hours	12.2 loans
39 teachers	6-10 hours	17.8 loans
18 teachers	11-15 hours	26.2 loans
19 teachers	16 or more	27.0 loans

After tabulating and interpreting the data, the writer developed some conclusions and recommendations that should be of value to teachers and others interested in supervised farming programs.

1. Students who secured loans had more productive enterprises in their farming programs than those students not securing loans.

2. It was indicated that a majority of the students who secured loans had received some training in securing and using credit.

3. A need was indicated for workshop training for teachers in methods

of financing farming programs.

4. Preservice courses in agricultural finance should be made available to juniors or seniors in agricultural education, and, also, as in-service training in summer school at Clemson College or as a special course at one or more off-campus centers during the regular school year.

5. The teachers of agriculture in the state should spend sufficient time in teaching the functions, sources, and availability of credit to their all-day students so that they

could, through the wise use of credit, improve their supervised farming programs and become more fully established in farming.

6. The teachers should become acquainted with the personnel of the various lending agencies and encourage them to consider making loans to all-day boys who need them and appear to have a good chance to repay their loans.

7. The teacher should consider himself as being morally responsible for carefully supervising an all-day boy who secures a loan to be used in his farming program. He should make every effort necessary to assist the boy and insure the repayment of the loan.

8. The teacher should not co-sponsor a loan to the extent that he becomes legally responsible for the repayment of the loan. □

### A study of—

## Vo-Ag Graduates in Nonfarm Agricultural Occupations

RALPH R. ROYSTER, Graduate Student, U. of Missouri



Ralph R. Royster

Is training in vocational agriculture preparing students adequately for non-farming agricultural occupations in which they may become employed later? To what extent are graduates from vocational agriculture involved in non-farming agricultural occupations? What are some of the occupations into which graduates of vocational agriculture have entered?

These are some of the questions that were answered in a study<sup>1</sup> involving 1,635 former students of vocational agriculture who graduated from twenty-four school districts of central Indiana during the years 1948-1957 inclusive.

<sup>1</sup>Royster, Ralph R. "Analysis of Non-farming Agricultural Occupations of Farm Boys Having Training in Vocational Agriculture from Selected Counties in Indiana." Dissertation, U. of Missouri, 1959.

The graduates included in the study entered a diversity of occupations. Of the 1,635 graduates, 14.7 per cent were in the military services, 10.7 per cent were in colleges or trade schools, and 2.6 per cent were deceased or not accounted for. A summation of their known occupations reveals that 27.9 per cent entered farming; 13.3 per cent entered occupations related to farming and 58.8 per cent entered occupations not related to farming. One hundred fifty three or 13.3 per cent were classified as being employed in occupations related to farming of which 103 or 8.8 per cent were in nonfarming agricultural occupations that do not require college training as a prerequisite.

### Major Job Opportunities

The major agricultural firms and establishments in Central Indiana employed a total of 6,692 workers at the time of the study. Some of the concerns or individuals that have em-

ployed graduates from the four counties are the following:

1. Farm implements sales and service companies.
2. Grain elevators and feed companies.
3. Meat cutters, produce manager, workers and buyers for supermarkets and groceries.
4. Lumber and farm supply businesses.
5. Milk pick-up routes and milk processing plants.
6. Agricultural research farm.
7. Nursery and garden.
8. Meat packing and processing companies.
9. Livestock commission firms.
10. Livestock delivery truckers.
11. Livestock equipment company.
12. Farmers gas and oil supply company.
13. Hatchery.
14. Pork feeding plant.
15. Vegetable processing and canning company.

16. Fruit and vegetable market.
17. Grain inspectors for government throughout four counties.
18. Assistant to veterinarian.

#### What Employers Sought

The employers of the graduates who entered nonfarming agricultural occupations are concerned with the type of persons they hire and with the personal qualifications of the applicants. They prefer workers from eighteen to thirty-five years of age.

A little over 75 per cent of the employers preferred that their employees had had vocational agriculture in high school. Almost 90 per cent indicated that they preferred boys reared on the farm, believing that farm boys make the best workers. Two companies have a policy of hiring only farm-reared boys.

At the time of the study, almost ten per cent expected an immediate increase in the hiring of men trained in agriculture. There were only forty-nine permanent new positions anticipated within the next year and seventeen existing vacancies for men trained in agriculture; however, approximately 325 seasonal vacancies were expected within the next year. Approximately 90 per cent of the employers indicated that graduates of vocational agriculture would need on-the-job training before they could work effectively for their companies. Some of this training is concerned with learning about company policy and procedure, although much of it consists of actually learning the work to be done.

Over 90 per cent of the employers stated that the training for positions in their organizations was of the nature that high schools could not provide. Also, the training would have been too expensive and impractical for the high schools to prepare the students adequately.

A high school diploma is required of new workers by approximately 15 per cent of the employers, and over 75 per cent indicated that a diploma would be desirable or that, all other things being equal, high school graduates were given preference. Only eight per cent stated that the lack of a diploma made very little or no difference in their hiring of new employees. Three companies require college training for jobs other than where the graduates were working.

Employers indicated that schools are not placing enough emphasis on the keeping of records; care, mainte-

nance, and operation of farm machinery; farm management; marketing and economics. They also indicated that more emphasis should be placed on how to get along with others in their work and how to meet the public.

Very few of the employers thought that more stress should be placed on technical aspects of training including poultry production, woodworking, plumbing, soldering and sheet-metal work.

#### How Employers Rated Employees

A little over 55 per cent of the employers rated their employees with backgrounds in vocational agriculture as being above average when compared with other workers of approximately the same age who had been doing similar work the same length of time. Fourteen per cent rated them as being superior. Approximately 27 per cent rated them as being average and three per cent rated them as being below average. None of the former students were rated as being unsatisfactory.

In rating the graduates as to how well they were adjusted to their present work, the employers indicated that 44 per cent were well-adjusted, 25 per cent were exceptionally well-adjusted, 30 per cent were just average and three per cent were rated as being below average. No graduates were rated as being maladjusted.

Sixty per cent of the employers rated the employees' interest in the job as being above average, 34 per cent were rated as being average and six per cent were rated as being below average.

When asked how cooperative the employees were with employers and fellow-workers, 67 per cent were rated as being above average, 30 per cent as being average and three per cent as being below average.

Almost 50 per cent of the graduates were said to have had adequate training for their positions when first starting to work, seven per cent were exceptionally well-trained and over 40 per cent had insufficient training. The phases of vocational agriculture in which employers thought the graduates should have received more training before starting to work were, in order of their importance: (a) livestock production, (b) farm management, (c) agriculture information, (d) economics, (e) crop production, (f) general agriculture, (g) farm mechanics, (h) manipulative skills, (i) soils and conservation, and (j) actual farm experience.

#### Responses from Graduates

The graduates were asked the main reason for accepting their jobs. Eighty responded that they liked the kind of work, thirty-one said that it was most like farming, and others replied that their jobs paid well. Advice of family or friends, no particular reason, and short hours were other reasons given. Some reasons added to the interview forms were—"I like to meet people," "Had to have work," "Work is close to home," "I needed a job," and "I like to work with farmers."

Since leaving high school, four of the graduates have taken veterans' agricultural training, three have attended adult-farmer classes, three have attended young-farmer classes, five have taken the eight weeks' short course in agriculture at Purdue University, eighty-six have received no further training, and one planned to take veterans' agriculture class as soon as he could get enrolled.

Eighty-one said that if they could do it over again they would select an occupation within the field of agriculture, nine said they definitely would not and eleven were undecided.

Eighty-three graduates said that they had had no particular difficulties in their work and fifteen said they had either lacked necessary practical experience or needed additional technical knowledge. Other difficulties that confronted the graduates were lack of help, being too young for the job, not liking their duties, having had trouble with bookkeeping or needing additional technical knowledge. Some stated that high school agriculture was not adequate preparation for the job.

The graduates said that their training in vocational agriculture should have placed more emphasis, in order of importance, on the following: (a) farm shop work, (b) marketing and farm economics, (c) farm management, (d) livestock production, (e) soils and conservation, (f) crops (corn, wheat, hay, etc.), (g) home improvement, (h) animal nutrition, (i) supervised farming programs, (j) judging contests, (k) poultry production, and (l) FFA.

#### Conclusions

1. The percentage of graduates from vocational agriculture who enter nonfarming agricultural occupations is relatively small as contrasted to those who enter other occupations.

2. Financial requirements limit the number of interested boys who find it possible to enter farming, including those presently working in nonfarming agricultural occupations.

3. Generally, it seems that the training in vocational agriculture is inadequate to prepare students completely for nonfarming agricultural occupations.

4. It would appear impractical for schools to train students completely for skills in specific nonfarming agricultural occupations.

5. It would appear that organized follow-up activities with graduates by teachers of vocational agriculture are limited.

6. Employers in nonfarming agricultural concerns prefer employees

who have been reared on the farm and who have had training in vocational agriculture.

7. While training in vocational agriculture is designed for those who enter farming, it also provides knowledge and skills helpful to those who enter other agricultural occupations. □

### Study helps answer question—

## After Vo-Ag What?

WALLACE H. ELLIOTT, Teacher Education, University of Maine



Wallace H. Elliott

Vocational agriculture is not, and never has been, a terminal course. The erroneous statement that vocational agriculture is terminal indicates that anyone making that statement does not know

the facts. Thousands of former vo-ag students, all over the country, have graduated from college, and many of these graduates have advanced degrees. These individuals are employed by industry, the U.S.D.A., educational institutions, and agricultural organizations serving farmers, while others have become doctors of medicine and engineers.

To substantiate the writer's forty years experience in vocational agriculture, a follow-up survey of vocational agriculture graduates was conducted during the years 1957, 1958, 1959 and 1960.

A total of 747 individuals representing all of the vo-ag graduates during a four-year period, from secondary schools in the State of Maine, are included in this survey.

The major purpose of this survey was to determine what graduates from the program in vocational agriculture do the first year following graduation from high school. One objective was to determine to what degree vo-ag graduates continue their education at other institutions. Another objective was to discover to what extent vo-ag graduates tend to follow their occupational choice as high school students, immediately after graduation.

A survey form was prepared and mailed to the teachers of vocational agriculture each year in September, or later, following the graduation of each class included in the survey. The

classifications used are shown in Table I with the distribution of the graduates over the four-year period.

Of the 747 graduates, 22.49 per cent joined the armed services, as indicated in Table I, during their first year out of high school, and 48.32 per cent remained in some phase of agriculture; of these, 30.52 per cent were farming, 10.44 per cent in non-farm agricultural occupations, and 7.36 per cent enrolled in agricultural

TABLE I. DISTRIBUTION OF 747 VO-AG GRADUATES BY YEARS FROM SECONDARY SCHOOLS IN MAINE

Classification	Graduating Classes				Total	Per cent
	1957	1958	1959	1960		
Farming as operator	3	7	4	2	16	2.14
Farming as partner	16	19	13	9	57	7.63
Farm labor (at home)	36	19	19	24	98	13.12
Farm labor (away from home)	15	15	9	18	57	7.63
Agricultural occupations (nonfarm)	24	24	18	12	78	10.44
Employed (not in agriculture)	43	46	32	30	151	20.21
Military service	49	38	44	37	168	22.49
Unemployed	2	2	2	2	8	1.07
College (agriculture 4-year)	12	5	11	4	32	4.28
College (agriculture 2-year)	4	3	8	8	23	3.08
College (teachers')	4	1	3	2	10	1.34
College (bible)	1	4	2	2	9	1.21
College (business)	1	3	-	2	6	.80
Technical institutes	7	6	1	-	14	1.88
Post graduate (high school & prep school)	1	4	9	6	20	2.68
<b>TOTAL GRADUATES</b>	<b>218</b>	<b>196</b>	<b>175</b>	<b>158</b>	<b>747</b>	<b>100.00</b>

TABLE II. DISTRIBUTION OF THE 579 GRADUATES NOT IN MILITARY SERVICE

Classification	Graduating Classes				Total	Per cent
	1957	1958	1959	1960		
Engaged in farming, agricultural occupations (nonfarm), or students in agricultural colleges	110	92	82	77	361	62.35
Employed in occupations not directly related to agriculture	43	46	32	30	151	26.08
Unemployed (8) or enrolled in educational institutions other than agriculture	16	20	17	14	67	11.57
<b>TOTAL</b>	<b>169</b>	<b>158</b>	<b>131</b>	<b>121</b>	<b>579</b>	<b>100.00</b>

colleges. It is significant to note that 15.27 per cent of the entire group continued their education.

For the purpose of further comparison, the 579 graduates not in the armed services were arranged as shown in Tables II, III, IV and V.

The distribution of the graduates not in military service, as shown by Table II, indicates that 62.35 per cent of this group were engaged in farming, nonfarm agricultural occupations, or were enrolled in agricultural colleges; 37.65 per cent of this group were employed in occupations not directly related to agriculture, unemployed, or enrolled in educational institutions other than agriculture.

Of the 361 graduates engaged in farming, agricultural occupations (nonfarm), or students in agricultural colleges (Table III), it was found that 39.38 per cent were farming, 13.47 per cent engaged in nonfarm agricultural occupations, and 9.5 per cent enrolled in agricultural colleges.

The distribution of the 39.38 per cent engaged in farming is shown in Table IV in respect to the "agricultural ladder." It was found that 2.76 per cent were farming as operators, 9.85 per cent farming in partnership, with 16.92 per cent employed as farm labor at home, while 9.85 per cent were working on farms away from home. When one considers that these figures apply to the first year after graduation, they become more impressive.

The degree to which graduates of vocational agriculture continue their education after high school is most revealing. As indicated in Table V, 19.69 per cent of the group not in military service continued their education the first year after graduation from high school. The largest number, 5.53 per cent, were enrolled in four-year agricultural college programs, and 3.97 per cent registered in two-year programs, which accounts for the 9.5 per cent enrolled in agricultural colleges, as previously stated.

TABLE III. DISTRIBUTION OF 361 GRADUATES ASSOCIATED WITH AGRICULTURE THE FIRST YEAR AFTER GRADUATION

Classification	Graduating Classes				Total	Per cent
	1957	1958	1959	1960		
Engaged in farming	70	60	45	53	228	39.38
Engaged in agricultural occupations (nonfarm)	24	24	18	12	78	13.47
Students in agricultural colleges	16	8	19	12	55	9.50
<b>TOTAL</b>	<b>110</b>	<b>92</b>	<b>82</b>	<b>77</b>	<b>361</b>	<b>62.35</b>

TABLE IV. DISTRIBUTION OF THE 228 GRADUATES ENGAGED IN FARMING

Classification	Graduating Classes				Total	Per cent
	1957	1958	1959	1960		
Farming as operator	3	7	4	2	16	2.76
Farming as partner	16	19	13	9	57	9.85
Farm labor (at home)	36	19	19	24	98	16.92
Farm labor (away from home)	15	15	9	18	57	9.85
<b>TOTAL</b>	<b>70</b>	<b>60</b>	<b>45</b>	<b>53</b>	<b>228</b>	<b>39.38</b>

TABLE V. DISTRIBUTION OF THE 114 GRADUATES WHO CONTINUED THEIR EDUCATION

Classification	Graduating Classes				Total	Per cent
	1957	1958	1959	1960		
College, agriculture (4 years)	12	5	11	4	32	5.53
College, agriculture (2 years)	4	3	8	8	23	3.97
College, teachers'	4	1	3	2	10	1.73
College, bible	1	4	2	2	9	1.55
College, business	1	3	-	2	6	1.04
Technical institutes	7	6	1	-	14	1.42
Post graduate, high school and prep school	1	4	9	6	20	3.45
<b>TOTAL</b>	<b>30</b>	<b>26</b>	<b>34</b>	<b>24</b>	<b>114</b>	<b>19.09</b>

Proportionately it appears that a larger number of students who graduated from vocational agriculture enroll in agricultural colleges than of students who did not have a background of vocational agriculture in high school. Thus it is quite obvious that vocational agriculture is not a terminal course for high school students in the State of Maine. The survey confirms the statement that vo-ag

graduates do continue their education beyond the high school level in sufficient numbers to compare favorably with their high school programs in proportion to the number graduated. Furthermore, it is apparent that a significant number of the graduates tend to follow their occupational choice, as high school students, immediately following graduation from high school. □

## FUTURE THEMES

June—Informational Programs about Vocational Education in Agriculture

July—Agricultural Education at the Crossroads

August—Making Vocational Agriculture Broader Vocationally

September—Materials and Methods

October—Lay Participation

November—Impact of Industrialization on Vocational Agriculture



# Improving the On-Farm Instruction of Young and Adult Farmers

H. W. GADDA, Teacher Education, South Dakota State College

Without practice there is little learning. The foregoing statement represents in a large measure the basis of the logic underlying the practice on the part of agriculture teachers of carrying on instruction on the farms of their class enrollees. On-farm instruction should be considered as a vital part of the instructional process as well as a follow-up of the instruction in the classroom. Implicit in the need for it is the pedagogical principle that classroom instruction alone does not produce the quantity and quality of outcomes desired. The farm is the laboratory where much of the "learning through doing" procedure comes into full flower. The most valuable and effective instruction often takes place there.

Yet, in spite of its pedagogical soundness, in spite of the fact that farmers express desire for more of it than they receive, the adequacy of on-farm instruction provided by teachers is generally one of the weakest links in their chain of professional performance. Teachers and administrators quite readily accept the advisability of on-farm instruction for high school students of vocational agriculture. But the paucity in the extent to which it is practiced for young farmers and adult farmers in many cases is proof enough that it is not as readily accepted for the out-of-school people.

There is ample research evidence confirming the fact that on-farm instruction is even more important for young farmers and adult farmers than it is for high school students. Also, more time is required for such instruction with these groups than with the high schoolers. What are the reasons, then, why such a practice is inadequately and sometimes poorly performed by teachers, and how can the situation be improved?

## Problems in Conducting On-farm Instruction

In order to improve any phase of teacher performance it is helpful to identify existent problems which teachers need to solve. In the opinion

of this writer there are seven major problems with which teachers need to deal successfully in order to realize their maximum potential in providing adequate and effective individual on-farm instruction for farmer class enrollees: (1) scheduling time for on-farm instruction; (2) determining the frequency and duration of visits; (3) planning and scheduling visits; (4) selecting and using appropriate techniques in on-farm instruction; (5) keeping visitation records; (6) evaluation; and (7) developing and maintaining desirable relationships with administration, colleagues and others in the interest of support for this pursuit.

Perhaps the most important problem the teacher experiences is that of scheduling adequate time for this kind of on-farm supervision. In a recent study in one state, teachers reported that, even during the summer, the total proportion of their weekly professional time given to the on-farm instruction of young and adult farmers was 5.5 per cent, compared with 22.9 per cent for on-farm instruction of high school students. This disparity needs to be eliminated, or at least decreased.

Does the claim made by a teacher that he cannot schedule time for adult on-farm instruction mean that he does not budget his available time effectively? The central point here is that appropriate significance needs to be attached to the various professional activities in terms of their importance. In order to accomplish this, teachers must somehow become mindful of the benefits or outcomes of adult on-farm instruction which accrue to the farmer, to the school and department, to the community, and to himself. Such outcomes would include: (1) the development of desirable skills, attitudes, understanding, interests and appreciations; (2) motivation and encouragement; (3) the solution of problems; (4) the development and maintenance of desirable public relations; (5) the recruitment of enrollment; (6) the improvement

of the community's agriculture; (7) the opportunity to keep abreast of new agricultural developments; (8) the evaluation of instruction; and (9) the improvement of the instructor's standing in the community.

It is well for the teacher to budget his time effectively. In doing so, he can find considerable advantage in inventorying the manner in which his time is currently being used and making appropriate adjustments. An activity priority list devised by the teacher, showing his ranking of activities in terms of their importance, will aid him materially.

Another help which has been found effective for many teachers in providing more time for this pursuit is that of providing school administrators with adequate information and understanding which are necessary to create the feeling of need for the availability of additional time. Complete written plans, including farmers to be visited, purposes, dates and times, and other pertinent information should be provided by the teacher in advance. Also, a similar report to the administration following the farm calls, whether requested or not, builds considerable understanding.

Group instruction, where appropriate, is another suggestion aimed at efficient use of time. If several class members need instruction in the same phase of farming activity, they can all be instructed simultaneously in one group on one farm. This procedure, however, should not be used exclusively. Thorough appraisal of the matter to be taught and its relation to the best time and place are vital. This implies that a stated class enrollment is used in order that needs are identified with class instruction.

A final suggestion in the interest of time utilization is that of combining farmer visits with visits to the farms of high school and pre-high school students. While due attention must be given to the importance of the purpose and cruciality of every visit, much time efficiency can be derived from adherence to this principle. Contacts which do not neces-

sitate a trip to the farm should be given due consideration. In cases where the farm setting is not important to the contact, such means as the telephone, mail correspondence, and meeting the farmer in places off the farm can be utilized. Efficiency in using time in all other aspects of the program will tend to provide more time for on-farm instruction.

The second problem, that of determining the frequency and duration of visits, is conditioned by variable circumstances. Too many farmers receive no on-farm instruction simply because teachers do not make known to them its availability. On the basis of one study it was concluded that young farmers desired at least eight visits per year. That such a large number of visits can be profitable is a difficult matter for some teachers to comprehend. Research concerning the characteristics of successful young farmer programs indicates that, in the more successful programs, at least three such visits were made annually.

The duration of any visit depends on its purpose, the availability of time and other factors. If the purpose grows out of the work of the class as it usually should, its intended duration can be quite accurately estimated. It should be observed that a farm visit can easily be extended beyond its customarily accepted maximum time. If, for example, the farmer is under time duress due to seasonal work pressures, the wise teacher makes his visit brief or postpones it to a more acceptable time. If the visit is properly planned, this usually will not be a problem. There is no maximum or minimum duration which can be suggested for a farm visit.

The planning and scheduling of visits is highly subject to variation. It is generally recognized that the effectiveness of the visit depends on how well the stage has been set for it. This implies that there is a vital purpose which prevents it from degenerating into a call for purposes of sociability, inspection, or perfunctory contact. In most cases, visits should be cooperatively scheduled in advance in accordance with crucial periods when new learning can be gained. Oftentimes the farmer's invitation or request for a visit will be the basis for its purpose. A thorough acquaintance with the farmer is necessary before the teacher should ever rely on much use of the "unannounced visit." The farmer should ideally help in planning the time and purpose of

the visit. It is of utmost importance that on-farm instruction, as the farmer class program itself, be scheduled throughout the year and not only during a small portion of the year.

A calendar of visits should be planned, at least on a tentative basis, in accordance with the nature of each farmer's program of farming. Crucial periods in the duration of each enterprise should be duly noted. Visits can then be appropriately planned with respect to problems as they are encountered in and out of the class meetings. Both teacher and farmer need to make plans for the visit. Questions to be considered, skills to be learned, livestock or crops to be used and instructional materials to be utilized are examples of necessary prior planning. Since the class instruction that is provided is planned and conducted to meet special needs and interests, it follows that the individual on-farm instructional program should also be adapted to the major concerns of the individuals involved.

#### Improving Techniques

Beginning teachers and experienced teachers alike need to be concerned with improving their techniques in on-farm instruction. It is recognized that the desirable techniques to be used vary with the purpose of the visit. A visit to a young farmer interested in developing a partnership would differ in techniques from one involving an adult farmer to whom assistance in record analysis is given. In the case of young farmers, every opportunity should be utilized to foster parent-son relationships basic to helping them to become established in farming and to progress to a higher status. Identifying and analyzing problems and making tentative plans should be given utmost attention.

The effective teacher keeps adequate records pertinent to instruction conducted on the farm. Such records for adult and young farmer on-farm instruction need not be as detailed as those for high school students, since such matters as supplementary farm practices and improvement projects, as such, need not be recorded. Perhaps the best record form for use with farmers is the one devised by the instructor for his own use. It is important, however, that adequate memoranda be recorded, because (1) they will need review prior to a subsequent visit; (2) they serve as a source of data for evaluating the farmer's progress and the effectiveness

of the instruction; (3) they provide suggestions for the guidance of the farmer; and (4) they are useful in communicating to school administrators relative to the purposes of the trips, and show the resultant accomplishments. It must be borne in mind that such memoranda are for the instructor's use and are not to be left with the farmer as an "inspection sheet." Notations can be made by the instructor shortly after leaving the farm and the pages kept in a loose-leaf notebook. The necessary travel data may be recorded on the same form, or a separate one used. It is of great importance for the teacher to keep active mileage records for several reasons well known to teachers.

#### Evaluation

While on-farm instruction serves as a partial means of evaluating the teacher's instruction, it in itself needs to be evaluated as well. One cogent approach to the evaluation of the effectiveness of on-farm instruction would be to evaluate the extent to which each of the outcomes previously indicated are achieved. Evidences can be provided for each outcome. A check list type of evaluation form can easily be devised or adapted by the teacher.

Desirable relationships with the recipients of on-farm instruction are implicit in what has already been stated. Another aspect of relationships deserves clarification here. Since there usually are few other school faculty members, if any, whose instructional responsibilities take them away from the school campus during and after school hours, it is in his own interest for the agricultural teacher to develop their understanding of his duties. Relatively little if anything is known by many of the school faculty members and others concerning the use of on-farm instruction as a method of teaching. Furthermore, if the agriculture teacher does not assume the responsibility of developing relationships based on full understanding of his program, it is certain that no one else will.

The judicious instructor senses this need and utilizes every opportunity through faculty meetings, news sheets or letters, personal contacts, and other means. He not only invites administrators and others to accompany him on farm visits when expedient, he insists on it. He invites them to farmer class meetings and other similar events. He brings the matter before the ad-

visory council and insures that the public is made aware of the nature and purposes of on-farm teaching. Research on this matter indicates that if the public is kept adequately informed, it will not be critical of a school system which permits the teacher of agriculture to be out on

farms during school hours.

No claim can be made that the seven problems here discussed represent the complete extent of teachers' concerns in carrying out their on-farm instructional tasks with farmers. Other problems are equally evident, such as the precautions to be ob-

served by teachers. Such precautions involve care not to spread disease from farm to farm, avoidance of argumentation, and others. The vocational agriculture teacher worthy of his calling will consider these problems carefully in the interest of his effectiveness as a teacher. □



**USING COMMERCIAL FERTILIZERS** by Malcolm H. McVickar. Published by The Interstate, Danville, Illinois. Second edition, 286 pp., 1961. Price \$3.75.

The first eight chapters are devoted to discussions and illustrations of essential plant growth elements, the fertilizer industry, what plant nutrients do, nitrogen fertilizers, phosphate fertilizers, potash fertilizers, secondary and trace-element plant foods, and dry-mixed fertilizers. Information about the commercial fertilizer industry is mainly presented in these chapters.

Beginning with Chapter IX, the author deals more with using commercial fertilizers. He presents information farmers may find useful as the basis for determining the fertilizer practices they should use.

Chapters in this edition which were not in the first edition (1952) deal with special uses for fertilizers, fertilizer-pesticide mixtures, fertility-moisture relationships, and the economics of fertilizers.

The book was written primarily for future farmers and farmers enrolled in vocational agriculture classes. It contains results of fertility experiments conducted at experiment stations. There are appropriate questions at the end of each chapter.

Dr. McVickar is chief agronomist for California Spray Chemical Corporation, Richmond, California.

B. C. Bass,  
Teacher Education,  
Virginia

**PRINCIPLES OF GENETICS** by Eldon J. Gardner. Published by John Wiley and Sons, Inc., New York, 354 pp. 1960. Price \$7.50.

This book is written primarily for college students taking their first course in genetics. However, it will interest all who are looking for information on the modern science of genetics. Animal breeders, plant breeders, and agricultural workers will find the practical example given to be important in their work.

New items are used repeatedly in the discussion and are listed at the end of each chapter for review.

The book presents a well-rounded view of modern genetics. Common applications are used to illustrate principles and to make learning devices practical.

To supplement the material in the book, a list of references and problems is given at the end of each chapter.

The book is divided into 18 chapters:

1. The science of genetics
2. Mendel's experiments
3. Probability
4. Cells and heredity
5. Interaction
6. Multiple-gene inheritance
7. Sex chromosomes and sex linkage
8. Linkage, crossing over, and chromosome maps
9. Chromosome structural modification and position effects
10. Sex determination and hormonal influence on gene action
11. Chromosome number
12. Mutations
13. Alleles and compound loci
14. Genes and their action
15. Physiological genetics
16. Population genetics
17. Systems of mating
18. Application in agriculture and human genetics index

Dr. Gardner is professor of Zoology at Utah State University where he has taught since 1949.

Herbert Bruce, Jr.,  
Teacher of Education,  
University of Kentucky

**FREE AND INEXPENSIVE EDUCATIONAL AIDS** by Thomas J. Pepe. Published by Dover Publications, Inc., 180 Varick Street, New York 14, New York. 289 pp. Price \$1.35.

This book is an excellent source of free and inexpensive educational materials. It covers several fields that are of interest to teachers of agriculture. The areas covered are agriculture; business, management and labor; communications; conservation; energy and fuels; guidance and careers; health and hygiene; diseases; home and homemaking; manufacturing; nutrition; safety; science; social studies; and transportation.

More than 1500 books, films, folders, charts, posters, slides and booklets are listed. About 94 per cent of the materials listed are free and about 5 per cent cost less than 25 cents.

The following criteria were used in selecting the materials listed: educationally sound; simple to use in the classroom, in individual study, or in research projects; presented without political bias or company sales influence; and objective.

The book includes a complete index of the materials listed which should be

very helpful to anyone searching for valuable resource materials to enrich teaching. The companies and addresses where the materials may be obtained are listed in the back of the book.

Carl Lamar,  
Teacher Education,  
University of Kentucky

**CLASSICS IN BIOLOGY, A COURSE OF SELECTED READING**, Philosophical Library, Inc., 15 East 40th Street, New York 16, N. Y. 1960. 351 pp. \$6.00.

The title of this book is very descriptive of its contents in that thirty-eight lectures or presentations classified as classics are included. An introductory reading guide by Sir S. Zuckerman precedes the basic chapters which are divided into three "books." Book I which is concerned with "The Unity of Life" includes such presentations as: L. Pasteur, "The Doctrine of Spontaneous Generation"; John E. Harris, "Structure and Function in the Living Cell"; and Charles Darwin, "Natural Selection in Evolution." Book II includes such classics as: Gregor Mendel, "Experiments in Plant Hybridization"; and Norbert Wiener, "Rigidity and Learning: Ants and Men." Book III includes such selections as: Lord Lister, "Pasteur and His Work"; Sir George Newman, "Public Opinion in Preventive Medicine"; and Sir Julian Huxley, "Progress in the Evolutionary Future."

This collection of classics in biology contains many highly significant historical documents which advanced students in high school and more appropriately college-level students will find interesting and informative. It is not designed as an instructional book in agriculture; however, it does contain certain basic biological understandings which underly biological aspects of agriculture. No illustrations are included and its vocabulary level is above that of the average high school student. A section is included for biographical notes of the various authors. Either directly or indirectly some of the classics deal with certain issues such as pressure of population on land resources, factors influencing longevity among humans, and international public health.

This book, due to its wealth of historical classics, might be considered as a reference for the general school library, but it is not recommended for the high school vocational agriculture departmental library.

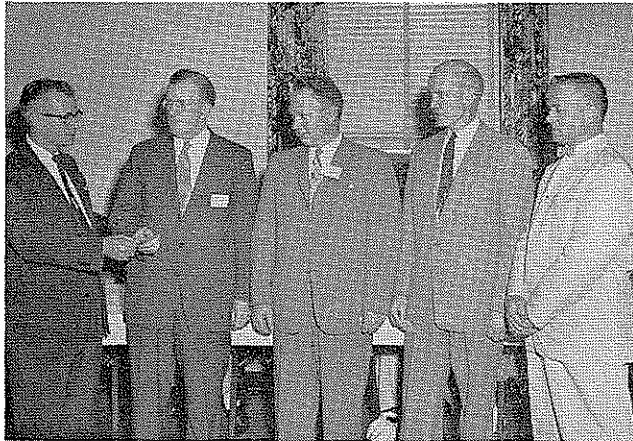
George W. Sledge,  
Teacher Education,  
The University of Wisconsin

**SUPERVISING TEACHERS WORKSHOP  
FOR ARIZONA, CALIFORNIA,  
COLORADO, NEW MEXICO, UTAH,  
AND WYOMING AT DURANGO,  
COLORADO, AUGUST, 1960**

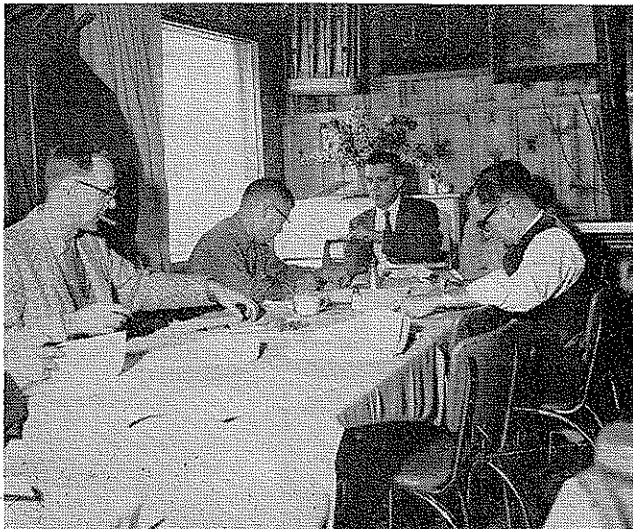
Members of the Workshop. From left to right. Front row seated: Jack Annan, Grant Mauchley, Stanley S. Richardson, Max Huff, Floyd Petty, Carlos Moore, Jerry Busby, Frank Adams. Second row seated: Bob E. Taylor, Douglas Bishop, Terry Morrill, Fred Ricks, Rao Parker, Kenneth Saline, Harold Anderson, Gordon Starbuck, Vincent Salmon, Wayne Lynn. Standing: Jack Ruch, Harold Lutz, Paul Foster, Marvin G. Linson, Sidney Koon, Philip D. Mattoon, Willis Banks, Barzee Baker, Frank Hutchinson, Ben A. Leatham, Ramsey Groves, George Spencer, Fay Thompson, Norwood Hyer, Walter Taylor, Bradley Houston, Paul Vance, Floyd McCormick, John Mayfield, Kent Judy, Percy Kirk. Not in the picture: A. R. Bunger, Devon Clark, R. W. Cline, Earl E. Julson, and Vincil Lester. (Photo by Cline)



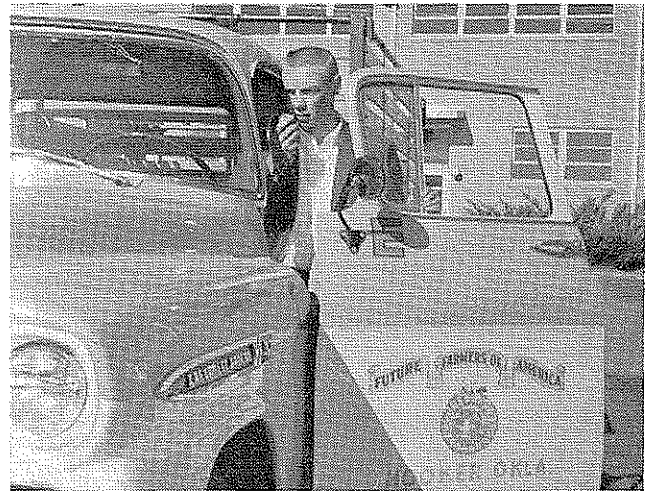
## Stories in Pictures



Past President, Stanton B. Smith of the Association of Teachers of Agriculture of New York presents 30 minute award to Harold N. Slone as other recipients at Association's 50th Annual Conference look on. (Left to right) Carl Widger, Richard Rozelle and James Rose. (Photo by W. W. Sharpe)



A typical scene in Indiana when Vocational Agriculture Teachers, on a district level, evaluate State Farmer Applications before they are sent to the state office for final evaluation. This procedure is helping to stimulate interest and improve the quality of applications submitted. (Morris Norfleet, Itinerant Teacher Trainer, Purdue)



Keeping in touch is important for Hooker, Oklahoma, vocational agriculture teacher Donnie Gappa who visits his students in the sparsely settled Oklahoma panhandle plains country. Gappa utilizes a two-way radio in his school pick-up truck to keep in contact with school administrators and with other school vehicles. The radio is particularly helpful to Gappa when he spends time on the school owned FFA farm located out of the city. (Photo by E. Schweikhard)



Phil Alampi, Secretary of Agriculture for the State of New Jersey, addresses the American Farmer degree candidates at the 1960 National FFA Convention. A former vocational agriculture student and member of the FFA, Alampi won the American Farmer degree in 1920. Before becoming Secretary of Agriculture, he taught vocational agriculture in New Jersey and was farm director of a radio station in New York City.