Stories in Pictures

GILBERT S. GUILER
Ohio State University

Young Farmers and their wives from each of five areas of Ohio are recognized for their outstanding community service. These couples were recognized at the luncheon during conference with the winning couple being awarded a trip to Washington, D. C.

Edward Schano, Professor of poultry husbandry, Cornell University, discusses quality in poultry carcass with a committee of teachers of vocational agriculture during the selection of dressed birds for the poultry judging contest. (left to right) V. O. Linderman, Donald Watson, and John Keller.

Volume 39 November, 1966 Number 5

Agricultural . . . . . Education

Horticulture has played an important part in our changing role of Vocational Agriculture. Here a Michigan Vocational Horticulture student is developing his skills in salesmanship while recommending varieties of garden plants to a customer.

Featuring

OUR CHANGING ROLE

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The AGricultural EDucation Magazine

EDUCATIONAL PRESS ASSOCIATION OF AMERICA

Volume 39 November, 1966 Number 5

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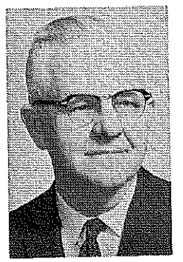
Change? Who? Me?



Cayce Scarborough

The theme this month is *Our Changing Role.* Previous editorials as well as the news columns of the magazine have been concerned with change. In fact, we seek articles from teachers and others explaining how new approaches have worked out for them in their situations. However, we have not faced directly the question of just how much change have we made in the basic factors of our programs. In the Guest Editorial in September, Al Krebs suggests that even with the big push given us by the Vocational Education Act of 1963 that we are moving very slowly toward new programs; that we are trying to solve our problems by reshuffling a little here and there. He concludes that such glossing over of meeting vocational needs will result in destroying the great vision implied in the 1963 Act.

What is the difficulty? Almost everyone admits that there is need for some major changes in some phases of our program. Some are being made, others are not. It is suggested that there are several major difficulties in making a major change of consequence. *First,* there is always the question of the advisability of making the change. This is a legitimate question and needs to be raised as part of any major change. The only time that this question does not arise is when a situation is so bad that anything would be better. However, we do not need to insist upon a guarantee that the changed situation will be better in all respects. A *second* difficulty that seems to be associated with major change is the problem of discarding the old. This may be the old structure, the old program, the old approach, the old objective, etc. This grows out of the first difficulty and is related to many matters, among these is one of security. This is not a new problem but is as old as man. If you want to preach a sermon on this you can take your text from Matthew.

> "And no one puts a piece of unshrunk cloth on an old garment, for the patch tears away from the garment, and a worse tear is made. Neither is new wine put into old wineskins; if it is, the skins burst, and the wine is spilled, and the skins are destroyed; but the new wine is put into fresh wineskins, and so both are preserved."—Matthew 9:16-17.

Seeking new structures for new programs is not always easy. A discouraging result of this is being experienced right now within the vocational family. For example, there is an AVA policy that prohibits the *AVA Journal* carrying an article on new programs in vocational agriculture involving sales and services without prior approval by someone from Distributive Education. This seems doubly ironic when one of the specific objectives of a number of programs financed from funds under the 1963 Act is to find new approaches to better vocational programs. Maybe we need to revive the once popular song "Don't Fence Me In."

A *third* difficulty usually associated with any major change is that it is not an appropriate time. "Oh yes, that's a good idea, and when the time is ripe this should be done; in the meantime let's hold onto what we have." For a person with this attitude there is never a good time for change.

Finally, a *fourth* difficulty in making major change is indicated by the title of this editorial. That is, even the advocates of change frequently mean that the other fellow makes the change. In our case, the people in the other programs should make the adjustments. Supervisors and teacher educators always know what changes teachers should make, but we frequently say nothing about changes that *we* should make in our own roles.

So, the argument here is that if we are to have changed programs in agricultural education, we must have changed people. If this is so, it seems to follow that each of us must make some changes in our own behavior. This means changes in our philosophy and attitude as well as the way we spend our time on the job from day to day.

Cayce Scarborough

Theory and Practice

Have you seen the new booklet *Preparation of Occupational Instructors*? After reading this U. S. Office publication, it would appear that the title should have been *Preparation of Instructors in Industrial Education.* Another problem of terminology, or could it be a problem of Our Changing Roles?

It is good to see interest and concern about the Classification of Agricultural Occupations now being developed. A July release from the U. S. Office of Education lists these "For Reporting Purposes." However, the classification adopted will be much more than for reporting. The classification will have much to do with objectives for programs of vocational agriculture everywhere and for those enrolled in these programs. Any final decision on this important matter of classification should be delayed until all concerned have had an opportunity to contribute their ideas. Even then, the "final" classification should be subject to constant review. See the article by Glenn Stevens in this issue telling of the work of the ad hoc committee on classification.

Some of our researchers may need to give consideration to the warning by Gordon Allport as quoted in the *American Psychologist,* January 1966.

> Galloping empiricism, which is our present occupational disease, dashes forth like a headless horseman. It has no rational objective; uses no rational method other than mathematical; reaches no rational conclusion. It lets the discordant data sing for themselves. . . . The area we carve out for study should be rationally conceived, tested by rational methods; and the findings should be rationally interpreted.

(Continued, page 100)

Theory and Practice

(Continued from page 99)

A good letter from John Thompson, University of Wisconsin, commenting on this column suggests some pertinent ideas to be included under the topic "What Would Happen If . . ." If John does not agree to compile these for a separate spot we will carry some of them here. Such response is helpful and encouraging to an editor.

Another blow to traditional methods of livestock judging has been reported by Armour and Company in a recent release. It is called *ELECTROGRAMMETRY*. Data will include live weight, carcass weight, dressing percentage, rib eye area, and the weights of each of the important meat cuts. All of this prior to slaughter merely by walking the beef animal through a chute where a beam of light (much like that used to open doors) creates electronic impulses resulting in the data indicated. Checking cuts after slaughter indicates as high as 95% accuracy.

Modern researchers, or maybe it is the PR man, are getting pretty sharp in labeling some of their new discoveries. For example, a new sheep breeding program at Beltsville resulting in more lambs is called MORLAM. A synthetic compound for bringing a group of sows in heat for breeding at the same time is called MATCH. Maybe Ag Ed could use some new, dynamic, self-explaining terms for some of our new programs.

What is the result of the protests to USDA for the article in the May 1966 *Agricultural Situation* questioning whether a boy should enroll in vocational agriculture? A similar article appeared in *The Farm Index* in June under the title "Nation's Vo Ag Students Outnumber Farms Available for them to Operate." Two thoughts not seen expressed anywhere might be worth consideration in reading such articles, and especially in protesting the publishing of these articles. First, there is the underlying assumption that the purpose of vocational agriculture is to prepare boys to farm. While we now claim more than this, it should be remembered that this preparation for farming is exactly what we said officially all the years since 1917 until very recently. In fact, an article in *American Education*, February 1966, indicates that preparation of farm boys for farming is still our major business. So, let's admit that some of these people are taking us at our word and pointing out the difficulties in getting established in farming. The second thought is that some of these articles have their facts straight; it is to the interpretation of these facts that we object. We need to remember that Whitehead said that it requires a very unusual mind to undertake the analysis of a fact.

Your ideas on the make-up of the magazine as it appears since July are needed *now*. We have heard from a number of readers but need to hear from others before the meeting of the Editing-Managing Board at the AVA in December. Please write to Orville Thompson, Chairman of the Board, University of California, Davis, or to Thurston Faulkner, Business Manager, State Department of Education, Montgomery, Alabama, or to Ralph Woodin, Consulting Editor, Ohio State University, Columbus, or to me. THANKS!

Cayce Scarborough

Dale Reed

Dale Reed has been appointed Assistant Professor of Agricultural Education at the University of Southwestern Louisiana effective September 1, 1966. He is a native of Louisiana and has taught vocational agriculture and physics at the high school level. Reed earned his B.S. degree at U.S.L., the M.Ed. degree at Louisiana State University and was a research associate at L.S.U. during the past year while pursuing a doctorial program in vocational agricultural education. While at L.S.U. he participated in research being conducted by the Vocational Agricultral Education Department in the area of nonfarm agricultural occupations. Mr. Reed will devote all of his time at U.S.L. to teacher training activities at the undergraduate level.

Themes for the Agricultural Education Magazine

February-April, 1967

February–

RESPONDING TO CHANGING NEEDS IN AGRICULTURE AND EDUCATION

How well are we responding to changes in agricultural and educational situations? Basis for change. Are we aware of basic and fundamental changes such as population shifts, socio-economic changes, changing expectations of people, and outlook? A close look at research on innovation and acceptance of new concepts by teachers, supervisors and teacher educators.

March–

AGRICULTURAL MECHANICS IN 1967

Is there still a place for "Farm Shop," with hand tools, woodwork, metal work, cedar chests, etc? How does the major purpose of the mechanics class of 1967 differ from the 1937 class? Is a special mechanics teacher necessary? Examples of specialized programs. Should mechanics be a part of each year of vocational agriculture? If so, should emphasis differ each year?

April–

RESEARCH EMPHASIS

Progress report on emphasis on research as result of 4(c) and other funds for research. Major areas of research done and in progress, as well as trends in type of research being done. Reports from the Centers for Research and Development. How have the pilot programs done? Stories of successes and problems. Most promising organizational patterns for research.

How Can We Meet Our Changing Role?

GENE CLAVER, Vo Ag Teacher, Bayard, Nebraska

It appears that vocational agriculture instructors have been or will be changing our role to better meet the needs of agriculture students. Many of us will be attempting to meet these changing needs with very little additional training. To meet these needs under these conditions it is even more important than before that we cooperate with the other vocational services in every way possible. Previously many have felt that there has been a great difference between the vocational services; however, if we take a look at the over-all program they are similar in many respects. With this in mind, we should capitalize on these similarities and start cooperating to a greater extent with the other vocational services.

In thinking of the rural school, where in many cases vocational agriculture is the only vocational program available, it is the responsibility of the agriculture instructor to cooperate with the other services outside the immediate school and possibly, outside the school district.

When we first start to think of an off-farm agricultural program one of the first questions asked is, "who will be responsible for teaching the related instruction the students will need." One of the first problems we run up against is the fact that the vocational agriculture instructors in the various areas are trained specifically for their area, and in most cases know very little about the other areas. If we look at the situation as it now exists it would look something like diagram number one. The vocational agriculture instructor and the other vocational services going along in their specialized areas and not meeting the needs of the off-farm agriculture student who needs a combination of agriculture and one or more of the other vocational services.

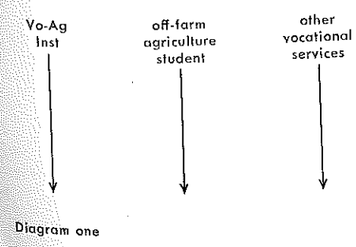


Diagram one

If we are going to meet the needs of the student we must orientate the combination of agriculture and the other vocational services toward the student in a manner which will help in meeting his occupational objective as shown in diagram number two.

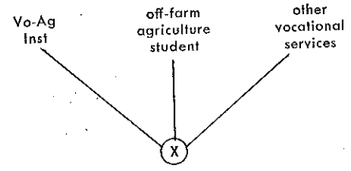


Diagram two

The problem we face in off-farm agriculture is *how* can the vocational services coordinate their efforts to provide for expanded programs in agriculture education?

Let's take for example an agriculture instructor who would like to develop a unit on agriculture sales and service. The help of a distributive education instructor could be very helpful in setting up the unit. Then a conference with the personnel as outlined in diagram three could meet around a conference table, where a unit of instruction could be developed for this particular area.

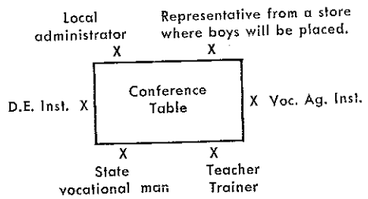


Diagram three

After a unit had been developed from such a conference, the agriculture instructor or the D. E. instructor would be able to teach the unit and coordinate the program. If this is a rural community, in all probability it will be the agriculture instructor, but again, wouldn't necessarily have to be. As far as who gets credit for the instruction, it would seem to be of little importance as long as we are meeting the needs of the student.

Gene Claver

Inquiry should be made to the state vocational agriculture department as to funds that might be available for developing units of instruction. Upon completion these units could be duplicated and made available to other instructors upon request.

The program could be administered in a way that is similiar to our present vocational supervised farming program. The only change would be substituting the employer in the parents position as in diagram four.

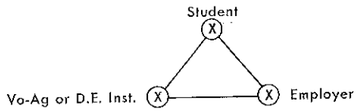


Diagram four

Although this may appear to be oversimplified, the basis of the program is primarily to cooperate with the other vocational programs, a must if we intend to meet the needs of the off-farm agriculture student and the responsibility that has been placed on vocational agriculture.

Letter to the Editor.

Dear Sir:

I note a slight change in the last issue of this fine magazine. The size change is O.K., however, I hope you can find it feasible to punch the 3 holes for storage in a 3 ring binder.

Continue the good work.

Sincerely yours,
George B. Crompton
Voc. Agr. Instructor
Slayton, Minnesota

Our Changing Role

JAMES FITTS, *Vo Ag Teacher, Victoria, Texas*

James Fitts

Like many of the nation's industries, agriculture has become extremely complex and technological in many fields. Many of the positions require well-trained employees. As a result, education and specialized training are highly desirable for agriculturally minded youths. Labor statistics show that the number of persons needed in Productive Agriculture is decreasing; the number needed in business and technical areas is increasing.

According to the 1963 Vocational Education Act, persons will have access to vocational training which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and abilities.

The Demand

According to an occupational survey conducted under the direction of the Texas Education Agency in our school district, the greatest demand for agriculturally trained employees in the next three years will be in the following three fields: (1) Agriculture Machinery Sales, (2) Agriculture Supplies, Sales and Services, and (3) Ornamental Horticulture.

The American Association of Nurserymen made a comprehensive study of the horticulture industry and revealed that there is a shortage of adequately trained personnel for this occupation.

At no time since we have been teaching Vocational Agriculture have changes taken place so rapidly. Only a small percentage of our students will go back to full time farming. There is a definite need for training such as can be given in a Cooperative Part-time Program in Agricultural Occupations.

The Program

This program has been extremely successful this past year, its first in Texas, and is being expanded during the 1966-67 school year. From 10 schools it will increase to approximately 90-95 according to a recent statement by Mr. George Hurt, Director of Agriculture Education of the State of Texas.

While participating in this program, students receive individual and group classroom instruction pertaining to their selected occupations during one period a day throughout the school year.

As a part of their training they are employed at an agriculture business for a minimum of fifteen hours per school week during the day and paid for their efforts.

GARDEN CENTER EMPLOYEE

Schedule of Work Experiences	Record of Work	Course of Study	Record of Studies
Identify plants		History of the nursery business	
Select suitable trees, vines, shrubs, ground covers		How to identify trees, shrubs, vines, ground covers	
Develop the landscape plan		Drawing a landscape plan	
Frame the house		Placing suitable plants in a plan; planting	
Border and screen planting		Choosing plants for special areas	
Preparing soil		Seeds Vegetable Flowers	
Seeding and sodding grasses		Types of bulbs for this area	
Caring for the lawn		Nursery Terms	
Handling plants upon arrival		Tools and supplies used at the nursery and on jobs	
Setting out plants on a landscape job		Diseases and insects	
Care of plants Prune and train Water Fertilize Spray Arrange		Chemicals for treatment for diseases and insects	
Propagation of plants		Fertilizers Types Uses	
Spraying for diseases and insects		Propagation	
Care for nursery office and grounds		Cultural methods of raising and caring for pot plants	
Placing plants in containers		Selling to retail customers	
Selling nursery plants and supplies		Lawns Preparing soil Planting Care of Renovating	
		Proper general maintenance practices	

This program allows a student to select and try out a vocation and provides an opportunity for him to learn an occupation while earning his diploma.

After teaching in this program during this past year, one of the most frequently asked questions is, "How do you teach the students on an individual basis when there may be four or five occupations in the same class?"

The major phase of classroom instruction is devoted to the student's occupation. Additional instruction is also given to help him adjust to employmental conditions, and to develop the proper attitude toward school, social, and civic responsibilities.

A training plan must be developed for each student. This is very important for it shows the schedule of work experiences. Examples of suggested training plans for students employed in a Garden Center and a Feed & Seed Store are given.

On the Job

One of the first steps is to determine what activities in which the student will participate while on the job. This should be developed between the coordinator and the employer. The plan should be based on the ability of the student, the type of the occupation, and the actual conditions at the training station.

Teaching Materials

The above should serve as a guide to the teacher in developing a course of study for related instructions in the classroom. In Texas after the teacher has developed this, he can check with the Research Center for information on this occupation.

Extensive work in developing teaching materials for Agricultural Occupations has been done by the personnel of the Agriculture Education Teaching Materials Development Center at Texas A. & M. University at College Station in cooperation with the Texas Education Agency. This is being done under the direction of Mr. John Holcomb, Coordinator of the Teaching Materials Center.

The teaching materials available cover subjects such as Agriculture Machinery, Ornamental Horticulture, and Agriculture Sales and Services.

Included in this are information sheets, references, assignment sheets, study questions, and topic tests. For the teacher, in addition to the above, there are answers to study questions and topic tests. Slight changes might need to be made to fit the local situation.

In the classroom you can supplement this material with films, slides, charts, filmstrips, overhead transparencies, records, tape recordings, and resource personnel within the community.

It is desirable to have the students in Vocational Agriculture classes for two years before they take Cooperative Agriculture. During this time they should have been taught the basic agriculture fundamentals; with this background they will have an understanding of basic agriculture sciences and should have an idea as to whether they wish to pursue an agriculture related occupation.

The third year the student could take Advanced Agriculture or enter the Cooperative Part-time Program. In smaller communities where there are not adequate training stations, a certain amount of information related to agriculture occupations may be taught since many students leave the smaller communities in search of employment.

FEED AND SEED SALES AND SERVICEMAN

Schedule of Work Experiences	Record of Work	Course of Study	Record of Studies
Handle merchandise upon arrival, check in, price, and arrange		Selling and customer relations	
Clean and care for store		Feeds, seeds, and supplies	
Mix feed		Feeds Mixing Types Balancing rations	
Balance rations for livestock, show animals, and poultry		Fundamentals of nutrition for livestock and poultry	
Select proper food for pets		Nutritional values of type of feeds	
Feed and care of swine, sheep, beef, and dairy animals		General problems in animal and poultry feeding	
Identify diseases and parasites of animals and poultry		Types of diseases and parasites of animals and poultry	
Select chemicals to control diseases and parasites of animals and poultry		Methods of treatment and control of diseases and parasites of poultry	
Select vaccines for different diseases of livestock and poultry		Vaccines and supplies for diseases of livestock and poultry	
Vaccinate		How to vaccinate	
Identify plant insects and diseases		Insects and diseases of plants and crops	
Control for plant insects and diseases		Sanitation for livestock and poultry	
Chemicals to provide sanitation for animals and poultry		Commercial fertilizers Elements Types of soil Plant requirements	
Select fertilizers for plants Crops Trees Shrubs Lawns Flowers Gardens		Selection of seeds for seasonal use	
Sell seeds for seasonal use Crops Flowers Gardens Lawns			
Sell and care for vegetable plants			

Summary

The key to a successful program in Cooperative Part-time Agriculture includes the following factors:

1. Selection of training stations which are interested, will train the students properly, and will furnish a variety of work experiences.
2. Selection of students who are willing to work and learn and who can be placed in Agriculture businesses suited to their needs and interests.
3. Instruction in the classroom related to the student's occupation, presented in a variety of ways adapted to the local situation.
4. Having a training plan which is based on the ability of the student, type of occupation, and the actual working conditions of the training station.
5. Regular visitations to the training station by the teacher should be brief, with a friendly attitude, and interest shown in the business and the student.

Instruction Areas In Agriculture*

GLENN Z. STEVENS, Teacher Education, Pennsylvania State University

Glenn Stevens

About a year from now the U.S. Office of Education will publish a comprehensive list of areas of instruction (subject or courses) offered in public schools. At a meeting of an *ad hoc* committee for agriculture in Washington, D.C. in February, 1966, a classification was devised. The areas listed have been under continuous modification since then. The purpose of this article is to encourage teachers, supervisors, administrators and interested citizens to discuss the classification and to suggest changes.

When published, the list will be intended to be used only as a guide by individual states. Adjustments to meet regional needs should be made. The instruction areas in agriculture tentatively are being suggested also as the classification for reporting individual student occupational objectives. They are not curriculums. Curriculum development is a function of individual schools, and a process to be carried out with each student. The *ad hoc* committee, in developing the outline, clearly pointed out that supervised occupational experience programs, the FFA, and related leadership activities are important instructional media and highly significant integral parts that aid agricultural education in making contributions to the guidance and general education development of students.

Today's broadened concept of agriculture has encouraged high schools and area vocational-technical schools to act to establish programs in addition to preparation for commercial farming. Statewide surveys of off-farm occupations in which knowledge and skills in agriculture are needed show that agricultural supplies, agricultural products and ornamental horticulture are the businesses and services that will employ the largest numbers of workers in the next five years.

From 1917 to 1964 the term "vocational agriculture" described rural high school instruction for establishment and advancement in farming. There were few other vocational programs in agriculture. Now known as agricultural production, classes to prepare persons for occupations in farming will continue to enroll the largest numbers of students in most states. The expanded list of instruction areas includes definitions and examples of occupational titles in:

Agricultural production. Agricultural production may be defined as an organization of subject matter and learning activities concerned with principles and practices in the production of livestock, field crops, fruits and vegetables, fiber and other crops, on commercial and part-time farms. In addition to animal science, plant science, farm mechanics, and farm business management, instruction specific to each production enterprise is emphasized. Knowledge and skills taught involve the economic use of agricultural land, labor, capital and management. The efficient operation of modern farm equipment and the harvesting and marketing of high quality products are important functions that require skill and technical knowledge. Examples of occupations in agricultural production are general farmer, livestock farmer or rancher, dairy farmer, fruit grower, farm manager, and farm equipment operator.

Agricultural supplies. Businesses that furnish production needs to farmers deal in specializations and combinations of manufacturing, sales and services. The principal physical supplies purchased by farmers are agricultural chemicals, livestock feeds, farm crop seeds, crop fertilizers, petroleum and other supplies including small equipment. Usually the business that handles supplies for farmers also will furnish services such as grinding, mixing, conditioning and application. Examples of occupational titles in agricultural supplies, in which workers need knowledge and skills taught by schools in courses in agriculture, are agricultural supplies manager, agricultural chemicals fieldman, seed salesman, fertilizer applicator and feed mill equipment operator.

Agricultural mechanics (Sales and service). This area of instruction is important enough to be a specialization in area vocational schools, technical institutes and community colleges whose graduates are needed in farm machinery dealerships in regions of high farm production. It deals with sales and service of agricultural power units, with integrated machinery, and related equipment. Examples of job titles are agricultural mechanics service manager, agricultural machinery salesman, agricultural mechanics partsman, and agricultural machinery mechanic.

Agricultural products (processing and marketing). After farmers have produced quality products, the modern American agricultural industry is organized to perform many services and operations including assembling, sorting, testing, grading, processing, manufacturing, storing and marketing. Some of the functions maintain the quality of the product, other operations add value.

The major food product areas in agricultural products processing and marketing are (1) meat, poultry, and eggs, (2) dairy products, (3) fruits and vegetables, and (4) grains for food. Examples of food marketing occupations in which technician level knowledge and skills in agriculture are used are meat processing manager, fruit and vegetable market manager, livestock buyer, dairy processing equipment operator, grain elevator operator, agricultural commodity grader, and quality control technician.

Ornamental horticulture. Three types of businesses and services that produce, distribute, and utilize horticultural plants for ornamental values are floriculture, nursery management, and landscaping and turf establishment and management. Greenhouse production and sales, nursery production and sales, garden center sales and services, landscaping, groundskeeping, greenskeeping and arboriculture are occupational as well as business areas. Some courses in ornamental horticulture will serve several or all of the occupational areas but others have to be specific to the type of product or service. Examples of ornamental horticulture job titles are florist, greenhouse manager, nursery grower, garden center salesman, landscape aid, greenskeeper and tree pruner.

Forestry. The central function of technical education in forestry is to prepare workers for the management of trees grown as a crop. Other aspects of employment at less than the professional level are in forest protection, logging, wood utilization, special products production, and cooperation with persons whose work is in conservation or recreation. Some occupational titles in forestry for which technical education is appropriate are forestry aid, Christmas tree grower, sawmill operator, logger, and log scaler.

Agricultural resources. This is an organization of subject matter and learning activities designed to provide opportunities for students to study principles and processes in the conservation and improvement of environmental resources such as forested and other natural areas, fish and wildlife, soil, water, air, and with the establishment, management, and operation of outdoor recreational facilities. Examples of agricultural resources occupations in which vocational and technical education in agriculture may be used are recreation farm manager, soil conservation aid, wildlife conservation officer, fish hatchery worker, game farm worker, and park worker.

(Continued, page 110)

* This article was written by Dr. Glenn Stevens at the request of the Editor. The picture and information on committee members was furnished by Dr. James Hensel, Center for Vocational Education, Ohio State University. CCS.

Committee members of the *Ad Hoc* Committee for Agriculture, which met February 14-16, 1966, in conjunction with the Cooperative Project for Standardization of Terminology in Instructional Programs of Local and State School Systems. In the establishment of this committee, assistance was provided by the American Vocational Association and its Vice President for the Agricultural Division, Floyd Johnson. Mr. H. Neville Hunsicker, Chief, Agricultural Education Service, Division of Vocational and Technical Education, Office of Education, provided continuous assistance in the preparation of materials, the establishment of the committee and arranging the conference dates.

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H. NEVILLE HUNSICKER, Chief, Agricultural Education Service, Division of Vocational and Technical Education, Bureau of Adult and Vocational Education, U. S. Office of Education, Washington, D. C. 20202

G. R. Cochran

GRASS ROOTS—

Suggestions for Improving Teacher Recruitment

Clifford Nelson

CLIFFORD L. NELSON, Assistant Professor
Agricultural Education, University of Minnesota

G. R. COCHRAN, State Supervisor
Agricultural Education, St. Paul, Minnesota

Professional strength is dependent on many factors. Possibly the most important factor would be the need for participation of all members of the profession, regardless of position, in the discussion of issues, development of policy and implementation of action. This would involve teacher trainers, state supervisors, school superintendents and teachers in the field. With this in mind, it is appropriate that dialogues on critical issues in agricultural education should take place at all levels in the profession.

Situation Bad

Teacher recruitment has been a critical issue in agricultural education for several years. The situation in Minnesota was most serious this year with the possibility that several schools might have to discontinue offerings of vocational agriculture because of a lack of qualified personnel. Recruitment of sufficient numbers of students requires an adequate forecast of manpower needs from 4 to 10 years in the future. The Minnesota Vocational Agriculture Instructors' Association evidenced their concern with recruitment when approximately 300 teachers devoted one-half day of the 1966 summer conference to the discussion of this problem. The teachers involved in the discussion were divided into groups with not more than 12 participants. Each group independently listed recommendations for possible courses of action. This session of the conference was organized under the direction of the authors.

The presentation of the vocational agriculture teachers' suggestions will be divided into four sections: General Recommendations, Recommendations for Vo-Ag Teachers, Recommendations for the State Department and Recommendations for the University.

General Recommendations

A dominant concern of vocational agriculture teachers, with regard to recruitment, was the seemingly eroding position of vocational agriculture in relative salary compared with other employment opportunities for college agricultural graduates.

1. Offer more opportunities to continue education in agriculture by offering more scholarships.
2. Maintain and extend a "positive" attitude concerning agriculture and agricultural education.
3. Make certain that prospective and current vocational agriculture instructors are aware of the employment conditions of industry and private business.
4. Encourage uniform 12-month hiring and salary policies among school districts with the aid of the state supervisory staff, state agricultural teachers' association and a special policy bulletin furnished to all administrators and school board members that specifies optimum terms of employment for vocational agriculture instructors.
5. Produce and distribute a more extensive brochure to appraise prospective students of the opportunities in agricultural education.

Recommendations for the State Department

The teachers viewed the State Department of Education staff as more of a catalytic rather than an action agency regarding teacher recruitment. Their general concern was that the members of the supervisory staff act in an advisory and supportive role in teacher recruitment.

1. Encourage the establishment of more multiple-teacher departments. This would tend to make working conditions more attractive for those remaining in the profession because of better defined responsibilities.
2. Establish and maintain more extensive contact between area coordinators and state supervisors and school administrators and guidance counselors.
3. Conduct or encourage frequent "drive-in" conferences during the school year so vocational agriculture instructors can determine which groups and/or areas within the state might offer the most potential agriculture teachers.

Recommendations for Vo-Ag Teachers

Vocational agriculture instructors in Minnesota assume much of the responsibility for teacher recruitment. Not only do they realize the obligation to identify and encourage prospective agriculture teachers but they also assume the mandate to represent agriculture with a positive image within the school and community.

1. It is the vocational agriculture teacher's responsibility to work closely with prospective college students, their parents and school counselor to encourage entrance into college agriculture.
2. After college entrance the vocational agriculture instructor and the state Vo-Ag teachers' association should maintain contact with the student to reinforce the decision to enter teaching.
3. The Vo-Ag teacher has the responsibility to acquaint other members of high school staff with the opportunities in agriculture and agricultural education. This might be effected by personal invitations to FFA activities and visits to student farming programs and supervised work experience placements.
4. The state Vo-Ag teachers' association should have representation at all state and regional counselor meetings. The association should prepare "copy" for the news media indicating the shortage of qualified personnel and the opportunities in agricultural education.

Recommendations for the University

The university position should be to support, encourage and be accessible to potential students. This would include

(Continued on next page)

Curriculum for Ag Occupations Should Include Farming

JOHN J. LEWIS, Vo Ag Teacher, Blountsville, Alabama

The major change that has been made in the curriculum of vocational agriculture in our school is in directing the course of study away from just production agriculture to include training for work in agriculturally related occupations. Another change that has been made is that of giving more attention to training those people who may be employed in nearby industry and at the same time carry out a program of part-time farming. The farm shop program in our schools has been changed considerably with additional facilities and equipment being made available.

Several factors have substantiated the belief that these changes were needed and that they have increased the interest in vocational agriculture on the part of students in the school. Some of these factors are:

1. The enrollment has steadily increased over the past few years.
2. The opportunity for employment in agricultural industry has increased tremendously within the area.
3. Increased farm mechanization has created a demand for workers with basic shop skills that can be acquired only in a modern shop.

The trend in the changes in the vocational agriculture curriculum is toward on-the-job training for work in establishments that serve farmers by manufacture, processing, or sales and service. Much research has been done to show that these places of business need and will employ high school graduates who have had three or four years if vocational agriculture.

John Lewis

Part-Time Farmers

Many rural areas of the South are getting more industry, and more and more of our farm people are being employed in industry. Rural people are driving considerable distances to this work in order to continue to live on a small farm and carry out a part-time farming operation. The farming program must be highly intensive and well coordinated if it is to be successful. It can be helped by training in agriculture.

Full-Time Farmers

We must not lose sight of the fact that we also need young farmers to take charge of and manage some of the large farms that are being created by the merging of smaller units. Our livestock industry in the South is rapidly headed in this direction. Our curriculum should be such that it can offer training for those who are interested in production agriculture. Here we also have a broad field of farm service that is not being handled by college graduates in agriculture. Many of our top-notch high school graduates can find employment here.

News and Views

H. N. Hunsicker served as chairman of a joint meeting of officials of USOE, USDA, U.S. Department of Labor, the National Academy of Science, and others to develop a Nation-wide study for the job opportunities and training needs for agricultural occupations.

John Lacey met with officials of the National Plant Food Institute to develop plans for teaching materials for agricultural education; the National Park Service to discuss plans for the development of summer work experience programs for post-high school students in landscape horticulture and other closely related fields; the Fort Lauderdale, Florida, Ornamental Horticulture Experiment Station to formulate plans for a working relationship with Cocoa Beach Junior College in providing work experience for students in technical agricultural education.

Cochran and Nelson

(Continued from page 106)

special visitations out in the state by university personnel as well as programs held on the campus for prospective students.

1. Institute a special session for college-bound during the state FFA convention with the dean of resident instruction, and departments at the college of agriculture.
2. Make certain that university staff members are aware of the Vo-Ag background of the majority of their students.
3. Make certain that clearly defined admission requirements are present in college bulletins so guidance counselors might not misinterpret suggestions for foreign language as requirements for the college of agriculture. The bulletin should also be clear in its recommendation that high school agriculture is acceptable as preparatory program for college entrance.
4. Institute a "big-brother" program between freshmen and upperclassmen in agricultural education to aid the new student in adjustment to college and to ensure that the freshman feels free to go to agricultural education staff members for advice before problems become too major.
5. Curricular admission requirements of the university might be re-examined in light of the possible discrimination against students from smaller high schools where college preparatory elective courses are too limited. There also should be a special effort to improve and facilitate transfer of credits for advanced standing students from junior and state colleges via close coordination between counselors and faculty advisors at junior and state colleges and the university so prospective transfers could be programmed most effectively.

Summary

Vocational agriculture instructors are aware of a shortage of qualified teachers in Minnesota. They have offered suggestions that they feel will help improve the teacher recruitment situation. The next step in moving toward the solution of the problem will be to assign priorities to each of the suggestions and take the steps necessary to implement the recommended action.

This was not the only issue that the vocational agriculture instructors examined at the 1966 summer conference. Using the same format, they discussed: evaluation and reporting of students; the Future Farmers of America, its place in serving the broadened objectives of vocational agriculture; and the image of vocational agriculture. In each case, independent lists of suggestions and recommendations were developed and reported to the entire association. An activity of this sort might be appropriate in considering a broad range of issues and problems facing vocational agriculture today.

Alvin Oliver

Post-High School Curriculum for the Grain, Feed, Seed and Farm Supply Industry

Raymond Clark

RAYMOND M. CLARK, *Michigan State University*

ALVIN E. OLIVER, *Executive Vice President, Grain and Feed Dealers National Association*

What kind of program do we need for the post-high school training of young men for the grain, feed, seed and farm supply business?, was the key question before a group of business men meeting at Airlie House in Virginia in December, 1965. The meeting was called by the Grain and Feed Dealers National Association to help make plans for the preparation of a curriculum guide to fulfill a contract with the U. S. Office of Education.

The meeting was significant in that it was called by the association to assist in establishing the guide lines and to make recommendations as to the kind of employees needed by the industry. This responsibility was much like that of an advisory committee called to give advice on any other vocational program. However, the fact that the Office of Education had contracted with the association and that the meeting was called and conducted by the association staff makes it particularly significant.

Membership of the committee was also significant. Several of those representing industry were formerly professors in well-recognized universities. Some had been outstanding teachers of vocational agriculture and are now occupying important positions in their respective firms. Others are professors in universities where their work is very closely allied to the needs and practices of the industry.

The committee was challenged to think through and finally to recommend the courses they would suggest for a two-year post-high school program consisting of four 17 week semesters. They were not presented with a proposed program and asked to react to it and to give it their stamp of approval. After working long hours for the three days and after much discussion the members listed twenty-three courses. They felt that twenty of these would be essential, but that three might be used as substitute courses depending on the geographic area in which the program would be offered. For example, in some parts of the country a study of beef cattle feeding, management, and parasite control would be needed while in other areas a similar study of poultry or dairy, or swine might be more appropriate. Following are titles of the courses in the sequence in which they should be offered:

First Semester
- Crop Production
- Soil Science I: Fertility
- Applied Animal Biochemistry
- Structure of the Grain, Feed, Seed and Farm Supply Industry
- Communication I: Written, Graphic

Second Semester
- Grain Grading
- Soil Science II: Fertilizers
- Applied Animal Nutrition
- Agricultural Economics and Marketing
- Communications II: Oral, Illustrated

Third Semester
- Retail Farm Supply Merchandising
- Feeds, Ingredients, Additives and Food and Drug Regulations
- Operations I: Purchasing, Financial Control
- Applied Animal Husbandry I: Beef, Sheep, Dairy
- Seminar: Personal Relationships, Personal Finances and Management

Fourth Semester
- Grain Handling, Warehousing and Merchandising
- Operations II: Functions of Management, Financing
- Agricultural Chemicals
- Salesmanship
- Physical Facilities and Care of Equipment

Optional Courses which may be substituted by the school administrator where appropriate:
- Seed Production, Preparation and Analysis
- Business Law
- Applied Animal Husbandry II: Swine, Poultry, Horses

The committee recognized the necessity for a well rounded program without any walls between the vocational education programs. They looked at the "package" of courses needed for adequate training at the vocational-technical level. Consequently they listed such courses as *Agricultural Economics and Marketing; Communications,* including graphics and visuals; *Salesmanship; Crop Science; Soil Science; Operation of the Business* and others without regard to the traditional vocational service that would be responsible for the courses.

Experience

The committee did however place a very strong emphasis on the need for occupational experience as part of the training program. These representatives of the industry felt very sure that members of their association and others would be happy to cooperate in providing excellent occupational experience for students. They expect that such programs will be well planned and well coordinated by the school personnel.

The opportunity to visit several different types of business associated with the grain, feed, seed and farm supply industry and to work with the managers and others in these firms provided a rare opportunity for an "ivory tower" vocational educator to discover how those on the receiving end view the activities and the product of vocational teacher education programs. This kind of experience is one which should influence all training programs to a much greater degree than in the past.

The Guide

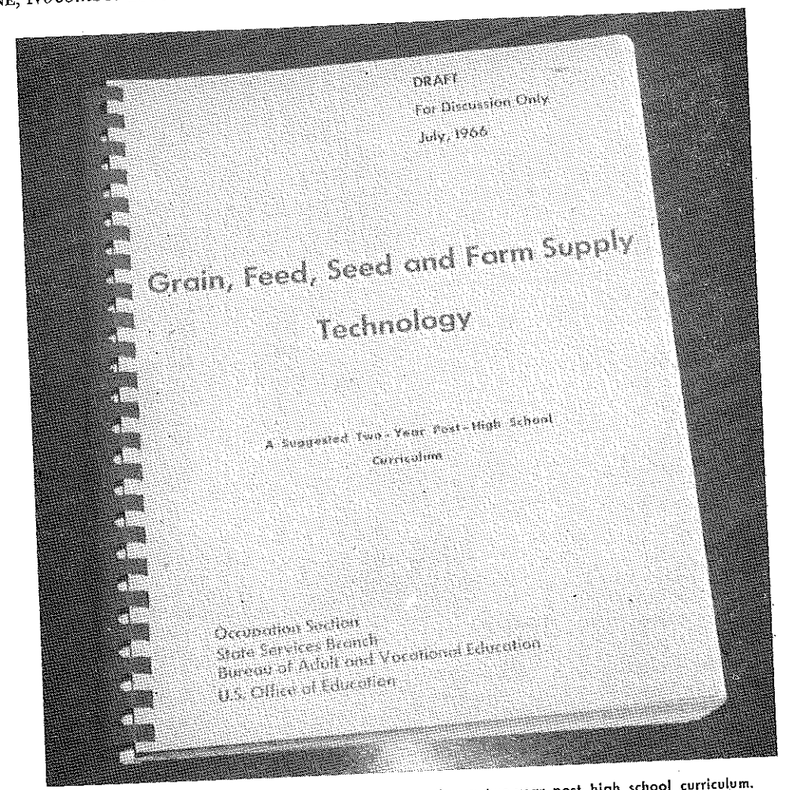
The curriculum guide which was turned over to the Office of Education on July 1, contained outlines of each of the twenty-three courses, including suggested lecture/discussion topics and laboratory exercises; suggested teacher qualifications; laboratory equipment and supplies; suggestions for library; and an extensive bibliography.

The problem of identifying and recruiting teachers for the program is likely to be a serious one for many years. In some cases it will be possible to recruit men from industry for part-time teaching. A few retired persons who have had successful experience will be available to teach. In other cases teachers of agriculture, teachers of distributive subjects, communications teachers and others with appropriate training and experience may become available for teaching in the program.

Regardless of the sources of teachers it is important that application be made of the content to the needs of the industry. For example, as students study

Dr. Raymond Clark, College of Education, Michigan State University, took a leave of absence to write the Curriculum Guide for the Grain and Feed Dealers National Association. He was assisted by an Industry-Educators Advisory Committee which recommended the Course of Study upon which the 2-year program is based.

The Curriculum Guide was developed under contract between the Grain and Feed Dealers National Association and the U.S. Office of Education. Alvin E. Oliver is Executive vice president of the national association.



The Curriculum Guide is a 436-page book suggesting a two-year post high school curriculum.

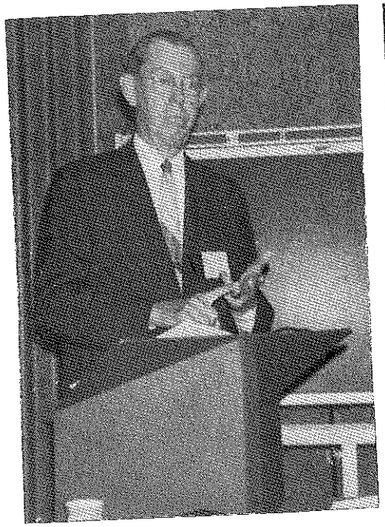
principles of salesmanship, their laboratory activities should be geared to selling merchandise typically offered by the farm supply business. In the same way application of content of courses in *Feeds and Feeding; Agricultural Chemicals; Agricultural Economics* and others should be made to the needs of the grain, feed, seed and farm supply business.

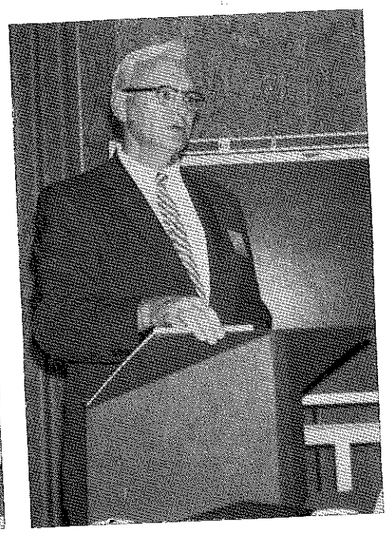
To actually get application of the content of the courses to the industry will require teachers who (1) have some understanding and willingness to make the applications as part of their class work, and (2) who have background of experience closely enough associated with the industry to make intelligent application. To assist in this procedure, field trips with students to visit appropriate aspects of the business will be helpful.

Next Steps

Teacher education: Many avenues present themselves as next steps in this program. One of the first deals with programs of teacher education. It is desirable for industry and teacher education institutions to "team up" to provide specific kinds of in-service training for

(Continued, page 110)





Primary representatives of the U.S. Office of Education authorizing the development of the curriculum guide were:

(1) Neville Hunsicker, Chief, Agricultural Education, Occupations Section, U.S. Office of Education, Washington, D.C.

(2) Dr. Walter Brooking, Program Specialist, Technical Education, Occupations Section, U.S. Office of Education, Washington, D.C.

Clark and Oliver

(Continued from page 109)

teachers who are involved at the vocational-technical level. The facilities and equipment of industry are very difficult to duplicate by the school system. Even though finances might be available, there are special hazards involved in the use of grain, feed, and seed processing equipment and in the handling of agricultural chemicals and fertilizers which make it inadvisable to house such equipment in a school building.

This will make it necessary for some of the work to be taught in plants either as part of the work experience program or in classes held at times when the plant is not open for commercial business.

Other aspects of teacher education which must be developed include programs to help teachers integrate and apply the subject matter of the various courses to the industry. This will involve a better understanding of the industry on the part of all teachers.

Some representatives of industry caution that educators need to limit the number of centers in which training will be offered, and to make sure that high standards of training be maintained. This suggests that specialized teacher education programs for the grain, feed, seed and farm supply business might be developed in relatively few teacher education institutions located where there are adequate facilities, both in the university and in the industry to provide the training. If this is to be accomplished, it will be necessary to develop a high degee of cooperation between the institutions in terms of enrollment of students, recording of credits and assessment of outstate fees.

Instructional Materials: Closely allied to problems of teacher education is the need for instructional materials. As the curriculum guide was developed, it became increasingly evident that text materials, as well as visuals and other items are urgently needed. Many examples can be cited. However one will be sufficient to illustrate the need. A book or bulletin on structure of the total industry is needed for use by teachers and students. Materials dealing with small segments of the subject can be found in many places, but a complete document covering the total industry is not available. In other cases it is necessary simply to prepare materials from the point of view of an employee in the industry as contrasted with material written from the point of view of the farmer producer or from the point of view of the consumer. In every case the suggestion of sound eithical principles and of service to the customer should be included in the materials.

Several key persons in the development of the Curriculum Guide are shown in this photo, left to right: Mrs. Karen Shiflett, Assistant Coordinator of the Project, Grain & Feed Dealers National Association. Dr. Raymond Clark, Michigan State University, Coordinator and author of the project. Alvin E. Oliver, Executive Vice President of the Grain and Feed Dealers National Association and Project Manager. William Keating, Counsel, Grain & Feed Dealers National Association.

For the preparation of much of the needed text materials it will be important to again call upon members of the Grain and Feed Dealers National Association for suggestions and help. The association is able to identify sources of information and help in the preparation of materials that would be difficult for educators to tap. On the other hand, the organization and presentation of the materials must be directed by an experienced educator to be of greatest help to the students and teachers.

Many additional steps need to be taken to implement the program. Included are such activities as identification, guidance and recruiting of students; building and equipping adequate laboratories; in some areas, the development of adequate administrative machinery for the organization and operation of the program; and the identification of need and job opportunities to justify the organization of the program. State and local advisory councils should be organized with the industry well represented in the membership. These councils will be able to provide valuable information and assistance on many of the next steps to be taken for the implementation of the program.

Glenn Z. Stevens

(Continued from page 105)

Other agriculture. This is not an instruction area with a unified body of subject matter content. Rather it is a classification that includes certain units from the other instruction areas, and units introductory to further education for employment in specialized businesses and services, education, research, and government. Examples of other agriculture occupations are vocational agriculture instructor, county agricultural extension agent, ASCS compliance supervisors and farm loan officer.

Comprehensive lists of occupational titles in all of the areas of this classification are given in a recent publication titled *Occupational Guidance for Off-Farm Agriculture*. It may be obtained from the Center for Vocational and Technical Education, The Ohio State University. The occupational titles found in recent state studies are compared with titles in the new *Dictionary of Occupational Titles*, third edition. Additional guidance information for teachers of agriculture and counselors is presented in a new form.

Organizing the Two-Teacher Department

WILLIAM DOUGLAS SPRADLIN, Vo Ag Teacher, Smith's Station, Alabama

Living in a period of change and advancement is often accompanied by times of personal adjustments, reassessments and structural adjustments of established institutions. We are now experiencing such a period in the field of vocational agriculture. Increased enrollments and a broadening of the areas of instruction has created the necessity of adding an additional teacher, or teachers, to the one teacher departments of vocational agriculture throughout the U.S.

Key Question

How to best accomplish the process of integrating the additional teacher into the vocational agricultural program is the question. The attitude of the teachers involved probably is the key to the success of these programs. An atmosphere should prevail that would allow the discussion, addition, discarding, adjusting, creation, and implementing of ideas, philosophies, and objectives that will utilize the talents of both teachers and provide the program most beneficial to the students, be they rural, urban, or semi-rural.

This may appear to be an infinite job and our salvation lies in the fact that there is almost an infinite number of ways to approach and solve the problem. Probably the major door to unlock is that of deciding the type of program to offer and the objectives of the program as a whole. This would depend on the location of the department and probably would vary within the county, state, and nation.

The Program

The type of program to be offered would determine the organization of the department. It is pretty much agreed here in Alabama that the first two courses should be about the same over the state. The first course, Life Science and General Shop, and the second course, Agriculture Science and General Shop are what might be considered basic to all vocational agriculture courses. It is in the third and fourth years that programs vary and students have a chance to specialize or follow a course that concentrates on their interest.

Options

It is in the third and fourth years that a two teacher department really earns its keep. The organizational structure should be one that includes at least two and possibly three or more options. If a sufficient number of students, boys or girls, express an interest in ornamental horticulture, another group acricultural mechanics and advanced shop, and another group agricultural sales and services, the two teachers should be able to set up these classes to meet the needs and interest of these students. The particular talents of the teachers should be utilized by having each teacher head the options in which he is particularly adept. Teachers can still exchange classes for special lecture or demonstration sessions.

Work Experience

Logically out of the specialized third and fourth year options evolves a work experience or work-placement program. This program not only stimulates student interest, but offers practical experience in this occupation that cannot be gained in a classroom or shop situation, giving the students deeper insight in this vocation. A work experience program consists of more than a student finding or being placed on a job, but must be supervised and developed into a real educational experience.

Still in its infancy, the work experience program has many problems to be worked out before it can be termed a success throughout the state. Each teacher supervises the students and consults with employers that are under his particular course option. The time for this supervision would largely have to be worked out with the administration and fitted into the total program of the school.

First Two Years

How to handle the first two years most effectively seems to be open for debate and several methods exist. The number of options offered in the third and fourth years will probably determine how the first two years will be handled. If more than two options are offered, there will not likely be an even distribution of the first and second year students. This will be impossible if the work load is to be kept even between the teachers—one teacher may have three sections of Ag I, one of Ag II and one or two options; another has two options, one section of Ag I and three of Ag II, etc. Some teachers divide the students with one taking all Ag I, the other all of Ag II and dividing the options. Some split the students down the middle in Ag I & II, and in dividing the options. Others follow the same students from Ag I to Ag II, dividing the options, and starting again with Ag I students on alternate years.

FFA

The FFA is an integral part of the program that cannot be overlooked in our rush to adopt new programs of instruction. Each teacher can have a set of FFA officers and give twice the number of boys the experience of organizing, presenting, and carrying out a program of work. From personal experience I find that to operate two FFA Chapters stimulates a healthy degree of competition between judging teams and other group activities. Two times the number of boys get a chance to "learn by doing" and feel they have become a part of something, many for the first time in their school careers.

For major projects, FFA Bar-B-Ques, Father-Son Banquets, etc., the writer believes that both FFA chapters should work together in promoting and carrying out such activities that require much work of the advisors, members, and sometimes tie up school facilities. These projects and activities performed together tend to foster the unity among the boys of the two chapters. This is often a welcomed change from the competitive spirit and gives the boys a chance to build pride in the total organization as opposed to Chapter A or Chapter B taking all the honors and being in the lime-light for the entire year.

Summary

The successful organization of a two-teacher department depends on: 1) Cooperation between teachers involved; 2) Well defined program of objectives; 3) Objectives that meet the student's need first—community needs second; 4) Organizational Structure that will enable objectives to be accomplished; and 5) Adequate facilities.

Special Classes for Students with Special Needs

G. L. DOWELL, Vo-Ag Teacher, Cleveland, Mississippi

For years one of the problems of the vocational agriculture program at the Cleveland, Mississippi, Special Consolidated School has been too many boys enrolled in vocational agriculture classes. Many of these students were capable scholars and could make satisfactory progress in all subjects, while some could not or did not do satisfactory work in academic subjects and were certain to be high school drop-outs.

With the passage of the 1963 Vocational Education Act, the way was opened, legislative wise, for the school administration and the State Vocational Board to reorganize the programs of vocational education in the public schools.

Special Classes

One of the first thoughts we had at the Cleveland School was to set up a special class in farm power and machinery for those enrolled in the regular vocational agriculture class who were not making satisfactory progress in school. In cooperation with the State Vocational Education Division of the State Department of Education, we began, with the assistance of the school administration, the process of transferring certain students from the regular vocational agriculture classes to an approved special class in farm power and machinery.

The changes made in the learning environment of the students transferred to the special class in farm power and machinery were extensive. Some of these are:

1. A more homogenous grouping of students. Test scores and grade achievement were used as a basis for making the transfer.
2. Longer class periods in the shop laboratory are provided. Three hours per day, or 540 hours per year for three years.
3. Related subjects are taught on a more applicable basis.
4. More specialized equipment is provided for the shop.
5. Skilled mechanics, under the supervision of the regular vo-ag teacher, as instructors in the mechanical phases of the course.
6. Work experience under supervision is provided for in farm machinery firms and on plantations in the area.

Major Objective

The main idea of the special class in farm power and machinery is to help meet the labor needs of the Mississippi Delta. Cleveland is located in the heart of the Mississippi Delta where farm mechanization has developed rapidly. The need for skilled workers is acute.

The training program is designed to provide for different levels of achievement. It is recognized that not all boys who enroll in the special course will finish as first-class mechanics, but, even though we have had the class going for less than a year, we know that every boy who finishes the course will be an improved worker in the complex farm mechanization which has taken place in the Mississippi Delta.

High School Program

Arrangements have been made with the school administration for students in this special class to receive their high school diplomas when they satisfactorily complete the school requirements. These students are not isolated from other students in the school. They may participate in all school activities, including athletics. Though the course is designed as a terminal course, a student may continue his study in a technical institute or even a senior college. However, it is not expected that many will be academically capable of meeting the minimum college entrance test scores. The students enrolled in the special course know that it is not college preparatory oriented. The English taught as business English, the mathematics as business mathematics, other subjects include basic economics, including marketing, et cetera. Some of the students in the special class may meet other courses with regular classes in English, Math, et cetera, depending on their ability.

Course Content

The content of the farm power and machinery course is broad in nature,

(Continued on next page)

Special Farm Mechanics Class at East Side Has Completed Mounting Cotton Planter with Pre-Emergency Weed Applicator.—Brown Ryle, Instructor

G. L. Dowell

(Continued from page 112)

and yet will permit specialization for employment. The general areas of instruction in the courses are:

1. Exploring employment opportunity.
2. Understanding tractors and tractor systems.
3. Preventive maintenance, including tractor tune-up.
4. Tractor engine overhaul (for those who make extensive progress).
5. Agricultural machinery. (Assembly, adjustment, operation, maintenance and repair.)

The course is designed to run for a period of three years. As has been pointed out previously, students enrolled in this course take academic subjects for credit just as other students. If they need special instruction in certain academic subjects, they get it. The whole idea is to keep these boys in school and to prepare them for gainful employment.

Students in Special Mechanics Class Rebuilding A Head for Tractor—Brown Ryle, Instructor

Vo Ag Stronger

All of the students remaining in the former vocational agriculture class are being prepared for production agriculture. Among the important changes made in the class are:

1. Sizes of classes have been reduced, thus allowing more time for individual supervision.
2. The overall quality of the regular vocational agriculture students has been improved. Only those who have a positive desire for production agriculture remain in this phase of vocational agriculture.
3. More emphasis is placed on basic principles in the first and second year programs, and more on agricultural technology in the advanced classes.
4. The special skilled instructor in agricultural mechanics has become a valuable asset in assisting with special problems in agricultural mechanics in the regular vocational agriculture classes.
5. It is obvious now that to try to prepare students for competency in a diversity of occupations in agriculture, and at the same time teach production technology is an impossible task for a one-teacher vocational agriculture department to undertake.

We feel that we are on our way toward meeting the needs of students on all levels who are interested in vocational agriculture training. We know we will need to make adjustments in our program as we gain more experience, but we have at least made a start in good faith.

WHO WAS R. W. CLINE?

WHO'S WHO IN AMERICA lists Russell Walter Cline as Educator. He passed away suddenly on August 3, 1966. He was at the time Head of Teacher Education in Agriculture at the University of Arizona.

We in Teacher Education of Agriculture wish to thank the University of Arizona and the people and Institutions of the State for making it possible for Dr. Cline to serve Arizona, the Pacific Region and the United States. As a person, Dr. Cline was scholarly, productive, dedicated, friendly, faithful, and moral. He was an important leader in Agricultural Education. Dr. Cline was well known and appreciated and respected by his contemporaries all over the United States.

Dr. Cline always held a front line position in the exciting history of Vocational Agriculture. He was a regular attender at State and National conventions and committee meetings and conferences on program evaluation and development.

Dr. Cline worked professionally in North Carolina, West Virginia and for the past 30 years in Arizona. He started his teaching career in 1924 at Alexander-Wilson School at Graham, North Carolina; from 1927 to '28 served as Assistant supervisor of Agriculture Education at North Carolina State College; 1928-36 as critic teacher and instructor of Education at West Virginia University; and Head of Agriculture Education at the University of Arizona from 1937 to date. Dr. Cline was President of the Ten-Year Teacher Trainers in Agriculture in 1948; Member AVA Agricultural Education Research Committee, 1942-49; Honorary State Farmer; fraternally in education: member of Phi Delta Kappa, Alpha Tau Alpha, Phi Kappa Phi, and Gamma Sigma Delta.

R. W. Cline

Dr. Cline was diligent and anxious to write for the benefit of his profession and especially for teachers of Agriculture. He worked diligently on course of study development including a book on Buildings and Equipment for Teachers of Vocational Agriculture. He was first Editor of the *Journal of American Association of Teacher Educators in Agriculture* and special editor of the *Agriculture Education Magazine* from 1944-1950.

Dr. Cline at the time of his passing was to have attended a Regional Institute for Supervising Teachers in Agricultural Occupations at Colorado State University. The report of the conference was dedicated to Dr. Cline, who had prepared a paper on "WHY ARE WE HERE."

Leo Knuti
Montana State University

News and Views

H. N. Hunsicker and John Lacey served as staff members in conducting a Training Institute for 125 teachers and administrators of technical education programs in agriculture. The Institute was held at Cobleskill, New York. John Lacey served on the final review teams for the curriculum guides, *Grain, Feed, Seed and Farm Supply* and *Food Processing* Technologies.

Paul Gray served as consultant and moderator of a leadership training conference for State FFA officers from southeastern States. The conference was held at Cherry Grove, South Carolina. John Foltz directed an FFA leadership training conference in Massachusetts for the New England States; traveled to Kansas City to make final arrangements for an exhibit featuring careers in agriculture during the National FFA Convention.

Agricultural Technician Students Need An Organization

RALPH E. BENDER, Teacher Education, Ohio State University

There is an emerging need for an organization of students in agricultural technician training programs. Youth organizations have contributed significantly to Vocational Education. They have made Vocational Education more attractive to students and have served well in promoting learning. They have supplemented courses and occupational experience with needed learnings such as leadership abilities. In addition, youth organizations have been effective public relations for Vocational Education.

It is reasonable to believe that an organization can serve technician students as the FFA has enriched the high school program of vocational agriculture and as the Young Farmer Association has vitalized the program for young farmers. Students just out of high school do not have many opportunities for participation in organizations. Most of them experience a rather drastic change in the number of opportunities to meet one of their basic needs in the form of "a sense of belonging."

The recent high school graduate is not quite ready, neither is he acceptable to assume a leadership role in such adult organizations as the Farm Bureau, Grange, or a production, marketing or service group. In most of these groups the graduates are welcome as members, but they need some kind of in-between activities that are appropriate for their age and maturity level. An organization for students in technician training can meet their need for further development to assume adult leadership as well as enrich the current training program in which they are engaged.

Leadership of Agriculture Education Personnel Is Needed

Personnel in agricultural education at the national, state, and local levels should take advantage of their knowledge and experience in providing leadership for the development of student organizations in technician training programs. This does not mean that a specific standard or pattern should be "handed" to such groups. Students and teachers need, however, to be informed of the possibilities and values of such organizations and provided with materials and other resources needed by them, if and when, they decide to organize. Responsibility for such leadership should be assumed by the Chief of Agricultural Education of the U. S. Office, the State Supervisors of Vocational Agriculture, and the local teachers and coordinators of the technician programs. This implies conferences and other developmental procedures at each level. It does not imply that there must be a national or state organization, at least in the initial organization of student groups. The above pattern of adviser responsibility which is used in the FFA has proven to be sound. Likewise, the use of advisory groups comprised of supervisors, teachers, and others is worthy of consideration.

Some Possible Guidelines

Undoubtedly, there is no one best way to develop student organizations for vocational and technical students. There are, however, some guidelines that have proven to be desirable. They include the following:

An Integral Part of the Instructional Program

The activities of technician student organizations as well as the methods

Ralph Bender

used in planning, conducting, and evaluating should be a part of the curriculum. They should be justified on the basis that the learning experiences provided are desirable and contribute to a more effective technician and citizen. The youth program should supplement the classroom, shop, and work experience that is provided by the school and community. Therefore, the program should be planned so all students participate, the technician teacher or coordinator serves as the adviser and the program is approved by the college or school administration.

The organization for technician students should be a means of helping to relate occupational competence and significance to society. For example, most technicians have organizations through which their interests and needs are disseminated. The student groups, therefore, should provide for the development

(Continued on next page)

Business and Industries would provide stimulating awards to Technician students as has been the practice in the FFA. Photo by: Drawbaugh, Rutgers University

Ralph Bender

(Continued from page 114)

of understandings and abilities in serving as officers, using correct parliamentary procedure, becoming effective committee members, speaking extemporaneously, and learning generally how organizations and groups should perform in a democratic society. With the student organization as an integral part of the insructional program, rather than as an extracurricular activity, some school or class time is justified in developing the student activity program. The teacher, more than anyone else, is responsible for supervising the development of the what, when, and how of the various phases of the youth program.

An Effective Program of Activities Is Basic

The program of activities is the basic means through which the objectives of the youth organization are accomplished. The program, therefore, needs to be dynamic, well planned and conducted. Some of the principles involved in an effective program of activities include the following:

1. The program of activities is interesting,—it must appeal to the members by providing opportunities to do the things that they like to do. This is not a teacher-centered program; it is a program of the youth and, therefore, it needs to start where they are. This necessitates that they be involved in planning and conducting.

2. The program is balanced,—it meets the needs of the members as capable workmen, leaders, and citizens. Students vary greatly in their needs. Therefore, the program should be broad, yet balanced. Our experience in the FFA leads us to believe that such areas as occupational experience, leadership, community service, scholarship, earnings and savings, social and recreation, and public relations are desirable areas for consideration in identifying the program to be conducted.

3. The program is large enough to involve and challenge all members,—but not too large. The program needs to be extensive and varied enough to necessitate the effort and capacities of all members in planning and conducting. A program may become too large as well as not being large enough. In the FFA, the procedure of outlining the activities according to goals and ways and means has been helpful in "sizing up" the extensiveness of the program.

4. The activities are consistent with the objectives of the youth organization, school, and community. It is very important that all aspects of the student organization be consistent with the objectives of the technician training program as a part of the local school or college and community. The activities should supplement rather than duplicate other opportunities for learning. This is why it is necessary for the teacher or coordinator to be the adviser as well as having approval of the program from the administration.

5. The program is adequately financed. It takes money to conduct an effective youth program. Therefore, the ways and means that are necessary and desirable to raise the funds should be taken into consideration at the time of planning the program. Money-making activities, if used, should be educational and operated according to sound business procedure.

Organizational Structure Should Be Appropriate for Group Served

Experience with youth organizations in Vocational Education leads one to believe that the technician student organization should not be an extension or an affiliate of the FFA. The technician student is older and more mature with more specialized interests and needs. Undoubtedly, there should be cooperative and harmonious relationships with the FFA, but they should not operate under the same set of purposes and organizational structure. In a number of states, the Young Farmer Association has demonstrated that it has served well the needs of young farmers, as a separate group rather than organized as an extension of the FFA.

Many organizations have progressed from an informal group to a highly organized structure with more officers, policies, and procedures. For example, in Ohio the YFA was started in many situations as a council with a chairman elected by the council members to work with the adviser in planning details of the group. This informal type of organization then evolved to a more formal structure with a constitution, by-laws, regularly elected officers, and as a chartered unit of the State Association.

Suggestions concerning the development of objectives, organizational procedures, and activities should be provided by agricultural education personnel.

Without much doubt the "agri-tech" students want and need an organization. Agricultural education personnel should aid this group in the development of a sound, well-coordinated unit as a part of the training program.

BOOK REVIEWS

Raymond Clark
Michigan State University

CHASTIAN, E. D., JOSEPH YEAGER, and E. L. McGRAW, *Farm Business Management*, 2nd ed., Auburn, Alabama: Auburn Printing Company, 1966.

The authors state that only minor changes have been made in the revised edition, and that students in the same classes should be able to work with either edition. The revised edition updates statistical materials in several places. Renewed attention is given to the fact that many vocational agricultural students will not become farm operators. They point out however that the principles of management remain the same and that those who will not return to the farm may still profit by a study of the text.

Raymond M. Clark
Michigan State University

SHIPPEN, J. M. and TURNER, J. C., *Basic Farm Machinery*, Pergamon Press Inc., 44-01 21st Street, Long Island City, New York, 11101, 1966. Volume 1, pp. 168, price $2.95. Volume 2, pp. 144, price $2.75.

As stated by the authors, the main purpose of these two volumes is to deal with the general working principles of farm tractors and machinery. The subject matter is intended to be of value to many types of readers, such as the agricultural student, the school leaver who intends to enter agricultural employment and the young agricultural mechanic who has to be relatively expert on a narrow range of machines but who wishes to gain a general picture of the equipment used on farms.

This is a British publication and particular attention has been paid to the needs of students sitting for examination in the subject matter area.

These two volumes might be considered as additions to the agricultural mechanics library. However, the reviewer has reservation in recommending these publications on a first priority basis. A number of U.S. publications on the same subject are available and more specifically suited for library use on the kinds of farm machines and tractors used in the United States.

Guy E. Timmons
Michigan State University

Philosophy and Programs

Agricultural Education In the Community College

EARL McCOLLUM, Head, Agriculture Department,
Treasure Valley Community College, Ontario, Oregon

Earl McCollum

Can anyone deny that today's world of agriculture is rapidly becoming one of mechanized complexity, and that today's agriculturist must be a well educated, articulate technician?

Many former agriculturalists were able to function satisfactorily with only a high school education and were able to learn the specialized skills as they worked. In today's agriculture such a broad base of technical knowledge and skill is being required as to severely limit people with only a high school education. Knowledge is required in many technical areas such as soil science, fertilizers, pest controls, management, and many others. Skills are required in soil preparation, chemical usage, irrigation, machinery maintenance and repair, record keeping and various manipulative skills.

As these areas of knowledge and skill become more and more complex, they become highly specialized and require more of the individual's time. As a result we are living in an era of specialists in agriculture. There already are specialists in management, soils, crops, livestock, horticulture, and others at the professional level and there are now being developed technical positions in these same areas to give agriculture producers the advantages of modern technology. Fertilizer companies are seeking technicians who understand soils, chemistry, and fertilizers to coordinate between them and the farmer. Machinery dealers are seeking technicians who understand soil working, crop planting, crop harvesting, machinery maintenance and machinery function and who can represent them to the farmer. Food processors are seeking technicians who understand quality of product, pest control, marketing and harvesting so the importance of these factors in processing can be related to the farmer.

Community College Philosophy

It is in these areas that the challenge of the future lies. Those persons who operate between the producer and at either end, the supplier or the processor, must be specialists in their area. This will require training and preparation beyond high school and it is this person the community college hopes to prepare. It is here at the technician level that community colleges can contribute their greatest influence on the future of our society and nation.

Every day we see the expansion of civilization with its attending technical complexities: the aviation industry is spending 1½ billion dollars annually in expansion and will need 50,000 new employees in four years, not counting replacements; in thirty years ¼ of United State electricity will be generated by atomic power; in ten years handlabor in any industry will be virtually non-existent. People must be prepared to cope with this world; moreover, they must be prepared to adapt and change as their social climate demands. Herein lies the unique opportunity of the Community College with its close ties to the immediate social community and its open door policy of education for those who can profitably use it.

The ease of moving in and out of the educational stream allows a person displaced by technology to dispel the despondency so often accompanying this event by quickly re-tooling to again enter the work force, possibly without even having lost a day of work. Industry has been involved in this type of procedure for years with machines. Now, we must become involved in the same "re-tooling" procedure with personnel in agriculture. Many times this process can be accomplished at company expense. The Community College is again in a unique position being tax supported which creates a minimum of expense allowing greater freedom for individual "re-tooling."

Many programs are operating in Community Colleges aimed at preparing agricultural technicians who are specialized enough to enter the agricultural labor force. These programs are open to both those persons preparing to enter the field and to those persons in the field who wish to up-date their knowledge. There are also technical programs to aid persons engaged in production or preparing to enter production agriculture. Anyone who can profit from technical training of this nature is welcome in the classes and an attempt is being made to offer any course or program that people in the field can use.

Community College Programs in Agriculture

Colleges located in areas with intensive agriculture supporting a large portion of the economy are offering technical programs in Production Agriculture which include such technical courses as soils, agricultural chemicals, horticulture, crop management, agriculture surveying, livestock management, agricultural business procedures, welding, irrigation, and drainage. Along with these technical courses students receive general education in communication skills, mathematics, psychology, health, American Institutions, report writing, and economics.

A technical agriculture program is being offered in some Community Colleges that incorporates all of the above training with the added training of laboratory work to equip the student for employment in processors' labs.

The farm equipment dealers have requested additional trained equipment repairmen thereby opening a technical field for many persons with mechanical aptitudes. This program adds to general education courses the following technical work: basic agriculture mechanics, welding, drafting, practical hydraulic and pneumatic systems, agricultural power units and machinery, machine tool, farm machinery repair, agricultural service procedures, and industrial management.

Some Community Colleges are offering technical training for ranchers and range managers. The technical work in these programs include: water resources development, agricultural surveying, agricultural business procedures, livestock management, agricultural chemicals, soils, crop management, range and forest plants, range manage-

(Continued, page 119)

BOOK REVIEWS

NERRINDER, A., Biology, Vol. 1 44-01 21st St., Long Island City, New York 11101: Pergamon Press, Inc. 1966, $4.50 (Paperback)

This is a programmed text covering basic principles, definitions and concepts in biology. The book should be usable by high school pupils at ninth grade or above. Teachers of vocational agriculture in high schools may find the book useful in teaching the fundamentals of biology students need for an understanding of agricultural practices.

Also of interest is the format and construction of the book as a programmed learning text. Many vocational educators have expressed need for such texts for use in vocational agriculture at both the high school and the posthigh school levels. This text illustrates one pattern that may be adapted to preparation of vocational materials in other fields including agriculture.

Raymond M. Clark
Michigan State University

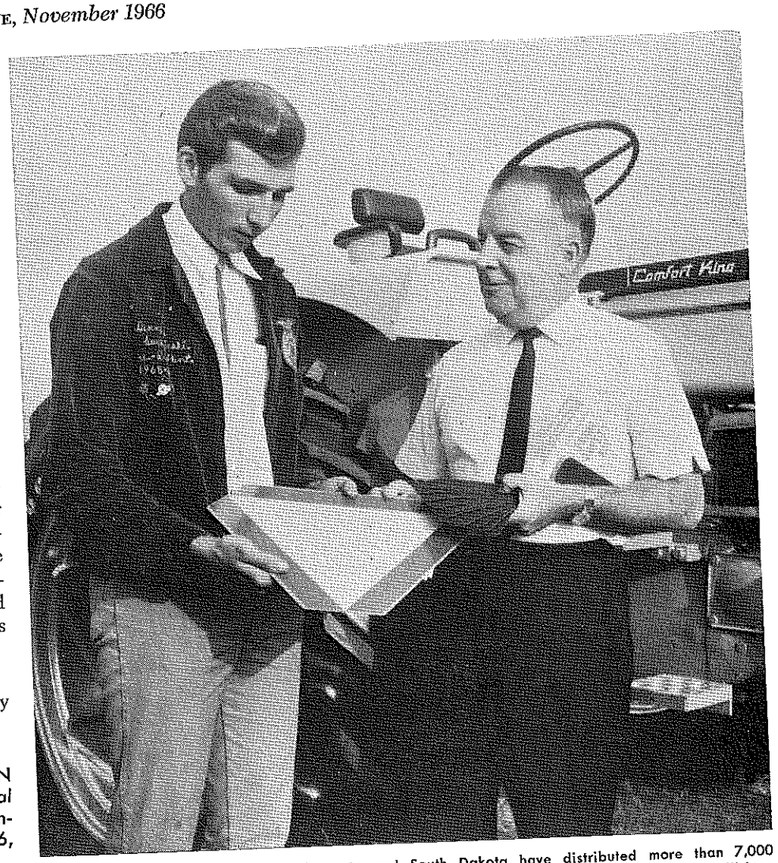
SMITH, CLODUS R., LLOYD E. PARTAIN and JAMES R. CHAMPLIN, *Rural Recreation*, Danville, Illinois: The Interstate Printers & Publishers, 1966, $5.75.

The authors state that, "the book was prepared for rural land owners and others concerned with recreation enterprises." It is designed as a guide for planning, developing, operating, and managing rural recreation enterprises.

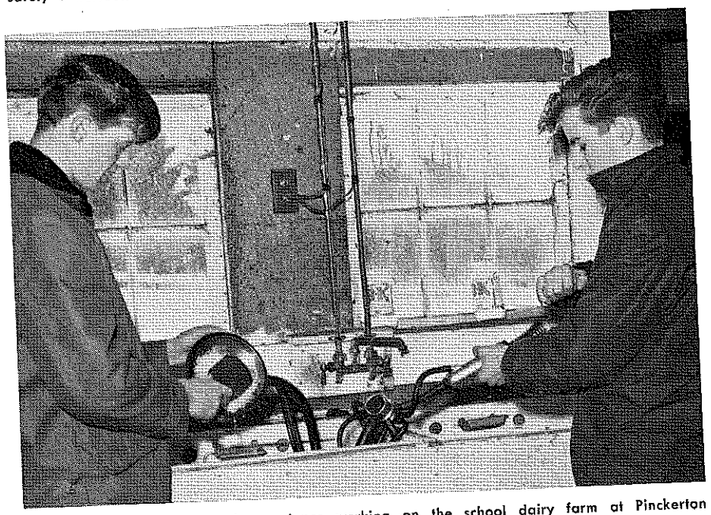
Fourteen chapters are included in the text including a chapter on the Outlook for Rural Recreation followed by chapters dealing with various kinds of recreation enterprises such as vacation farms, hunting preserves, fishing waters and the like. Other chapters provide suggestions on choosing the enterprise, farming, sources of technical asistance and other chapters deal with maintaining the enterprise, merchandising and managing.

The book should prove valuable in classes in vocational agriculture at both the high school and the post-high school, and adult levels. No doubt the text will suggest new occupational opportunities for many vocational agriculture students.

Raymond M. Clark
Michigan State University



FUTURE FARMERS of America in Minnesota and South Dakota have distributed more than 7,000 reflective slow moving vehicle emblems so far this year in a campaign to reduce rear end collisions involving farm vehicles. Dennis Swedzinski, left, vice president of the Minnesota, Minn., FFA chapter, was one of 80 tractor driving contestants at the Minnesota State Fair to learn of a new farm safety program. John A. Reese of 3M Company shows him a set of non-slip adhesive cleats for safety underfoot. Each contestant received an SMV emblem and a non-slip safety kit.
—3M Company photo



Village boys get agricultural experience working on the school dairy farm at Pinckerton Academy, Derry, New Hampshire. Photo—William Annis

What Does It Take To Sell Feed?

JAMES J. ALBRACHT, Michigan State University

What vocational competencies are necessary for the performance of nine sales activities essential for the performance of the sales function in the feed industry? At which loci[2] could these competencies be taught? A study was made to find the answers to these questions.

In previous research conducted by Clark[3] of the Michigan State University, twenty-eight activities were identified as being necessary for the performance of the sales function in the feed industry. Of the twenty-eight activities, the nine most important activities as rated by a jury of twelve feed industry experts were selected for this study. The nine activities had an average score of 3.5 or more when a five point scale was used: 0—not needed; 1—little importance; 2—some importance; 3—very important; and 4—essential.

Procedure

The author developed an interview instrument which included forty competencies which might be considered essential for the performance of the nine sales activities.

A jury of twenty-four experts was selected and interviewed, with six representatives from each of four sub-areas: feed dealers; sales training directors; agricultural education researchers; and business education researchers. The jury members were asked to make "yes" or "no" determinations for the forty competencies for the performance of each of the nine sales activities. Therefore each of the forty competencies could have a total competency frequency of 216 (9 x 24) if each of the twenty-four jury members indicated that the forty competencies were essential. The competency frequencies are listed in Table I.

Essential

The number of competencies which were considered to be essential for the performance of each of nine activities are: sells direct to producer, 39; assists local dealers in promoting the use of specific feeds, 38; assists farmers in planning feeding programs, 37; assists local dealers in promotional campaigns and feed and grain clinics, 37; assists farmers to see through their own problems, 36; follows up on results obtained by customers and reports them to management, 36; sells to customer across the counter, 36; recognizes abnormal and detrimental practices and animal health conditions, 31; and solicits local dealers to sell company products, 27.

TABLE 1

Competency	Competency Frequency
Thoroughly understands his company's feed products	201
Understands importance of personal sales traits and a pleasing personality	185
Ability to greet customers and study their needs	185
Understands feeding practices and programs used in the community	184
Ability to classify and cope with different types of customers	182
Ability to use suggestive selling and to close the sale	179
Understands research findings of livestock (poultry) feeding trials	178
Ability to determine rations for specific livestock (poultry) uses	177
Understands composition of farm grains. roughages, and supplements	174
Understands other products sold by his business (company)	171
Understands various methods of preparing livestock (poultry) feeds, i.e., grinding, pelleting, etc.	168
Understands control of livestock (poultry) pests and parasites	165
Ability to determine the approximate amount of profit that is likely	165
Understands policies of his business (company)	164
Ability to determine the livestock (poultry) performance records to keep	162
Ability to identify common livestock (poultry) diseases	159
Knowledge of the feed products of competitors	158
Knowledge of feed mill operation	156
Ability to evaluate farmer's roughages, pasture, and grain resources	152
Ability to determine the repayment ability of the customer	152
Knowledge of the physical make-up and digestive process of farm animals (birds)	150
Ability to write up and interpret the feeding results of his customers and and convey them to management	149
Understands place of sanitation in the livestock (poultry) operation	148
Ability to determine with the customer the amount of credit needed	
Understands promotional techniques for increasing feed sales	
Ability to express feeding and nutrition information to groups	147
Understands factors to consider in selecting specific animals (birds)	145
Knowledge of livestock prices and price trends	
Knowledge of transportation and delivery procedures	
Understands influence of equipment upon growth and the rate of gain	144
Understands influence of housing upon the growth and the rate of gain	
Ability to fill out company invoices and sales contracts	136
Knowledge of the agricultural practices used in the community	130
Understands influence of heredity on the rate of gain	126
Ability to fit animals for show or sale	123
Understands problems of feed dealers in the community	122
Knowledge of marketing channels for livestock (poultry) and their products	118
Ability to determine the grade of the animals (birds)	109
Knowledge of the methods used in collecting bills	107
Understands criterian for appraising prospective feed dealers	89

[1] Adapted from Albracht, James J., "A Process for Determining Vocational Competencies for the Performance of Essential Activities for Sales Personnel in the Feed Industry, and the Loci at which the Competencies could be Taught." Michigan State University, 1966. This study was supported by a grant from the U.S. Office of Education, Contract No. OE-6-85-014, under provisions of section 4 (c), of the Vocational Act of 1963. Unpublished doctoral dissertation.

[2] Loci—The educational facilities where the sales competencies could be taught as indicated by time and place considerations.

[3] Clark, Raymond, *Vocational Competencies Needed by Workers in Non-Farm Agricultural Occupations.* E. Lansing, Mich., Michigan State University, June, 1964 (mimeo)

James J. Albracht

(Continued from page 118)

The jury of twenty four experts was also asked to indicate at which loci each of the competencies could be taught. The number of competencies which could be taught at each of the six loci were: dealer or company school, 40; on-the-job[4], 40; post high school, 33; adult, 32; four year college, 31; high school, 28.

Local Matter

Of the forty competencies, seven were considered to be specifically related to the particular feed company, and the jury members indicated that these seven competencies could only be taught at the "dealer" and the "on-the-job" loci. The seven competencies were: thoroughly understands his company's feed products; understands other products sold by his business (company); understands the policies of his business (company); knowledge of the feed products of competitors; ability to fill out company invoices and sales contracts; understands the problem of feed dealers in the community; and understands the criteria for appraising prospective feed dealers. Of the remaining thirty-three competencies the jury members considered that each of the competencies could be taught at the "post-high school" locus, and that twenty-eight of the thirty-three competencies could be taught at the "high school" locus.

Post-High School

The five competencies which were considered to be possible at the "post-high school" locus but not at the "high school" locus were: understands the research findings of livestock (poultry) feeding trials; ability to write up and interpret the feeding results of his customers and convey them to management; understands the promotional techniques for increasing feed sales; ability to express feeding and nutrition information to groups; and knowledge of the methods used in collecting bills.

[4] On-the-job—Any training given in the place of business exclusive of that given in cooperative occupational programs between the employer and an educational institution.

Earl McCollum

(Continued from page 116)

ment techniques, wildlife management, and veterinary medicine.

New and Expanding Fields

A new field for technicians is opened in landscaping and public grounds management. This curriculum includes general education and the basic agricultural courses plus tree and shrub identification, plant disease and insect problems, lawn and garden equipment use and maintenance, greenhouse and nursery management, landscaping and public grounds management, turf grass management, and park management and administration.

Another rapidly growing field as Americans gain more leisure time, is that of outdoor recreation. The technical offerings at Community Colleges include techniques of outdoor recreation, sports equipment repair, emergency care and rescue, recreation camp counseling, range and forest plants, earth science technology, and administration of recreation camps and parks.

Summary

The results of this study appear to indicate that the competencies identified as essential for the performance of the sales activities and the loci at which the competencies could be taught could be considered by those responsible for the development of curricula and courses of study for persons in or preparing to enter positions which require the performance of sales activities. For example, the person who is responsible for developing the courses of study for the high school program with the help of the local advisory committee could decide which of the nine sales activities could be used as a basis for the instruction. The curricula director, teacher and the advisory committee could further select the competencies to be included in the educational program from those which are essential for the performance of the selected activities, and which also could be taught at the "high school" locus.

Employment Opportunities in Agriculture

With the world/population/food ratio such as it is and the population growth of the world in an ever-expanding trend the general outlook for employment in agriculture is extremely good. This statement must be coupled with the admonition that the outlook for employment of unskilled persons in agriculture is extremely poor. This coincides with the realization that agriculture is extremely complex requiring skills and knowledge which were previously unnecessary.

More specifically in this country and in the technician occupations, job opportunities are rapidly opening. Technicians work on a team with engineers, scientists, supervisors, and skilled craftsmen, converting theories and ideas into products and processes—the technician is the pivot-man on this team.

Technicians participate in research and development. They assist in designing and perfecting machines, processes, materials, and service for our increasingly complex world of work. They consider why things work as well as how things work. They work with their minds as well as their hands. Technicians' jobs frequently require the ability to apply scientific principles and to solve designs, process or service problems. Other technical jobs demand extensive knowledge of laboratory equipment, procedures and techniques.

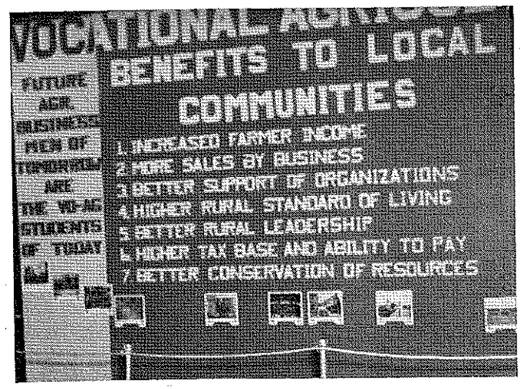
Technicians of this nature are needed in all types of agricultural service industries, fertilizers, chemicals, seed dealers, machinery and equipment companies. Food processing companies are utilizing technicians as field men, in laboratories, and on the quality control line. Governmental agencies are using technicians in a non-career capacity in soil conservation and range management. Highway departments and public agencies are using technicians in managing the landscaped areas utilized by the public.

Future Bright

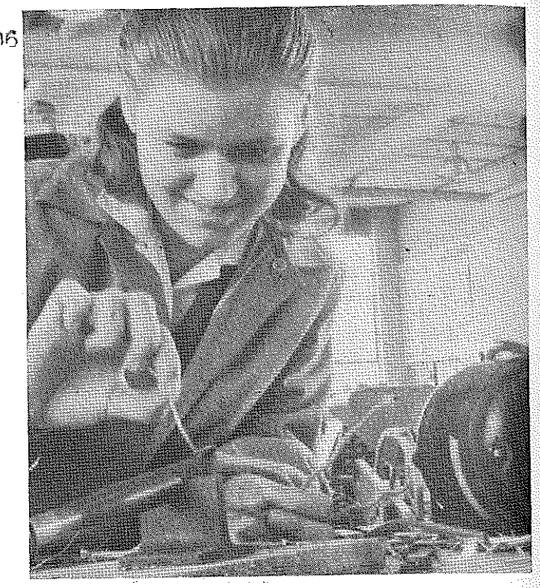
These vast areas of opportunity have been expanding in the past few years and show no signs of decreasing in growth in the next few years. With this situation in mind the young man considering choices for a career can select from many avenues to travel in the world's most vital vocation—Agriculture. One of the avenues for education in agriculture beyond the high school is the Community College.

Stories in Pictures

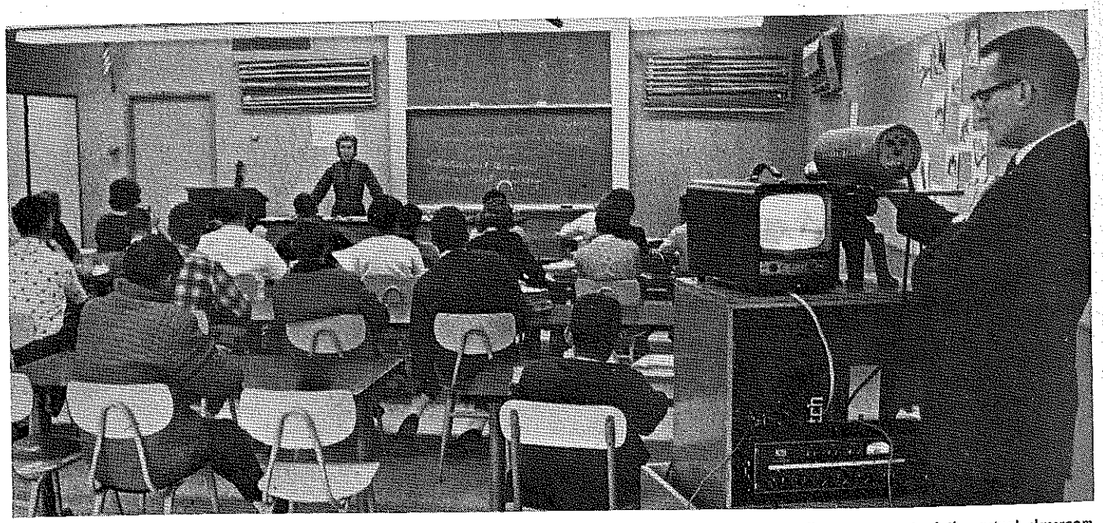
GILBERT S. GUILER
Ohio State University



Dodge County, Wisconsin, Educational Booth calls attention to how Vocational Agriculture in the changing role benefits the local communities. Photo—Nicholson



Girls have played an important part in the changing role of Vocational Agriculture in Connecticut. Here a student solders an electrical splice in the Agriculture Mechanics Shop.



Portable TV taping for teacher training in Agricultural Education may become a popular practice. By recording a segment of the actual classroom teaching done by an intern can provide instantaneous playback for immediate critique as demonstrated in California.

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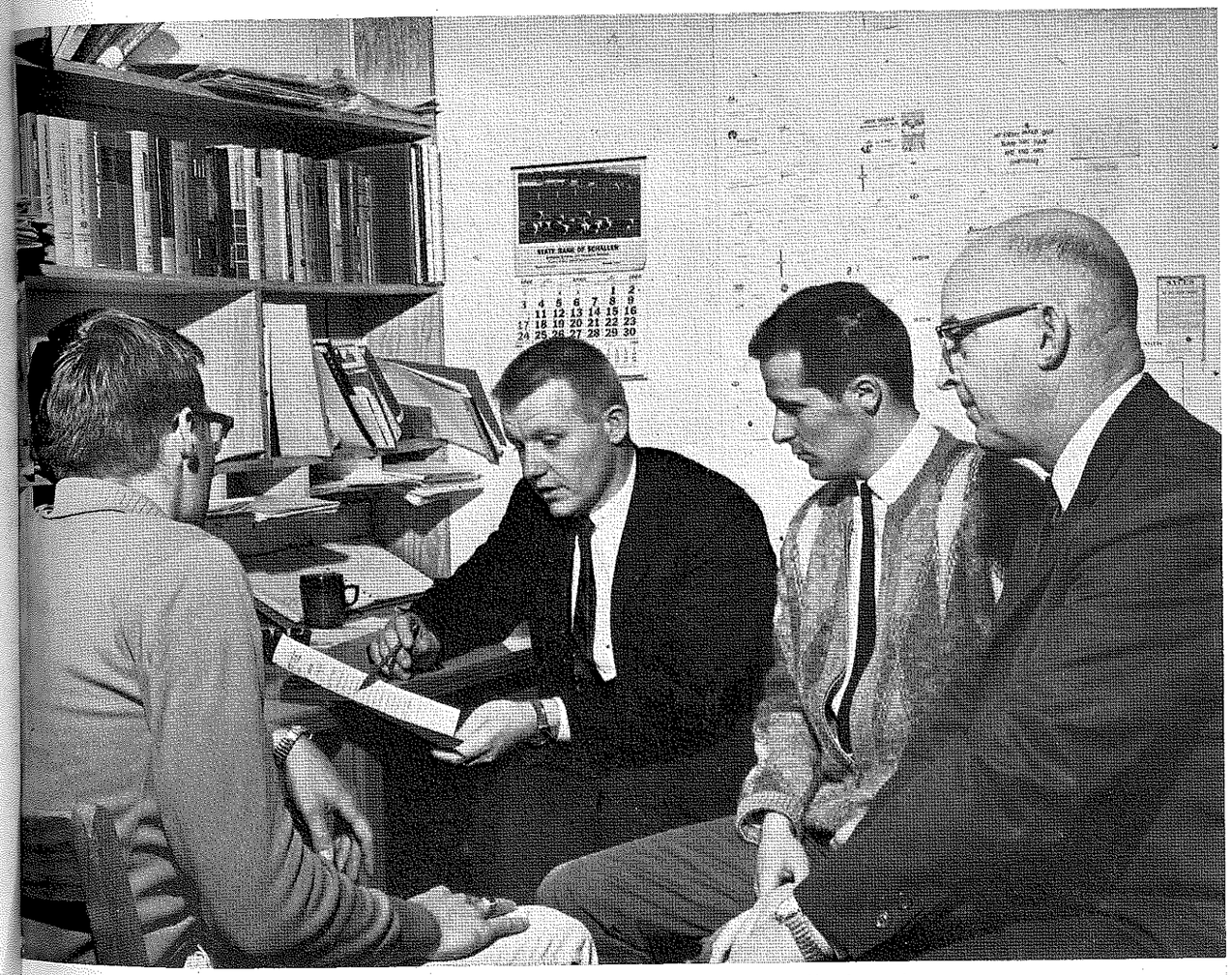

Student Teachers Doug Campbell and Dennis Workman in Agricultural Education receiving instruction and counseling at Muscatine Community College, Iowa.—Photo by Dalbey.

Featuring COLLEGE PROGRAMS FOR PROSPECTIVE TEACHERS