Agricultural Education

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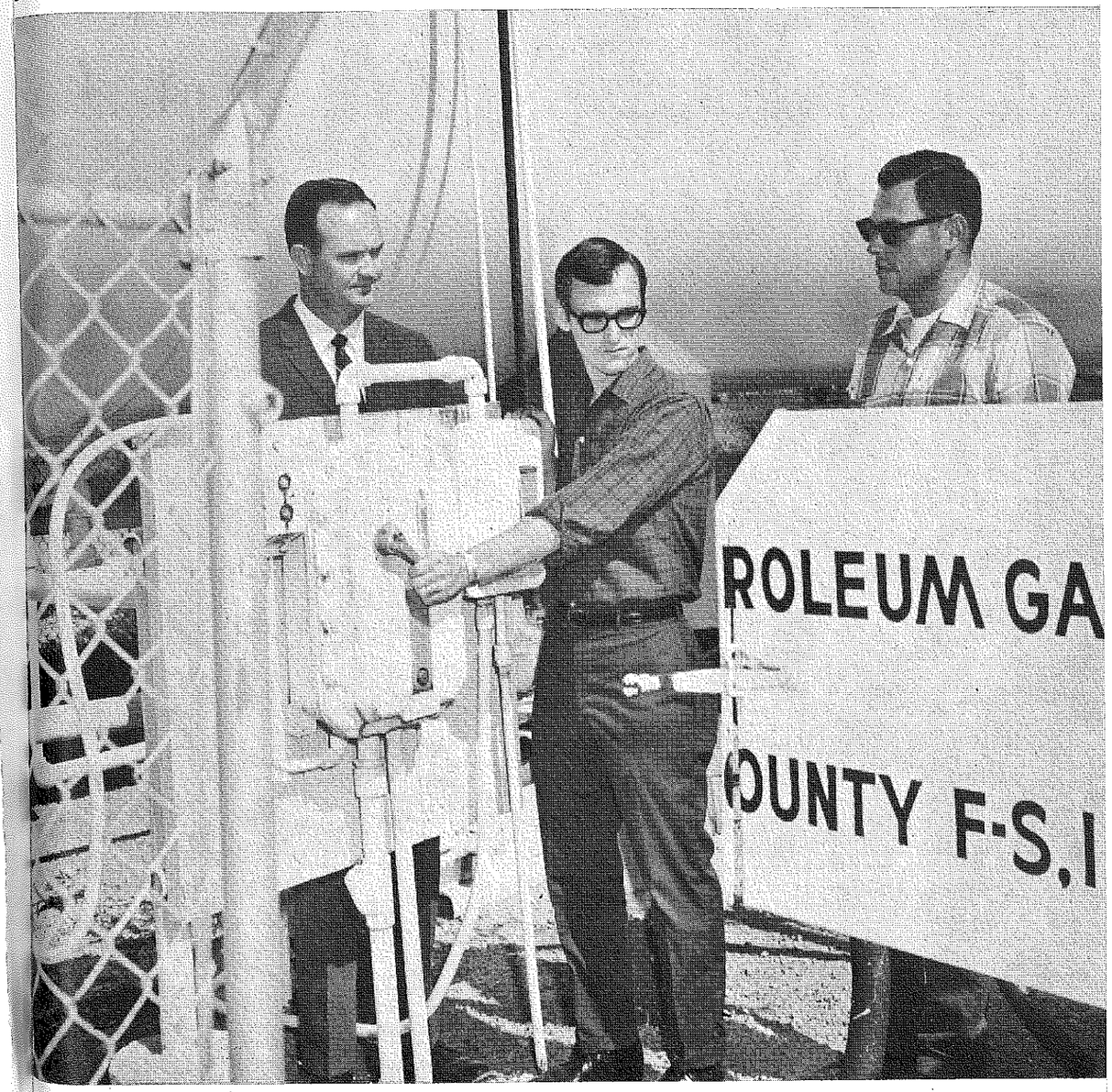

The
Agricultural Education
Magazine

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COVER PICTURE

The Agricultural Occupations instructor at Polo, Illinois, Gene Morman (center) prepares to coordinate a work experience program by gaining occupational experience as a part of his participation in a summer workshop at the University of Illinois. The activity is being supervised by Lloyd Jones (right), petroleum sales manager, Champaign County F.S., Urbana, Illinois, during a coordination visit by Dr. David Williams, Division of Agricultural Education, University of Illinois at Urbana. Photo by Robert W. Walker.

From the Editor . . .

IS OUR TEACHING VOCATIONAL?


Harry W. Kitts

Many educational leaders of today have publicly expressed a view that vocational education is an effective means of meeting the needs and demands of our complex society. More funds are being made available at all levels — federal, state and local. More time and personnel is being devoted to expanding vocational training. My concern for vocational education in agriculture does not relate to the abolition of jobs or the assignment of duties on a broader or less specific field of vocational education. I am not overly concerned about changes in terminology or names — it may be just another exercise in sematics. My concern is the change that is taking place in "vocational" education. For the past half century, we in vocational agriculture have proudly referred to our "hands on" activities. We have closely related our classroom teaching with on-farm experiences. Our FFA motto includes the phrase "Learning by Doing." From what I have observed and heard recently, I consider the change in attitude is away from these essential principles of application. I am convinced that such action tends to de-emphasize vocational training. Vocational agriculture has made a large, identifiable contribution to farming and to other segments of agriculture in every community, state and our nation. I am not saying that because the program has been successful it should not be changed. Despite this success, there is opportunity for advancement. I believe that in our efforts to strengthen the program we should not abandon one of the keystones of the structure — the supervised work experience program — whether it is on the farm or in an industry or business in the community. The Vocational Education Act, and its amendments, provides for placement for experience. It MUST be an educational experience. The student should not have a production enterprise and continue to follow the same management practices applied by his dad or grandfather. The primary purpose of this experience program is to correlate the activities with the classroom teaching. Thus, one of the main essentials is the joint planning by the student, his parents and the teacher. Production goals should be established, a list of activities developed and a schedule made of the time these activities should be completed. The teacher must make the necessary on-farm visits to provide the guidance and instruction needed to conduct the program. If the student is placed in a cooperating business, the student, the employer and the teacher should develop a list of experiences the student is to receive and a calendar of events indicating the sequence and approximate amount of time to be devoted to each activity. Again, the teacher must make periodic visits to observe the student and discuss his training with the employer. Teachers should not take credit for a student who develops a beef enterprise because it is the major enterprise on the home farm. Nor should the teacher take credit for a training program if the student secures this employment on his own initiative. A part of the educational process is deliberately planning and directing the activities of the learner. It is a series of experiences to train an individual for a given employment. Three things can be identified: (1) the student will know more about that particular job and he will have learned accepted, recommended procedures, (2) the student will be identified as having specific skills and abilities that will appeal to a potential employer and probably result in the student seeking employment in agriculture and (3) the student will have acquired these skills, knowledge and attitudes in less time and with less discouragement and wasted effort than if he proceeded on a "trial and error" basis. The function of the teacher of agriculture is recognized in conscious vocational education! We cannot let unorganized training and non-directed learning to assume control of our vocational agriculture program. Our schools, and our teachers, are prepared to carry out our objectives to produce competent workers at a reasonable cost if we do not surrender our obligation.

DR. CARSIE HAMMONDS
May 16, 1894 - September 2, 1970

Dr. Hammonds was a scholar, writer, teacher and friend. His many friends regret his passing. He was chairman of the Department of Agricultural Education, University of Kentucky from 1926 until retirement in 1964. He was editor of AGRICULTURAL EDUCATION MAGAZINE 1932-5.

Guest Editorial

WORK EXPERIENCE PROGRAMS

Dr. Carl F. Lamar is Professor of Agricultural Education, University of Kentucky, Lexington. He has been granted a reduced assignment at the University to serve as Assistant Superintendent of Public Instruction for Vocational Education, Kentucky State Department of Education, Frankfort.

Every agricultural student should have, as a part of his vocational preparation, an appropriate work experience program. There should be a close relation between the work experience program and the vocational instruction provided in school. The instruction received in school and the work experience should be planned and supervised by the school and the landlords or employers so that each contributes to the student's total education and to his vocational success. The instruction in school should be relevant to the student's vocational aspirations, needs, and capabilities; and it should be taught well enough to function in practice.

Experience in selecting, planning, and carrying out a good work experience program, with the help and cooperation of the landlord or employer and with the coordination and supervision of the teacher of agriculture, is an essential part of vocational agriculture.

Work experience programs do not represent a new concept in vocational agriculture. However, this does not imply that all teachers of agriculture have accepted the concept and have done a good job in implementing it. The basic values of good work experience programs need to be understood and accepted by the teacher before he is likely to do what is necessary to make sure that each of his students will accept the idea and make the necessary arrangements to have such a program.

Leaders in agricultural education have emphasized the importance of work experience as an essential part of the instructional program in vocational agriculture for many years. When the major thrust was on production agriculture and preparation for farming vocations, emphasis was placed on the need for a well-rounded farming program for each student enrolled in vocational agriculture. It has been the continuing belief of leaders in agricultural education that the work experience program should include all of the essential aspects of the vocation that one must be able to perform if he is to be successful.

It has been recognized that the essential experiences in farming can be attained through several alternative approaches, namely: (1) a farming program planned on the student's home farm—through a cooperative arrangement between the student and his parents—usually consisting of production projects from which the student receives a share of the financial returns; improvement projects from which the student receives additional work experience; and supplementary farming practices selected to round out the farming experiences needed by the student; (2) a farm placement program whereby the student is placed on a farm where he can get the essential farming experiences needed to attain his vocational objective because his home situation does not provide these opportunities; (3) appropriate farming experiences provided on a school farm which is managed by the teacher of agriculture; or (4) a combination of these three possibilities. These alternatives continue to be acceptable possibilities for providing valid and essential work experiences for students who are preparing for farming vocations.

It must be recognized that the "world of work" has been undergoing a gradual evolution. The evolving changes have affected the agricultural industry in the same ways that other businesses and industries have been affected. Advances in science and technology and increased knowledge have brought about greater demands for broad based work experience programs in all areas of vocational education.

Vocational agriculture is now concerned with the responsibility of preparing people for employment in the total agricultural industry. The agricultural industry has been expanding and taking on new dimensions for many years. The self-contained farming business has become a thing of the past. It has been somewhat difficult to keep up with the many farm based or agriculturally related occupations which have emerged to support the farming vocations — either as inputs to the farming operations or as services in processing or marketing the farm produce.

Off-farm agricultural occupations represent the area of new and emerging occupations in agriculture that have received considerable attention in recent years. In preparing students for employment in these occupations, appropriate work experience programs are equally as important as for farming vocations. For many teachers of agriculture, this means a new type of employer-employee relationship in providing the essential work experience part of the instructional program. There must be developed a new kind of working relationship between the school and the off-farm agricultural businesses and industries and with the students and their parents if the instructional program can be expected to be successful.

According to the provisions of the Vocational Education Amendments of 1968 (P.L. 90-576) this pattern of instruction is called "cooperative vocational education." It is defined in Part G of the Act as follows:

> "A program of vocational education for persons who, through a cooperative arrangement between the school and employers, receive instruction, including required academic courses and related vocational instruction by alternation of study in school with a job in any occupational field, but these two experiences must be planned and supervised by the school employers so that each contributes to the student's education and to his employability."

It should be easily recognized that this arrangement has been the accepted pattern followed in preparing students for employment in agricultural occupations since the beginning of the program. Preparation for employment in off-farm agricultural occupations merely introduces another alternative in making arrangements for the required work experience programs.

All of the basic principles advanced to justify the need for a supervised farming program by students preparing for farming vocations are equally applicable to a sound "cooperative vocational education" program for students preparing for off-farm agricultural occupations.

Teachers of agriculture should be mindful of the many values that this pattern of instruction has to offer as they strive for such things as relevance and accountability in their instruction. It can meet the accepted criteria regarding such concerns if the program is properly planned and carried out.

The basic concern of the teacher must be the development of a sound teaching-learning situation which takes into account the needs and abilities of the student with regard to his vocational aspirations. This pattern of instruction is designed to emphasize the importance of theory and practice in the learning process and the desirability of having them experienced together so they can contribute to each other in bringing about the desired learnings. Theory is the conceptualized understandings arrived at by an ordering of the facts into meaningful relationships. This takes place largely in the classroom instruction. Practice pertains to application of the theory in the doing or performing which takes place largely through work experience — hopefully in the actual vocational setting.

In attempting to provide good vocational teaching, we must not jump to the conclusion that supervision of performance or practice in a work experience program is all that is needed to have a sound vocational education program. Both the classroom instruction and supervision of performance or practice in the work experience program are generally accepted as necessary in vocational education. Neither instruction without practice nor practice without instruction is vocational education. The two should be planned together and closely coordinated if desired results are to be attained.

Learning is the reason for teaching. Learning is conceived to be the process by which one from his own activity (experience) becomes changed in behavior. The changes in behavior which are sought through vocational education are those needed for success in the vocation. Experience is essential to learning. Participation or experience in the aspects of the vocation one would learn is necessary to learning them.

While practice or experience is a necessary condition to learning, not just any kind of practice or experience will do. There may be practice of the poor or incorrect or practice without understanding or practice without awareness of the theory involved. Thus, it is vital in program planning that the teacher understand the teaching-learning process and he makes sure that appropriate arrangements are made in setting up the work experience program to assure effective implementation of the process for the benefit of the student.

The teacher should have students plan and carry out supervised work experience programs primarily to enable them to acquire whatever learnings may be necessary for success in their vocational pursuits. The higher the level of aspiration of a student, the more he is willing to practice. And, as he practices, he will be drawn toward the standard he accepts. Practice is essential to learning and to retention of the learning. Abilities once developed need to be kept alive if they are not to be lost, no matter how thorough the initial learning.

If the teacher has clearly defined teaching objectives, he can easily identify the areas in which each of his students needs to secure practice or experience. The teacher should have each student participate or practice in all areas in which he hopes to secure learning. If the student is to learn to think in a vocation, he must think in that vocation. If he is to learn to plan a vocational activity, he must do the planning. If he is to learn to cooperate with others, he must practice such behavior. If he is to learn the management aspects of a vocation, he must have experience in management. If he needs to acquire a particular attitude or feeling, he must engage in activities that will make possible the desired learning in this area. The desired learnings should be practiced while the student is being taught.

Thus, there is the desirability or necessity for supervising the performance or practice of the students by the teacher with the help of the landlord or employer who has provided opportunities for the work experience program. Supervision provides opportunity for the teacher and others who help him to direct the activities of the students so as to produce the maximum amount of desired learnings. Through good supervision the teacher should be able to improve the quality of the performance and get the maximum amount of practice or experience where it is needed.

Goals are great determiners of what students will do in learning a vocation and in following it. There should be adequate experience by the student in what he is to learn well. If the activities of the learner are to result in effective learning, supervision of them is usually necessary.

The results from supervised experience should be considered in evaluating the teaching and the learning. Teaching should be judged by evaluating the evidences of learning, some of which should exist in the results of the supervised work experience, and they should be observable in the subsequent self-directed activities of the students.

Thus, supervised work experience programs for agricultural students need to be developed according to the cooperative vocational education concept. For them to be successful, they must be carefully planned; involving the student and his parents, the employer, and the school. There must be developed appropriate understandings by all concerned in terms of acceptable policies and practices to be followed, wholesome working relationships, and coordinated class instruction with work experience schedules, and the utilization of all appropriate elements needed to sustain a sound teaching-learning program for the benefit of the agricultural students.

TEN MYTHS ABOUT DIRECTED WORK-EXPERENCE

Harold R. Cushman, Charles W. Hill, and John K. Miller
Teacher Education, Cornell University

No aspect of the Agricultural Education program is surrounded by more myths than the directed work-experience program. Nearly all of these fairy tales and figments of the imagination have been originated by one of two groups. First, there are the teachers, teacher trainers, supervisors, directors or administrators who appear anxious to rationalize the absence of a viable and vital program of directed work-experience among the offerings of their department, training program, supervisory area, or state. Then there are those who are so far removed from the reality of contemporary vocational education that they equate directed work-experience with the farm experience placement project of the pre-World War II vintage. In the course of the three years during which we conducted the Cornell Directed Work-Experience Project, we were repeatedly exposed to a wide variety of ghosts and goblins. And we had the satisfaction of watching these shadowy distortions vaporize one by one as our try-out teachers (except two who looked back) went about implementing our guidelines and procedures under the diversity of obstacles and opportunities found in the 12 northeastern states. But misconceptions are hard to keep down. They have a habit of popping up again and again. This article will be devoted to the task of exploding ten of the most prevalent myths we encountered about directed work-experience programs. In the paragraphs that follow, these apparitions will be called before us one by one and examined in the light of experience garnered from the Directed Work-Experience Project.

MYTH I—Directed work-experience programs are not worth the effort

The Facts

Implementation of the guidelines and procedures for directed work-experience programs does bear more abundant fruit than conventional programs.

1. More students obtain pre-graduation employment experience.
2. More students engage in pre-graduation employment related to the specialized training program in which they are enrolled.
3. Students who engage in directed work-experience:
   (a) enter the world of work with an increased measure of competence.
   (b) enter occupations related to their vocational course with greater frequency.
   (c) pursue advanced study in areas related to their vocational course in greater numbers.

MYTH II—Contrived work-experience is as effective as directed work-experience

The Facts

1. Because directed work-experience takes place in the out-of-school, remunerative, commercial settings of the off-farm agricultural occupations, inherent provision is made for such concomitants of learning as: continuity of experience at school and at work, meaningful interaction, self-activity, satisfying rewards, real-life practice, and student commitment.
2. Directed work-experience, by its very nature, is more likely to fulfill students' needs for: orientation to the world of work, development of up-to-date technical skills, earning money while staying in school, acquisition of work habits demanded by employers, and generating realistic vocational aspirations.

MYTH III—Arbitrarily established "minimum hour" requirements are meaningful

The Facts

1. The relevance of the amount of work-experience (300-600 hours) required in many vocational programs to measurable criteria of success is not borne out by the available evidence.
2. Careful teacher control over the extent of student experience appears to be difficult and impractical.
3. Because of the extreme variability in the kind and variety of experience, "hours worked" is not a meaningful yardstick.
4. *In those situations where the guidelines and procedures are persistently implemented by the teacher* students tend to engage in enough work-experience to meet their individual educational needs.

MYTH IV—Anyone can implement and operate a successful directed work-experience program guided only by common sense and past experience with supervised farming programs

The Facts

1. Successful directed work-experience programs in agriculture do not develop spontaneously. There are, in fact, too few such programs in the *entire nation.*
2. Experience has shown that there are certain conditions that are absolutely essential to the success of a directed work-experience program: a sympathetic school administration, a sufficient number of students; a sufficient number of training opportunities in the school area, teacher time to do the job; and a qualified teacher-coordinator who combines technical competence with coordinating aptitudes, human relations skills *and guts.*
3. Directed work-experience and supervised farming are more dissimilar than similar. They require different guidelines and procedures for their successful implementation and operation.

MYTH V—Employers and students are reluctant to participate in directed work-experience programs

The Facts

1. Where the conditions essential to success are present employers and students cooperate and participate once they understand what the program is all about.
2. This myth appears to be perpetuated by persons who are either
   (a) rationalizing an unwarranted fear of students and employers,
   (b) lacking in enterprise and initiative, or
   (c) unresponsive to the changing educational needs of their students.
3. Unresponsive employers and students make up a small minority of the total populations of such persons.

MYTH VI—Advisory committees are only "window dressing"

The Facts

1. Advisory committees composed of competent persons from the "trades" most closely related to the instructional program are invaluable aids in solving the problems encountered in directed work-experience programs.
2. Teachers who involve their committees in the "gut-issues" of the specialized program are unanimous in swearing that the committee is a crucial key to success.

MYTH VII—The teacher should either assign the students to jobs or turn the students loose to find their own jobs

The Facts

1. Either way you're wrong. Instead, select appropriate business settings for the placement of students. Establish favorable learning situations before student workers are interviewed by employers. *Then follow normal hiring procedures in the placement of students.*

MYTH VIII—Written training agreements are an essential aspect of directed work-experience programs

The Facts

1. Written contracts are not a feature of normal hiring practice and for this reason employers are hesitant to make such a commitment.
2. A second dimension of unreality is added by the fact that such contracts do not bind minors, though they may in fact, legally bind the employer.
3. Although written contracts have been pushed for decades by state-level educators, it is a rare teacher who uses them, except in those cases obligatory by law; i.e., certain types of work situations or the employment of students below 16 years of age in hazardous occupations.
4. Verbal understandings? Yes. Written contacts? No, except where required by law.

MYTH IX—Extensive record keeping and paper work is a concomitant of directed work-experience programs

The Facts

1. Three simple records are kept by students:
   (a) A record of hours worked,
   (b) A salary record,
   (c) A record of work activities performed.
2. Employers submit periodic student work-rating forms to the teacher.
3. In addition, the teacher normally keeps:
   (a) A record of each coordination visit made to the employer's place of business,
   (b) Minutes of advisory committee meetings,
   (c) A record of annual program evaluations,
   (d) Reports made to administrators and data from which next year's report will be compiled.

MYTH X—Legal considerations present a major obstacle in the initiation and operation of directed work-experience programs

The Facts

1. Not one of the 18 try-out teachers in the directed work-experience program mentioned legal considerations as a hindrance to the conduct of a successful program.
2. The various legal considerations are well cataloged in Cornell Misc. Bul. 91, state labor department publications dealing with the employment of minors, and materials released from state bureaus of agricultural education.
3. Advice on legal aspects is readily available from the nearest labor department office, the nearest state employment office, and state education departments.

Summary

After observing the 18 try-out teachers attempt the implementation of the directed work-experience program in their schools, we are convinced that the ten "myths" discussed lack substance. Whether or not we have convinced you of this point of view, we would encourage you to operate on the hypothesis that they are invalid until you have personally collected evidence to the contrary.

The main prerequisites for implementing and operating a successful directed work-experience program are the guts to get moving, the determination to do what's best for the students, and a sincere desire to learn. These three qualities spell success — myths or no myths.

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This article is based on the authors' experience during the course of a developmental project, "The Development and Improvement of Directed Work-Experience Programs in Expanded Vocational Education Offerings in Agriculture at the Secondary School Level," conducted at Cornell University. The following publications resulted from the project supported by a grant from the U.S. Office of Education.

Guidelines and Procedures for Directed Work-Experience Programs in Vocational Agricultural Education, 1966. 24 pp.

The Concerns and Expectations of Prospective Participants in Directed Work-Experience Programs, 1967. 35 pp.

The Teacher-Coordinator's Manual for Directed Work-Experience Programs in Agriculture, 1968. Cornell Misc. Bul. 91. 44 pp.

The Development and Improvement of Directed Work-Experience Programs in Expanded Vocational Education Offerings in Agriculture at the Secondary School Level, 1968. Final Report to the U.S. Office of Education. 154 pp.

Inquiries concerning the project and the publications should be addressed to the authors at the Agricultural Education Division, Department of Education, New York State College of Agriculture, Cornell University, Ithaca, New York 14850. Cornell Misc. Bul. 91 is available only from the Publications Office, Research Park, Cornell University, Ithaca, New York 14850 at 50 cents per copy.

AN IMAGE OF AGRICULTURAL EXPERIENCE IN VOCATIONAL EDUCATION

BILLY J. VICE is an instructor in the Department of Agricultural Education, University of Kentucky, Lexington, Ky.

Agriculture continues to be synonymous with farming for many people. If one examines the lack of change in curricular patterns, occupational experiences for students, content and objectives of programs, perhaps even agricultural education itself continues to perpetuate this view. In the past farming included the production of food and fiber with land as a factor of production. Many persons still say that the first two years of high school vocational agriculture should deal with production agriculture, yet expect students training for off-farm occupations in agriculture to take the same curriculum as in the past in addition to a specialized off-farm program as juniors and seniors. Apparently, some people in the profession do not conceptualize training for farming occupations as a specialized program. All we need to do is ask a successful full-time commercial farmer to rid ourselves of this misconception.

Programs or Content Classification

People in agriculture range from prospective agriculturalists in secondary programs to aged adults, from commercial farmers to part-time subsistence ones, and from persons gainfully employed to poverty families. The category of persons to be served with educational programs requires many different curricular concepts even in production agriculture, and the range of off-farm occupations in agriculture is unlimited if we had competent teachers. Classifying a curriculum without regard to persons and occupations does not differentiate agricultural programs of vocational education. Curriculum development and articulation between curricula become confused. Often subject matter content is artificially categorized and given priority over needs and interests of students.

Having separate programs for the hundreds of agricultural vocations is beyond our resources, but surely farming occupations must be considered specialized programs in our curriculum. Presently occupations related to on-farm production of agricultural products all specify the same subject content in the three areas of (1) animal science, (2) plant science, and (3) agricultural business management, such as coded in the publication issued jointly by the U.S. Office of Education and Department of Labor titled, *Vocational Education and Occupations.* Do all farming occupations, such as a producer of cash-crops or a producer of specialized horticultural crops, need to have animal science as part of the curriculum? On the other hand, much of what is called agricultural business management applies to off-farm agricultural businesses as well as farm business management.

Experiences—Means or Ends?

A main component of successful programs in the past has been occupational experiences for students related to classroom instruction. Desirable criteria or standards for the application of theory in a "live" situation were established. This cannot be done easily with many agricultural occupations, but experiencing reality is just as important today. Perhaps our proclaiming this fundamental principle in vocational education justifies the faith others have in us to help persons with disadvantages, as well as advantaged individuals. Have we classified occupational experience programs by extremes? Is a farming program still the ideal way to provide occupational experiences when we are preparing persons for off-farm agricultural vocations? On the other hand, can students getting experiences of an "off-farm" nature understand the problems of farmers to be served without previous experience or our providing production experiences for them? Do agricultural educators see experience programs for students as an either-or pattern?

Guidelines for Program Development

Allowing multiple choices for high school students as suggested in the Report of the National Advisory Council seems desirable for vocational education in agriculture. Specialized programs are desperately needed as occupations change and new ones emerge. However, specialization that forces an individual to make decisions before he is ready may limit his future alternatives. Excluding the restraints and unavoidable slowness of change, a few basic guidelines seem applicable to program development in vocational agriculture.

First, vocational educators in agriculture should place emphasis on competencies that can be acquired by individuals at different stages of career development. If people are already employed in an occupation, these competencies can be very explicit and highly specialized. However, during early career development, such as students in the freshman year in the secondary program without a definite career goal, a more general program should be planned. Perhaps knowledge, skills, and other behavioral modifications desirable for students planning for both farming and off-farm agricultural occupations could become the foundation for more specialized programs. Many of our clientele groups continue to be from rural areas. Studies have shown that rural youth need to expand their knowledge of the occupational alternatives. If this fact can be assumed, it implies one area where vocational agriculture can truly be for all students rather than the on-farm —off-farm dichotomy. There are other areas within the subject matter fields of agriculture pertinent to both groups if we will conduct studies to find out what they are.

Second, the needs, interests, goals, and probable uses that can be made of learnings in agricultural education by all our students should be a principle to guide program development. A community program in agriculture is relevant, since we should depend on the community to help us educate the students. However, the concept of a community is similar to saying farming occupations can be fenced off from off-farm ones. As it is sound to decide if fences are needed on many farms today, we should examine the boundaries of our ideas about communities. The socioeconomic conditions and the mobility of our clientele force us to be more concerned with individuals than artificial boundaries. People in agriculture today are not immobile like the land which formed a basis for our concept of a static community. Some communities even restrain the type of programs the students really need. Individuals within the same community have more heterogeneous needs than in the past, so let us focus more on the students, as well as the community itself.

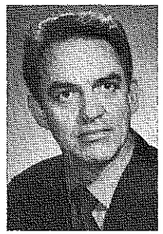
Third, agricultural occupational experience is a means to help people learn. Quality as well as quantity of experiences related to ultimate use of the resultant learnings by students is never a static process. New experiences necessary to attain desirable objectives should always be a criterion to evaluate the quality of the learning for a person. Providing desirable learning experiences in successful situations is the job of the educational system. Since the teacher assumes this responsibility, he must help the student plan experiences in businesses, on a farm, at home, in agricultural agencies, at school, or in a combination of situations that is best for each student. Let us hold to the fundamental principle of relating theory and actual participation, but expand it to all of agriculture and to all students of agricultural education. If a farming program or even an unrealistic standard is the "tail wagging the dog," have we let the principle become an end in itself? Experience helps us learn, but direct experience is not the only way to learn.

Fourth, experience must be conceptualized as much more than practice. Practice is often based on quantity of experience and what is the usual way of doing something. Experience must involve what ought to be as well as practicing what has been learned; even practice should be more than mere repetition. Classroom instruction, on-the-job situations, and their relationships must be considered in planning the quantity and quality of participation. Timing both the theory and direct experience becomes critical. Laboratories, simulation, and even teaching methods can help link the two ideals of experience programs that are outside the classroom to related instruction inside the classroom.

Fifth, experiences should be planned to attain objectives rather than experiences being ends in themselves. Performance practice can contribute to the efficiency and effectiveness of job training, but results often considered by-products of agricultural experience programs in the past may need be given top priority today. A recent State survey of educators and laymen by the Kentucky Department of Education ranked the top five major needs of students as follows: (1) learning skills, (2) vocational knowledge and skills, (3) human relations, (4) new approaches to learning, and (5) citizenship. Within the major need for vocational education, the second most important item was more opportunities for students that provide for "understanding a wide variety of careers so that they will be better prepared to make wise choices." The first need listed in the learning skills area was students with more skill in "thinking logically and critically in solving problems." Skills to "analyze, apply, relate, and use" information were ranked higher than "memorizing and retaining information." The Kentucky Advisory Council for Vocational Education and Manpower Development and Training reported employers want persons with desirable attitudes, work habits, and personal skills.

In conclusion, the scope and quality of experience must start with goals for occupational education of our clientele if objectives and occupational experiences are based on their needs. Regardless of the purposes of occupational experience in agriculture, the appropriateness of experience depends on the student's previous background, his situation, his goals, and his individual needs. Levels of experience such as observation, participation, and ultimately full responsibility must be considered in developing a pattern most desirable for educating students. One key question must be answered: is occupational experience mainly for the development of skill (apprenticeship approach), for supporting the learning of theory — the laboratory point of view, or a combination of these? The answer to this fundamental question will help determine if we change to truly make agricultural education what we want the term agriculture to mean to others outside our profession.

ADAPTING "CO-OP" TO "VO-AG"



Harold R. Wallace is Professor of Business and Distributive Education, Utah State University, Logan. This article summarizes key concepts for teacher-coordinators found in the Review and Synthesis of Research on Cooperative Vocational Education authored by Dr. Wallace. Copies of the Review and Synthesis are available for $2.25 from The Center for Vocational and Technical Education, 1900 Kenny Road, Columbus, Ohio 43210.

The development of "off farm" agricultural education in response to changing demands of the rural employment community is fostering the acceptance of cooperative vocational education — a "big city cousin" to the "vo-ag" program model. Adapting "co-op" to the needs of the agricultural education student and to the employment community in which he will carve out a career, presents challenges to the vocational agriculture teacher. *Review and Synthesis of Research on Cooperative Vocational Education*[1] provides suggestions to meet the challenges and avoid potential pitfalls in adapting the cooperative education model to vocational agriculture.

Educational Significance

Perhaps the most serious potential defect of cooperative vocational education is highlighted in a study by Cushman[2] about concerns and expectations of participants in a cooperative program for vocational agriculture students.

The employer views the student essentially as a part-time worker and expects productivity and effective work performance. The student and parent expect the activity to have educational significance and they expect the student to receive specific training, academic credit, varied and interesting assignments, helpful supervision, and experience that would lead to further training.

Developing Training Sponsors

Vocational agriculture teachers were able to avoid the dilemma described above because the training sponsor was usually a parent who willingly accepted the teaching role and assumed that supervised experience in raising livestock or growing a crop was essentially an educational activity for the student. In adopting the cooperative method, the goal should be to insure that each employer accepts the role of training sponsor, viewing the student as a trainee to whom he has a commitment and not merely as a part-time worker. This concept is essential for the development of cooperative vocational education programs.

Expanded Instructional Activities

Research pertinent to cooperative vocational education suggests that after effective training sponsor development, priority should be given to expanding and enriching the instructional program. The essential directions and activities to be developed may be summarized as follows:

—Related instruction in the school should be based on a summary and interpretation of the training plans which are developed by the training sponsor, the student and the coordinator. These training plans should include a variety of experiences which will assist the student in preparing to meet the demands of the career (not just the entry job). An analysis of the careers toward which the students aspire should form the basis for deriving the broad instructional objectives of the program.

—Preparatory instruction should equip the students to "enter the initial job with basic skills and some specialized competencies which will prevent them from experiencing failure . . ."[3] In the traditional "vo-ag" situation the home environment is interwoven with the occupational environment so that this preparatory training and experience is built-in. A cooperative program should be designed so that this set of preparatory experiences is not left to chance.

—Remedial and advanced instruction, adapted to individual needs, should be blended into the program to serve students with special needs. Typically the resources of other teachers with special training in reading, mathematics and basic communication skills, should be utilized. Provision for individual enrichment and advanced study may require community resource people to be involved in the program.

—Guidance and placement service is another activity which is built into the traditional vocational agriculture program through the involvement of the parent as a training sponsor, but which must be added as the "co-op" method is employed. This requires communication and involvement with school counselors, assessing occupational opportunities in agriculture related industries and working with community agencies which can assist in job placement. Assuming that the entering student has firm, appropriate career plans, and assuming that when he completes the program his future education and employment are his own affair, cannot be justified in an effective cooperative program.[4]

—Co-curricular activities including an appropriate youth organization have been accepted and well utilized to enrich the programs in various vocational fields, including agricultural education. The FFA program should be incorporated into the cooperative program.

—Utilizing the educational resources of the community to expand the learning environment and to provide for additional involvement is another dimension of the instructional program. The concept of the employment community as a learning laboratory and the personnel of the various enterprises as resource people adds meaning and relevance to the program.

Facilitating Activities

Undergirding the cooperative vocational program, if it is to be effective, is a school administration and business community, both of which must be willing to invest the financial and human resources required to develop and operate the program. Without capable coordinators, facilities and financial support the system cannot develop properly. From a cost-effectiveness perspective, top quality cooperative programs are justified.[5]

Within the control of the teacher-coordinator are several other important facilitating activities which research findings indicate as important factors in the development and maintenance of effective cooperative vocational education programs. In summary, they include:

—Developing and utilizing an advisory committee.

—A well designed program of public relations.

—A curriculum development system. This includes procedures for determining the occupational areas in which the student clientele may find appropriate careers, determining the demands to be made upon the workers in these careers, deriving instructional objectives, structuring and facilitating the development of "software" and "hardware" for instruction and learning, developing methods for assessing and evaluating student performance, and finally, program evaluation activities.

The challenge to vocational agriculture teachers as they accept the new role of teacher-coordinator is to maintain the standards of excellence found in effective "vo-ag" programs. They can do this by assuring that the training stations provide educational experiences and not merely jobs by conscientiously developing a "downtown faculty" of training sponsors and by working toward development of a complete system of instructional and facilitating activities.

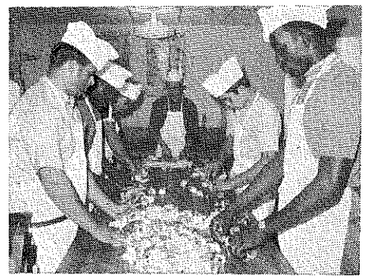
[1]Wallace, Harold R. *Review and Synthesis of Research on Cooperative Vocational Education*, Columbus: The Ohio State University, ERIC Clearinghouse on Vocational and Technical Education, June 1970 (ED 040 274)

[2]Cushman, Harold R. and Others. *The Concerns and Expectations of Prospective Participants in Directed Work Experience Programs*, Ithaca, New York: State University of New York, 1967 (ED 019 494)

[3]Klaurens, Mary K. *The Underlying Sources of Job Satisfaction of Distributive Education Student-Trainees*, Doctoral Study, University of Minnesota, 1967.

[4]Super, Donald. "Vocational Development in Adolescence and Early Adulthood: Tasks and Behaviors." *Career Development: Self-Concept Theory*. New York: College Entrance Examination Board, 1963.

[5]Warmbrod, J. Robert. *Review and Synthesis of Research on the Economics of Vocational-Technical Education*, Columbus: The Ohio State University, ERIC Clearinghouse on Vocational and Technical Education, 1968 (ED 023 927)



Cutting whole hog sausage in DeKalb meats laboratory.

TRAINING IN MEAT PROCESSING

C. R. Jagger
Vocational Agriculture Instructor
DeKalb, Texas

In a changing world we are constantly trying to solve some of our needs and problems. This is true in the educational system throughout our country. With this in mind, the DeKalb High School Vocational Agriculture Department in cooperation with the Division of Agricultural Education of the Texas Education Agency set up a pilot program in Pre-Employment Laboratory Training in Meat Processing.

It was a natural because we had a killing floor, processing room, walk-in cooler for refrigeration, and a school farm where we produced our own livestock to be processed. For the past 15 years the DeKalb Vocational Agriculture Department has been killing and processing animals in its production agriculture classes. This was part of the curriculum in Vocational Agriculture I, II, and III. It also served as a money-raising activity for chapter funds for improvement of the school farm.

The meat processing course at DeKalb High School contains the fundamentals of killing and processing pork, beef, lamb, and poultry, as well as management and sanitation of the killing floor, processing room, and equipment. It is not planned to go into stocking of meat counters or merchandising of retail cuts of meat. We feel this type of course and training, which is conducted two hours each day, will train the student to secure a job in one of our local meat markets, locker plants, or packing houses, or continue his education in the field of meat processing and advance to management or supervision in the meat industry. Several of the students are employed in meat markets on weekends and holidays, others have been contacted about jobs as a butcher's helper when they graduate from high school.

Job Interest Program

Charles L. Clark
Vocational Agriculture Instructor
Walla Walla, Washington

Twenty-five Vocational Education students at Walla Walla High School entered a work experience program spring semester 1970 whereby each student worked at a job related to what he was taught in the classroom. Because schools cannot teach everything there is to know about every job, labor and industry are playing a big part in helping to educate our students for the world of work.

This program started three years ago in this Washington community of twenty-five thousand people. Many hours were spent in advance by the instructor talking to business men in the community. Every firm visited was in favor of the program. Training stations were selected with care so the student would have an opportunity to learn the skills relating to his work interest.

Only three students were chosen to participate in the program the first year. They were placed in three different welding shops. This was the type of work for which they had trained in the ag shop. This work seemed to be their primary interest for a life occupation. The boys furnished their own transportation and they had proper insurance. The students worked during school time. They received no pay, but they did receive credit and a grade. The boys worked for about one hour per day for five days a week the entire second semester.

The second year six boys were selected from one of the agricultural classes and placed on jobs pertaining to their field of interest in the world of work. These boys were of average to above average in intelligence. Four of these boys were placed in welding shops, one in an electrical shop and one at a veterinary clinic. The four boys who were placed in welding shops were good welders. The boy placed at the clinic had little training in veterinarian work, but both he and the student placed in the electrical shop were interested in these two fields of work.

During this past year a class of twenty-five students was organized for off-farm related agricultural occupations. The class consisted of mostly seniors who had not taken any vocational agriculture previously. It was apparent that some preliminary training would be necessary. During the first semester the class was taught arc and acetylene welding, small engine overhaul, an introduction to horticulture, and several weeks on how to get a job, how to keep a job, and a listing and discussion of safety rules to follow while working in industry.

During the first six weeks of school each student was asked to list the three fields of work which he would like for a life occupation. Starting the second semester the students were placed on a job which was either their first or second choice. Five of the class members received full time summer jobs at their cooperating businesses at the close of the spring semester. Three are shown in the picture, however, the two boys are not just rewinding motors. One boy is working in the irrigation section and the other boy is working on air conditioners and motors with pumps. These boys are learning more than we can teach them in the classroom or shop about this certain field of work. Industry can help train our students and this is one way it can be done.

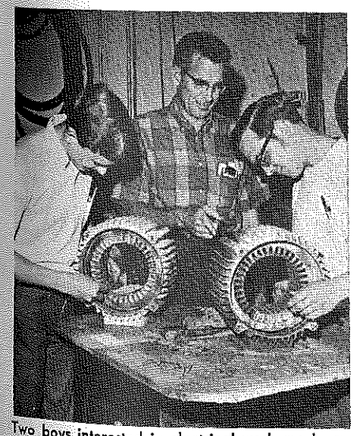
Another boy placed at a machinery dealer started out as a mechanic and a welder. He has moved up to the parts department because of his fine knowledge of the different parts.

The students spent several weeks in class learning shop skills in arc welding, acetylene welding, forging and some lathe work. They also learned tool sharpening and shop safety. The students studied small engine overhaul and ornamental horticulture. They brought in their motors to work on and the school furnished the tools and equipment. In the horticulture area students did landscaping for people in the community. They also studied plant and shrub care. Walla Walla High School plans to construct a green house in the future which will make the horticulture studies more effective and meaningful to the students.

Our administrators look at this program as being great and our business men involved in this program have praised the training and the students very highly. Parents believe that it is much cheaper for the student to find out his interest early rather than after he has attended college for a year or two and then decide he does not want a college education.

The off-farm agricultural occupations program will be continued. The class will be called agri-business the first semester. There will be much pre-employment information taught during the semester and key people in the area who do much hiring will be used as resource people. The skills mentioned previously will be taught as well.

During the second semester the course will be called agri-business employment. At this time the students will be placed on jobs of their interest for training or further training. If the student decides that this is not the work he likes then he will be placed in another job relating to his interest. Someday the students may be working two to four hours per day and going to school one, two or three hours during the evening.



Two boys interested in electrical work are learning how to rewind motors.

COMING ISSUES

February	—	***Placement and Follow-up of Students***
March	—	***Environmental Science Education***
April	—	***Education for the Disadvantaged***
May	—	***Professional Improvement for Teachers***
June	—	***Articulation of Agriculture into the Total School Program***
July	—	***National, State and Local Leadership***
August	—	***Maintaining Programs of High Standards***
September	—	***Instructional Materials***
October	—	***Broadening the Offering in Vo-Ag***
November	—	***Support by Industry and Organizations***
December	—	***Multiple Teacher Departments***

News and Views of NVATA

JAMES WALL
Executive Secretary

The Charles Pfizer Company awards $500 checks to the advisors of the Star Dairy, Livestock and Poultry Farmers. Winners this year were—

D. C. Fleming, High School, Evergreen, Alabama 36401 — Livestock Farming

Kenneth Poole and Robert Cone, Community School, Salem, Illinois 62881 — Dairy Farming

James R. Hamilton, High School, Crossville, Alabama 35963 — Poultry Farming.

Mr. Poole and Mr. Cone were both advisors to the Star Dairy Farmer so they will split the $500 award. Mr. David Ringler, Pfizer Public Relations Manager, presented the checks and trophies at the recent NVATA Convention in New Orleans, Louisiana.

★ ★ ★

NVATA was represented at the National FFA Convention by President Millard Gundlach, Past President William Smith, Treasurer Sam Stenzel, Vice Presidents Francis Murphy and Howard Teal and Executive Secretary James Wall.

President Gundlach received the Honorary American Farmer Degree and served on the Star Farmer of America Judging Committee. He also attended meetings of the National FFA Board of Directors and the Board of Trustees of the FFA Foundation.

Treasurer Stenzel was in charge of the NVATA Booth at the Careers Show. Thousands of FFA members, teachers of Vocational Agriculture and guests visited the booth. A large, lighted map was used to indicate the need for new and replacement teachers in each of the states.

Vice President Teal met with the National Judging Contest Committee and reported a most interesting and profitable session. This was the first time teachers were represented as official members of the committee. Other teacher members were: Jack Humphrey of Wyoming, Grover Miehe of Iowa and Earl Gardner of Alabama.

Jim and Georgia Wall were in charge of the "Student Teacher Coffee and Meeting" and the "Reception" for members and friends of NVATA. Over 200 attended the affair for students and nearly 500 attended the reception.

A summary has been made of information taken from registration cards turned in at the NVATA Reception. The results follow—

Number of states represented—41.

Largest delegations — Illinois 70, Iowa 44, Minnesota 41, Missouri 20, Ohio 20 and Nebraska 20.

Have attended National Convention of NVATA—148.

Have not attended National Convention of NVATA—245.

LATIN AMERICAN CONFERENCE ON AGRICULTURAL EDUCATION

Dr. Ray Agan served many years as Chairman of the Department of Agricultural Education at Kansas State University. This year he assumed a new position as Coordinator of Occupational Education at the same institution. He has served as consultant to foreign countries on several occasions. He is chairman of Phi Delta Kappa Commission on International Relations. He was a regional editor for Agricultural Education Magazine but accepted a new assignment as International Editor. This is the first article on international programs on Agricultural Education.

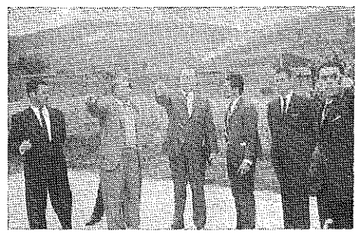
From April 26 — May 23, 1970 twenty-four agricultural school directors and Ministry officials in Agricultural Education from twelve Latin American countries met in Pamplona, Colombia, in a UNESCO sponsored conference on Agricultural Education at the sub-university level to plan the future role which they believe Vocational Agriculture should have in Latin America. The countries represented were Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, El Salvador, Guatemala, Nicaragua, Paraguay, Peru, and Venezuela. UNESCO consultants assigned to the program were Ray Agan, Kansas State University and Guy Bretones, Montpellier, France.

The conference participants studied the recommendations made by UNESCO, FAO, CIT and various Colombian agencies, discussed the preliminary presentations, and settled upon six major problems in Agricultural Education to be the focus of attention. The six areas were: (1) Guidelines for teaching Agricultural Education, (2) Objectives of the program in Agricultural Education, (3) Structures of Agricultural Education, (4) Relationship between Agricultural Education and rural development, (5) The pedagogical necessities of teaching Agriculture, (6) The preparation of teachers. The participants also visited and analyzed centers of Agricultural Education in western Venezuela and across Colombia, including the INCORA jungle area land development programs; the Bogota programs of research, teaching, and extension in Agricultural Education; and a similar activity in the Western Cali area of Colombia.

Guidelines in Agricultural Education

The group recommended to their governments that solid relations be established in each country between the services of production agriculture, economic development and agricultural education in order that the educational programs in agriculture might meet the needs of the country in agriculturally prepared personnel.

The group, as a whole, did not desire to discuss the feasibility of Future Farmer organizations for their countries, even though Colombia is in the process of planning its third national convention and at least two other countries had small Future Farmer organizations. The group felt that it was a difficult program and one which required a well-prepared and experienced teacher to handle effectively.



Visits to schools of vocational agriculture in order to analyze their programs and facilities for instruction of agriculture and to discuss how such programs would function in the individual countries represented was a part of the conference.

Objectives of Agricultural Education

The group recommended that the program of Agricultural Education be an avenue for the improvement of the rural nutrition, the social mobility, and for a higher level of rural life. The group recommended that the students in Agricultural Education be taught (a) to observe, (b) to analyze, (c) to make decisions, (d) to lead, (e) to learn.

The Structure of Agricultural Education

The group believed that there should be a close relationship with the social structure agencies in the socio-economic development movement within the country, encouraging them towards levels of excellence, giving each boy and girl, man and woman, equal opportunities to study agriculture at every level, giving them, not only technical agriculture, but also values which permit them to participate in rural development.

The conference recommended that Agricultural Education at less than the university level be established in the primary level, in the basic level cycle secondary level, in the technical secondary level, in post-secondary and in adult programs throughout the educational system. It was recommended that the primary level give emphasis to orientation, rural development, and conservation of natural resources during the first years and vocational orientation towards agriculture during the latter years.

It was recommended that the secondary level programs promote the maximum social development of rural youth, increasing their interest in, and acquaintance of the opportunities available to them in agriculture and finally, giving those with aptitudes, attitudes and abilities towards agriculture, a thorough preparation for work as an agricultural practitioner. At the same time, the group recommended that the secondary level programs in agriculture should meet the entrance requirements for further study at the university level if the students ability and interest permitted.

The post-secondary program was believed by the group to be one of specialization in nature and should be no longer than two years in length. The adult program was believed to be very important and should be designed to prepare the adults of both sexes for employment or re-employment in the shortest possible time.

Relationship Between Agricultural Education and Rural Development

The programs of Agricultural Education were deemed to be the fundamental strategy for getting research and rural development information to the institutions interested and in need of the same because of the personnel prepared in the area as teachers of agriculture. The institutions of rural development have had the function of providing the facilities of the socio-economic growth of the rural areas through the increase of natural resources, human resources, finances, and program of work. But to this point the participants felt that the programs of the country had lacked coordination with the programs of Agriculture Education partly due to the shortage of technicians prepared for rural development. Another recommendation was that teachers in the agricultural schools be well prepared pedagogically and have experience in the functions of teaching, research, extension, and community development.

The Pedagogical Necessities of Teaching Agriculture

The group expressed a need for research in each country in the pedagogy of teaching agriculture, especially in relation to making effective use of the aptitudes, individual differences of the student, effective programs for training of teachers, and the effective design of buildings, laboratories, land laboratories, and effective plans of teaching. The group set forth objectives concerning this area, including an objective for their governments to focus research on the study of rural societies and its transformation, including (a) the sociology of the individual, (b) the sociology of the group, (c) the sociology of development and knowledge transfer to rural groups, (d) the sociology of relations between rural and urban societies, (e) the relationship between economic growth, rural development and education. They recommended that programs of instruction and vocational agriculture should serve both sexes, carrying each individual as far as his capacity and needs dictate and that programs of instruction should be adapted to meet the aptitude and vocational objective of each individual and setting up vocational orientation.

All teaching methods they felt should center about the development of the student, the teaching of transferable concepts, and techniques which will apply directly to the socio-economic development.

The Preparation of Teachers

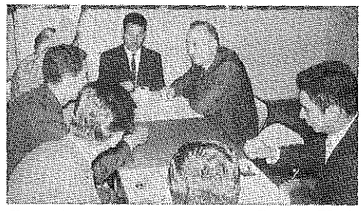
The fitness of teachers of agriculture depends upon (a) vocational experience, (b) scientific and technical preparation, (c) pedagogical preparation, (d) an aptitude toward rural development, and therefore, the institutions preparing such teachers should consider these items. The group thought that an area of pedagogy should be created for the teaching of agriculture at the post-secondary level which would include (a) techniques of communication, (b) techniques of community analysis, (c) knowledge of sociology of rural education, (d) the resources of agricultural pedagogy.

Resolutions to the Governments

Among the resolutions the group made to their own government was included the need for the governments to provide agricultural schools with the materials, financial and human resources, and other support which would enable them to provide adequate educational programs to meet the necessities of agricultural development. There is the need for the establishment of one national and official agency to coordinate the programs of agricultural education and rural development within the country and to provide intensive and practical courses according to the necessities of each region for rural development in coordination with the centers of agricultural education.

Resolutions to UNESCO

The group made an appeal to UNESCO for the establishment of a Latin American agricultural pedagogical institute which would perform the following objectives: (a) form agricultural teachers, (b) perfect agricultural teachers through in-service programs, (c) conduct research in agricultural education, (d) prepare texts and other instructional aids, (e) create a bibliography and materials for agricultural institutes to enrich the libraries and to give in-service preparation in the use of agricultural libraries. Such a center should increase the interchange of scientific and agricultural information between the Latin American countries and provide for in-service improvement of supervisors of agriculture, unifying the programs throughout Latin America. There should be established an executive secretary to work full-time with a staff to carry out these programs in Latin America, coordinating the action of international organizations in such promotion. Such a secretary should call further seminars for vocational agriculture in Latin America and maintain communication between the delegates who attend the seminars, collaborating in the preparation of documents for world conferences and distributing materials of interest to all educators in agricultural education.



Dr. Ray Agan, Kansas State University, UNESCO Consultant, conferred with Latin Americans in Vocational Agriculture frequently in small groups over coffee to make decisions which were presented to the general assembly of the conference.

R. M. STEWART, EDUCATIONAL PIONEER

Milo J. Peterson, professor
Department of Agricultural Education
University of Minnesota

Agricultural education has traveled a rocky road since its inception. Those who have labored in the vineyard over the years striving to provide improved educational opportunity for the man on the land have constantly had to justify their professional existence. This article is one of a series intended to pay tribute in some small way to the pioneers who blazed the trail in the beginning.

If history has any practical value, it is to help establish benchmarks for future advancement. True, situations change. The legal rubrics take in varying dimensions and definitions. But the philosophy, principles and basic objectives remain constant. In these times it seems more important than ever before to draw on the heritage and philosophical accounts of those who dedicated themselves to the service of education for people engaged in agricultural pursuits. Certainly one cannot select any one individual as the progenitor of present programs of agricultural education. The entire process was one of mutual concern. This should have meaning for those presently in positions of responsibility in teaching, teacher education and supervision in agricultural education.

Dr. Rolland M. Stewart must certainly be accorded a place of honor as one who had the vision, leadership and patience to make his mark. In so doing he helped hundreds of his colleagues and students to set their sights toward the achievement of goals he knew could not be reached in his lifetime.

Rolland Stewart was a product of rural Illinois, but he came into the field of agricultural education almost by accident. Born in 1878, he was on the scene long before the Smith-Hughes Act. His college training at Coe College and the University of Iowa was in English and Greek. Before coming to Cornell University as a professor of rural education in 1918, he taught in rural ungraded schools, served as a professor of English and Education and took a turn as president of a small college in Iowa.

From 1918 until his retirement some thirty years later, he was a national leader in agricultural education.

When he came to Cornell he realized his background of study in agriculture was inadequate to chart the course he had set for himself. To remedy this deficiency R. M. Stewart audited every course in agriculture taught at Cornell. Let it be remembered that this was in the early 1900's and college courses in agriculture had a more down-to-earth application than is now the case.

Dr. Stewart was fortunate to have as one of his Cornell colleagues one of the early leaders in the field of farm business management, Professor George Warren. As an interesting sidelight it might be noted that the first inventory of the dairy herd at Cornell identified, not only the number of milk cows, but also the number of "three-titters," about nine percent as the author recalls. This early attention to the details of farm business operation was not lost on Dr. Stewart.

Certainly Dr. R. M. Stewart was no Alice in Wonderland as he set about to build a curriculum in agricultural education at Cornell. He set his sights in the direction of turning out teachers and teacher educators in agriculture who would and could make a contribution to improved educational opportunity in agriculture. He did not expect instant success, but rather he realized that the educational process had a relatively long gestation period. This was, and is, especially true so far as agriculture education at the secondary level is concerned.

In a classic publication in the field of vocational education in agriculture, "Whither Agricultural Education" published in 1938, Dr. Stewart contributed an essay on teacher education. This could well be required reading for those in the field today. In this brief discussion he highlights six propositions which illuminate for us his understanding of the challenge and problems of vocational agriculture today.

Proposition I. *The focal point of our attention (in teacher education) is more and more being centered on teacher situations.* His main thrust in discussing this point was that a teacher training program must be rooted in the reality of the job teachers are expected to accomplish in the communities where they live and work. His stress on the importance of community analysis, vocational interests of students, educational needs of *all* the people concerned with agriculture, of whatever age, is certainly germane today as it was yesterday and will be tomorrow.

Stewart had no provincial viewpoint; he was concerned with people in agriculture, primarily the man on the land. In what may be an oversimplication, his idea was that teacher education should prepare teachers to help people change from what they are to what they could be or should be. In short, the job of teacher education is to prepare teachers to help people in agriculture reach their highest potential. This challenge persists now as it did forty years ago. How many curriculum revisions start from this basic premise?

Proposition II. *More attention is being given to placement as a factor in teacher education.* Placement is a critical matter. Unless teacher educators can conduct programs leading to placement serious problems ensue. It is a conditioning factor of teacher education success or failure. It seems apparent that any vocational education must have reference to placement else it takes its place with liberal arts as a "personal development" type of education. Dr. Stewart believed and taught that those who trained teachers trained them for a specific occupational objective. Similarly, the teachers taught their students toward leadership, citizenship and occupational proficiency.

In a statement suggesting foresight far beyond the 1930's, Dr. Stewart said, "Teacher education in agriculture has no significance in vocational agricultural education if the placement of the individual in income bearing activities is not a central emphasis." There is no need to look askance at the dollar signs attached to vocational agriculture at any level. The liberal arts graduate will have slim pickings enjoying literature, art or the sunset with an empty belly.

Proposition III. *Dynamic teaching content is demanded in teacher education courses.* If ever Dr. Stewart demonstrated a forward look ahead of his time this statement of belief in teacher education illustrates it. The sterile "mickey mouse" methods courses which fail to incorporate solid subject content have been a favorite criticism of teacher education in general.

One may well ask if teacher educators in agriculture have followed the precept set by Rolland Stewart. His concept of teacher education courses included technical agriculture subjects and he held it to be the teacher trainers responsibility to do the "sorting and selecting." He was sharply critical of teacher education which "languishes where it should be thriving because it is cheaper and easier to use old materials, old forms of practice and old methods of teaching."

Proposition IV. *Supervised participation is rapidly becoming the core of agricultural education.* Dr. Stewart held that if the best way to learn is by doing, the principle was equally applicable to the student teacher as it was to the student farmer. The basis of procedure in teacher education is participation, supervised and directed experience. Such an approach to teacher education led Dr. Stewart to recommend, as the *central emphasis* of undergraduate preparation the incorporation of "apprentice teaching" and itinerant teacher training while engaged in a full employment situation. Here is where the beginning teacher, in Dr. Stewart's view, *learned by experience* the reality of administrative relationships, community survey and analysis of the human and natural resources on which to base a teaching program.

Dr. Stewart further emphasized that such activities as organizing high school, post-high school youth and adults into "teachable" units must be experienced to be learned. Teaching in the field and classroom, supervising students' occupational programs, providing equipment and facilities, evaluating agricultural resources, community service and commercial contacts, constructing courses of study, preparing and *using* lesson plans are illustrative of the professional competencies that college courses can and must background for the beginning teacher. But they are learned, even as a physician learns the science and art of healing, by practice in the field.

Dr. Stewart's perceptiveness of the importance of supervised experience in the field of professional practice has certainly not been generally achieved, yet it serves as one of his major contributions. It is for us to move in the direction he so clearly indicated as we ponder the question: "Whither Agricultural Education?"

This is the first of a series of articles on Contributions of Leaders to Agricultural Education. *Dr. Peterson and your editor both were privileged to have Dr. R. M. Stewart as their major advisor for their Ph.D. programs. Dr. Stewart was a consistent contributor to Agricultural Education Magazine from Vol. II until his retirement. There are many other individuals who have made their contribution to our field. Write an article about your favorite and submit it to our Special Editor Dr. C. O. Loreen, Washington State University, Pullman, Wash. 99163.*

COMMUNICATING AGRICULTURE

Robert W. Carlson as Minnesota State Commissioner of Agriculture made these remarks to the members of the Minnesota Vocational Agriculture Instructors Association at their 1970 Summer Conference.

The problem of communicating agriculture to a non-agriculture public is not new. George Washington spent much time boasting the importance of an agrarian society. There are records from ancient Athens decrying the plight of the farmers. Decrees from Rome charged that merchants should not go outside the gates of the city to take unfair advantage of the shepherds by buying at lesser prices than at the market place. Obviously, the agriculture-consumer communications gap is not new. Yet, bridging that gap is of increasing importance.

While the American people enjoy the highest standards of living the world has known, primarily because of the efficiences achieved in agriculture, the farmer's undeniable contribution to the material quality of life appears to go largely unrecognized. Many consumers regard farm programs as a form of welfare; few perceive any difference between commercial and non-commercial agriculture; fewer still recognize that, indirectly, government programs keyed to agriculture really represent a subsidy to consumers. In the face of the greatest food abundance the world has ever known — a fact that should attract honor and attention — agriculture and its agri-business helpmates are being called to question. Those in, and those associated with agriculture, are struck by something of a paradox.

On one hand, agriculture seems to be in continual crisis. Housewives complain about high prices of food; farmers complain that they are not sharing in the economic growth; the Congress is constantly bedeviled to decrease, or cancel existing farm programs or even cease to consider new ones. In the middle of a new citizen affair with ecology and the environment, agriculture is asked in public forum to defend essential practices such as fertilization, use of pesticides, animal health products, and additives in feed. Federal agencies frighten the public with talk of cancer in chicken and beef; DDT residue in food is blamed on farmers, along with blame for weeds and algae in our lakes. Prices, pollution, pesticides —agriculture becomes the whipping boy, and the farmer wonders how a 5% minority group can really be the villan in all these matters of economic and ecological concerns. So, here we have on one hand, a loss of public confidence in many of the products of agriculture; suspicion of its production tools; and with it, the assumed poor image, misunderstanding, indifference, and lack of appreciation.

Yet, if viewed from another perspective, and especially from foreign shores, American agriculture is successful, thriving and something to be copied anywhere in the world. To many foreigners, the success of American agriculture and the benefits it has shared with the rest of the world is often regarded as one of the proudest chapters in this nation's history. It is ironic that an agriculture and food industry that is the envy of the rest of the world, should be viewed with suspicion, misunderstanding and indifference at home. Sensitivity of the farmer to this is reflected in the fact that the *one* single recommendation that came out of every workshop at Governor LeVander's conference on agriculture, suggested greater effort to help develop consumer understanding, awareness and appreciation of agriculture. The plea is understandable.

Farm folks, working on the short end of the economic stick, seem somehow resigned, to the fact that agricultural income hasn't kept pace with the rest of the economy. Yet, they get really upset that consumers do not seem to appreciate the quantity, variety, and high quality of food farmers provide at a lesser cost in relationship to an hour's pay than at any time in history. Consumer indifference, even more than economics, gets under the skin of a lot of our farm folks and also irks those who are aware of the phenomenal accomplishments of agriculture. Yet, consumers have difficulty adjusting to our pleas for appreciation. Perhaps consumers react like some of the young folks when, we as adults, tell the kids how good they've got it. The fact is that there aren't many homemakers that remember a famine; there aren't many food buyers who ever went to the supermarket when the shelves weren't stocked; there aren't many of them who have to drive much more than six blocks to find at least one place to eat; and many of them are in a constant battle with their doctor about their "eating habits," which often makes "food abundance" an adversary, rather than a basis for appreciation.

Paul Johnson, former Editor of the Prairie Farmer, says "Maybe we're behind the times. Perhaps farm folks and those of us in agriculture have been worrying too much about what non-farmers think of us. Maybe we're super-sensitive and hung up on the lack of accolades."

When you stop and think, it is the rare character among thousands who is antagonistic about agriculture and most folks truly envy the farmer and his way of life. The public likes us despite an extended period of "poor-mouthing" when we've tried to get his appreciation by saying, "Hey look, aren't we nice guys?" Yet, shouldering our way in for the nice-guy award in seeking public appreciation of farmers and the job they do, has not really resulted in either increased appreciation or public sympathy. Poor mouthing has resulted in the syphoning off of a lot of good young people from careers in agriculture. No one wants to go with a loser, and poor mouthing helped convince many young men that there was no future on the farm. There's little wonder the school counselor could quickly convince the bright young lad who would have provided terrific leadership to your FFA that if he was going on to success, he better drop vo-ag and stick to a better balanced academic program. This in itself points to the need for wider distributing of positive career opportunities and positive information about agriculture's potentials, to direct people into, instead of out of, classes and careers in agriculture.

It must be a bitter disappointment to the poor-mouth philosophers to find that in recent polls of public attitude toward agriculture in Minnesota and in New Jersey more than 70% of the people think the farmers were doing a great job, and that they truly envied them for their way of life. I doubt that there's any other segment of our society that could do as well, including teachers!

Thus, it appears that the public is way ahead of us. They've long since stopped worrying about their food supply and moved onto worry about other things, including the environment. Right now, the use of insecticides, herbicides, fertilizer, additives in feed, animal health products, pharmaceuticals, are all up for scrutiny and suspicion. The public has been told that its the farm folks who are polluting our lakes, killing our wildlife, ditching our duck sloughs, producing cancerous chickens, feeding cancer-causing additives, and poisoning our cranberries.

Agriculture's image is really on the line, and if there ever was a time, when each and every one of us with concern about agriculture's image, should go to work . . . . . NOW, is the time.

We need to communicate agriculture as a forerunner of conservation, of re-cycling, of reforestration long before it was the popular subject of the day. We need to tell the public, loud and clear that our farmers and conservation minded people in agriculture and vocational agriculture, have, as a whole, done more than any other segment of our society to improve the natural environment.

I hold great admiration for those in education, even greater respect for those of you in agricultural education, because I suspect you sometimes share the farm folks feeling of not being fully appreciated. But, "poor-mouthing" isn't going to do it for you, or for agriculture . . . . .

May I challenge you then, to have less concern with the old, and gear yourself to the new. Use your knowledge, experience and skills in restructuring your programs and activities to the values of this new generation, who more and more are demanding relevance.

Your towns are going to be less and less agricultural. The things we once held sacred aren't going to be sacred any more. Each of us associated with agriculture has a responsibility to mix with the future.

It is my belief that we can do the best job of communicating agriculture by integration among non-agricultural people; that we explain that farmers farm because they like to farm, that we talk about the life-style of agriculture in syphoning people in, instead of out, of agri-business opportunities, and that we capitalize on the very things that city people search for when they go to the country.

These, obviously, are over simplified solutions to a complex problem . . . . they only indicate the direction. Yet, I know of no better place to start than through education, and more particularly among those in vocational agriculture, who know better than any single group, how to teach, and tell . . . . . in communicating agriculture to the non-agricultural public. Let's get to them now, while they are receptive, and before they become any more doubtful, suspicious, or unwilling to listen. There is no group more capable to carry this message of a good citizen than you who are in agricultural education. You have, in fact, already earned public admiration and gratitude for your contribution to our quality of life —for the moment, and the long-range future as well.

Book Review

FUNDAMENTALS OF SERVICE—John Deere and Company, Moline, Ill. 61265. FOS—Fundamentals of Service —is a series of manuals and slides originally designed to train John Deere service men and dealers. Vocational schools recognize the value of the manuals which are comprehensive, well illustrated in multi-colors and at a satisfactory reading level. The slides are in color, 35 mm, and numbered in the same sequence as the subject matter in the manuals.

The basic principles and concepts are covered in each of the units which enhances the value of the manuals. As specific implements and machines are studied, additional manuals are available directed toward the exact service, maintenance and operation of that machine. Thus, service men are taught the basic principles which covers, for example, all electrical systems and then manuals for each tractor cover the specifics. This same educational concept is equally as valuable in our high schools and post-high school vocational technical programs.

Each manual has three phases of instruction: first, the basics or "how it works"; second, details on the various systems or circuits and the final emphasis on general maintenance, the diagnosis, testing and correction of common problems. Each manual contains a glossary, index and tests for classroom use. These manuals have been prepared by subject matter experts, presented in an approved educational style and an enviable quality of production. The Engines manual is $6.50, the set of 195 slides $64.00; the Hydraulics manual $5.00, a set of 175 slides $58.00; Electrical Systems manual $6.00, set of 135 slides $45.00; Power Trains manual $5.00, set of 165 slides $55.00; set of above four manuals $19.95; Shop Tools manual $2.00, set of 45 slides $15.00; Air Conditioning manual $3.60, set of 60 slides $20.00. Order from John Deere Service Publications, John Deere Road, Moline, Ill. 61265.

W. Forrest Bear
University of Minnesota

INSTRUCTION IN FARM POWER AND MACHINERY

Daniel Taylor
Vocational Agriculture Instructor
Cooper Rural School
Lubbock, Texas

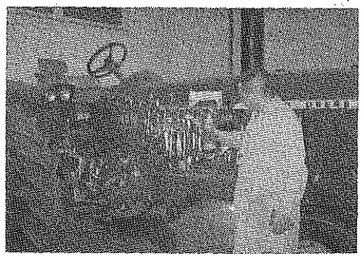
As agriculture becomes more mechanized, there is an increasing need for trained young men to enter the mechanical field of agriculture. Vocational agriculture programs have been lagging behind in offering training for these ever-pressing job opportunities.

The National Vocational Education Act of 1963 provided money for vocational training programs as desired by the various states. Pre-employment laboratory training in farm power and machinery was one of the new programs offered in vocational agriculture in Texas. In the fall of 1966 four high school units were initiated in Texas; in 1969 the state had 33 units.

Cooper Rural High School, located eight miles south of Lubbock, Texas, is in one of the more productive irrigated row-crop farming areas in the United States. The survey of the community and surrounding areas revealed a definite need for young men to work in the farm power and machinery service industry. Realizing the need for a redirection of the present agriculture program, administrators of Cooper Rural High School initiated a program in farm power and machinery. Started in the fall of 1969 with nine enrolled, the program now has twelve junior and senior students who have an interest in the field. The course is taught for two hours each day with two credits given upon completion of the course. This course is offered in addition to the regular four-year production agriculture program. Each student in the pre-employment laboratory course is encouraged to participate in all Future Farmers of America activities and other extra-curricula agriculture events.

The primary objective of the course is to assist students in developing skills and knowledges needed to gain employment in the farm power and machinery industry. The course includes the following units:

1. Job opportunities in farm machinery.
2. Shop safety.
3. Use of shop equipment.
4. Theory of two-cycle and four-cycle engines.
5. Study of transmissions, differentials, and electrical systems.
6. Cooling systems.
7. Fuel systems.
8. Valve principles.
9. Lubrication.
10. Preparation and application of farm equipment paint.
11. Maintenance and repair of farm equipment.



Modern equipment is used for demonstrations in Pre-Employment Laboratory Training in Farm Power and Machinery.

In addition to the classroom instruction, each student practices the skills under laboratory supervision. The school provides a well-equipped shop with all basic hand tools, testing equipment, special tools, and power tools to completely repair and overhaul farm tractors, irrigation engines, and other farm engines as well as to repair and maintain farm machinery. The students work in groups of three in the shop; each group working on a single engine. Students perform the actual work when overhauling an engine; each unit is painted after repairs are completed.

Farm equipment dealers and local farmers have been responsive to the program by furnishing the engines and farm equipment which are repaired in the shop. The owners of the engines and equipment repaired pay the cost of the replacement parts with no charge for labor. A complete cut-away tractor has been provided by a tractor manufacturer for use in shop training.

As a result of the program, local farmers have been able to get engines and equipment repaired at reduced costs. By preparing students for a specific occupation, the pre-employment laboratory program has strengthened the total vocational agriculture program in the school system. A promising future awaits trained young men who desire employment in the farm power and machinery industry.

The 19th Annual National Student Teachers Conference in Agricultural Education was held at Kansas City, Missouri on October 14-15, 1970. Two hundred sixty-eight participants represented 36 institutions. The center picture shows Jane Ann Bierly, student teacher from University of Kentucky conversing with Jerald Nesloney, student teacher from Texas A&M University. Behind Jane Ann is Dr. Robert Price, Oklahoma State University talking with Dr. Harry Kitts, University of Minnesota, conference secretary. Pictures surrounding the center, starting with top left and continuing clockwise are: Dr. J. R. Powell, Prairie View A&M College, Texas, conference chairman; a small group in discussion; Bennie L. Green, Oklahoma A&M University, student moderator; B. Oscar Brown, teacher of vocational agriculture at Salem, Missouri, who spoke on "Why I Teach Vocational Agriculture"; Allen Smith, manager of Youth Department of Farmland Industries; Robert Bohnhoff, University of Illinois at Urbana, coordinator of discussion groups and discussion group chairmen; Dr. Herman Brown, Texas A&M, who summarized the conference and Walter Larson, a conference speaker from Worthington State Junior College, Minnesota. Photos by Robert W. Walker

Assistantships and Fellowships in Agricultural Education, 1971-72

Edwin L. Love
Associate Professor of Vocational Education
University of Arkansas
Fayetteville

The findings from the most recent survey of assistantships and fellowships in agricultural education available for the school year 1971-72 indicate a small drop in total number from last year. However, there is still an average of about 4 opportunities for assistance from each of the reporting schools.

Information is recorded for each institution in the following order: Nature of assistantship (number available); number of months available during year; beginning months of employment; amount of time expected; monthly remuneration; graduate level; and the 1971 deadline for application. Those interested should make specific inquiry concerning tuition and fees since this information was not secured for all institutions.

University of Arizona

Research assistant (2); 12 mo.; July-September; ½ time; master's; $315; apply by March 1.

Arkansas State University

Research assistant (2); 9 mo.; September; ⅓ time; M.S.E. in Agricultural Education; $1800; do not pay fees or tuition; source of funds from University; apply by April 30.

University of Arkansas

Research assistant (6); 9 or 12 mo.; June or September; ½ or ¼ time; master's or doctoral; $125-$250 plus out of state tuition waived; apply by March 1.

Clemson University

Research assistant (2); 12 mo.; August; ½ time; master's; $260; apply by June 1.

Colorado State University

Research assistant (2); 12 mo.; July; ½ time; Ph.D.; $400; apply by March 1. Available to qualified agri. educ. persons to major in Vocational Administration and Supervision; apply by March 1.

University of Connecticut

Research assistant (3); 9 mo.; September; ½ time; master's or doctoral; $334-375 M.A. or Ph.D.; $442 for those who pass the Ph.D. general exam; apply by April 1.

Cornell University

Research assistant (3); 9 mo.; July; 15 hrs/week; master's or doctoral; $300; includes tuition and fees in addition to stipend; apply by March 15.

Teaching assistant (3); 9 mo.; September; 15 hrs/week; master's or doctoral; $390; includes tuition and fees in addition to stipend; apply by March 15.

University of Georgia

Research assistant (2); 12 mo.; September; ½ time; doctoral; $450; apply by February 15.

University of Illinois

Research assistant (12); 9 or 12 mo.; February or September; 6 for ½ time and 6 for ¼ time; master's or doctoral; $320-383 for half-time; tuition and fees remitted for all assistantships; apply any time.

Teaching assistant (4); 9 or 12 mo.; February or September; 2 for ½ time and 2 for ¼ time; doctoral or 6th yr. certificate; $333-383; tuition and fees remitted for all assistantships; apply any time.

Iowa State University

Research assistant (2); 9 mo.; September; ½ time; master's or doctoral; $277; Iowa Agri. & Home Econ. Experiment Station; apply by April 1.

University of Maryland

Research assistant (4); 12 mo.; June or September; up to 20 hrs/week; master's or doctoral; $280 plus remission of fees; apply by May 1.

Teaching assistant (2); 10 mo.; September; up to 20 hrs/week; master's or doctoral; $280 plus remission of fees; apply by May 1.

Instructor of agri. mechanics, Institute of Applied Agri. (1); 10 mo.; September; master's or doctoral; full time and permitted to take six credits per semester; $750; apply by April 1.

Michigan State University

Research assistant (2); 12 mo.; July; ¼ to ½ time; doctoral; $300-500; out of state tuition waived; apply by March 1.

Teaching assistant (1); 10 mo.; September; ½ time; doctoral; $300-500; out of state tuition waived; apply by March 1.

University of Minnesota

Teaching assistant (1); 33% time; 9 mo. appointment.

Fellowship (1); 25% time; 9 mo. appointment.

University of Missouri

Research assistant (4); 10-12 mo.; September; ½ time; doctoral preferred; $300; apply by March 1.

Montana State University

Research assistant (2); 9 mo.; October; 12 hrs/wk.; master's or doctoral; $200-300; apply any time.

Teaching assistant (1); 9 mo.; October; master's; $1600; apply any time.

New Mexico State University

Teaching assistant (2); 9 mo.; September; 20 hrs/wk.; master's; $311; apply by April 15.

North Carolina A & T State Univ.

Teaching assistant (2); 9 mo.; September; 20 hrs/wk.; master's; $300; apply by April 1.

North Carolina State University

Research assistant (1); 12 mo.; ½ time; July; doctoral only; $4600-4800/year; apply by March 1.

Experienced teacher candidate (1); 12 mo.; July; ½ time; master's $3000/yr.; apply by March 1.

NDEA assistant (1); 12 mo.; July; no work required; master's $2400/yr.; apply by March 1. University Grant, Agri. Educ. candidates eligible to apply.

The Ohio State University

Research assistant (4-5); 9 or 12 mo.; July or Oct.; ⅓ to ½ time; doctoral; $300-450; waiver of fees; apply by March 1.

Teaching assistant (1); 9 or 12 mo.; July or Oct.; ⅓ time; doctoral; $300; waiver of fees; apply by March 1.

Instructional materials assist. (2-3); 9 or 12 mo.; ⅓ to ½ time; doctoral; $300-450; waiver of fees; apply by March 1.

The Pennsylvania State Univ.

Research assistant (8); 12 mo.; 20 hrs/wk.; master's or doctoral; $300 plus fees; apply by April 1.

Rutgers University

Research assistant (3); 12 or 10 mo.; July or Sept.; ½ time; master's or doctoral; $292.41 plus remission of tuition; apply by March 1.

Tennessee State University

Research assistant (5); 9 mo.; September; 1/5 time; master's; $125; apply by July 1.

Texas A & M University

Research assistant (2); 9 mo.; September; master's or doctoral; $300; apply by June 1.

Teaching assistant (4); 9 mo.; September; master's or doctoral; $300; apply by June 1.

Teaching Fellowship (2); 9 mo.; September; master's or doctoral; $300; apply by June 1.

East Texas State University

Research assistant (3); 12 mo.; September; master's; 15 hrs/wk.; $300; apply by May 1.

Teaching assistant (2); 9 mo.; Sept.; master's; $300; apply by May 1.

Tuskegee Institute

Research assistant (2); 12 mo.; ⅓ time; master's; $200-300; apply by April 30.

Teaching assistant (2); 9 mo.; Sept.; ⅓ time; master's; $200-300; apply by April 30.

Utah State University

Teaching assistant (1); 9 mo.; Oct.; 3 hrs. pr. day; master's; $3000 a yr.; apply by July 1.

University of Vermont

Research fellow (1); 12 mo.; July or September; 20 hrs/wk.; master's; $260; apply any time; includes full tuition.

West Virginia University

Teaching assistant (2); 9 mo.; Sept.; ½ time; master's; $266.66; with waiver of tuition & fees; apply by April 1.

Wisconsin State University, Platteville

Research assistant (6); 10 mo.; Sept.; 20 hrs/wk.; master's; $300; apply by April 13.

Wisconsin State University, River Falls

Graduate assistant (6); 9 mo.; Sept.; Dec., March; ⅓ time; master's; $270 plus out of state tuition remitted; apply by March 1.

NEWS TO ME

A NEW SPECIAL EDITOR

A new feature in Agricultural Education Magazine will be the presentation of reviews of research. Dr. J. David McCracken is Information Specialist, ERIC Clearinghouse on Vocational and Technical Education, The Center for Vocational and Technical Education and Assistant Professor of Agricultural Education, The Ohio State University. In his position, Dave has responsibility for research reviews and other information analysis products published by VT-ERIC Clearinghouse. The article by Harold Wallace in this issue is the first selected for inclusion in Agricultural Education Magazine. Others will be published in future issues.

Representatives from 12 states, including 6 Governors, participated in regional activities for vocational agriculture students and FFA members at the Eastern States Exposition, September 18-25. Five thousand observed a ceremony honoring the Regional State Star Farmers and Agribusinessmen which was coordinated by Jesse A. Taft, Program Officer, USOE, Boston.

PACE Production Inc., 4447 North Victoria St., New Brighton, Minnesota, 55112 has developed a series of super 8 mm. color film loops. Each loop presents a single concept. Cost $22.00 each or $200.00 for the horticulture series of 10 and $160.00 for the animal science series of 8.

WORK EXPERIENCE ABROAD (WEA), an International Exchange Program of the Future Farmers of America, enables participants to study and observe agricultural methods and gain insight into the history, culture, traditions and way of life of other people by living and working as a member of a farm family abroad. A participant must have completed his junior year in high school, and be no more than 21 years old at the time of submitting his application, have satisfactorily completed a minimum of two years of vocational agriculture, and have practical experience in farming, ranching, horticulture or other specialized field of agriculture. The program begins in early June and extends either 3 or 6 months. Students receive board and room plus a small stipend while with the host family. Basic costs to the individual are approximately $500 for South America, $650 for Europe and $1100 for Oceania. For additional information write to: National FFA Center, P.O. Box 15160, Alexandria, Va. 22309

Changes from the traditional pattern of in-service training may be on the horizon. Rather than reduce the hours in the work week, one proposal has been made that employees be retained on the 40-hour schedule and devote one day to on-the-job study and training at employer expense.

The report of the Minnesota State Advisory Council for Vocational Education — 1970 states that some post-secondary education is essential for 85 out of every 100 high school graduates before entering the world of work and adult living.

The Third Report of the Natio Advisory Council on Vocational Ed cation, published July 10, 1970, reco mends four basic steps be taken to f fill our goal for better education. Th are:

1. Recognize that employment is integral part of education.
   a. Every secondary school sho be an employment agency.
   b. Part-time employment sho be a part of the curriculum.
   c. The further education of drop-out.
2. Give priority to programs for disadvantaged without separat the disadvantaged from the ma stream of education.
3. Encourage parents and student participate in the development vocational programs.
4. Establish residential schools those who need them most.

A movie entitled "The Inherit has been produced by The Ford Mo Company, in cooperation with National FFA Foundation. It tells story which the 1970 National F officers conveyed during their year travel to all parts of the U.S. Write your State FFA Advisor or Execu Secretary regarding booking.

Approximately $1.4 billion was sp for vocational education in 1969 c pared to $605 million in 1965. Stud enrollment has been increasing fa than the funding, despite the doubl of funds, with state and local gove ments appropriating most of the mo Enrollment increased nearly 50% tween 1965 and 1969 with post-h school vocational education enrollm showing the largest increase — ne 20%.