STORIES IN PICTURES

by
Jasper S. Lee

INSTRUCTION IN ANIMAL SCIENCE—Students enrolled in a technical agriculture course are using models of cattle to study animal science. (Photo by Guyle Wright, Purdue College)

PLANNING SUPERVISION OF STUDENT TEACHERS—James Davies (left) and Carl Reynolds, teaching students at the University of Illinois, are shown scheduling supervision of student teachers at their cooperating centers. (Photo by Robert W. Walker, University of Illinois)

FOOD PROCESSING WORKSHOP—Dorse Doan (center), Food Science Department of Virginia Polytechnic Institute and State University, is shown instructing group demonstration in agriculture teacher and extension school-community activities in Virginia during a recent workshop on food preservation. (Photo by T. L. Johnson, Virginia)

TESTING A WELD—James Cotton, senior in Agricultural Education at the University of Illinois, is shown testing a corner weld in an Agricultural Engineering Laboratory. (Photo from S. E. Espeenholtz, University of Illinois)

MEASURING COMBINE EFFICIENCY—G. M. Walker (left), professor, Department of Agricultural and Extension Education, Mississippi State University, is shown demonstrating the use of a wooden frame to measure combine efficiency during a workshop for teachers. (Photo from Jimmy McCally, Mississippi)

AGRICULTURAL EDUCATION

Volume 48 Number 9

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Programs in Agricultural Supply and Service
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AGRICULTURAL EDUCATION

The Agricultural Service and Supply program at Springville—Griffith Institute is designed to make a living resource service program to equip a variety of agricultural re- sources, procedures, and was renamed Agricultural Education. This course has shown the continuing growth and economic impact of the program. A four-year degree department offers an emphasis in Production and Management. Agricultural Education, and Animal Science. A five-year program. After completion of Ag Ed, students choose one or more areas of integration in the following three areas.

Agriculture is a period of (most) growth, taught on a three-year cycle. Thus, although students may specialize, the class has students from three grades. This makes scheduling easier and eliminates the need for pre-requisite courses. It also allows students to take college entrance exams along with agriculture.

The goals or objectives of our Ag program are to:

1. Acquire the student with the scope of the business of supplying and servicing the agricultural industry in a manner that is beneficial to the student the economy of the agricultural industry.

2. Assist the students with knowledge, skills, and experiences necessary for entry into the agricultural field as they graduate.

3. Prepare the students to seek post high school training in agriculture.

To determine these goals:

We do not feel our program is successful in preparing the student with the knowledge of agricultural business and the complexity of the business environment of agriculture at the local level. We involve students in field trips and the student work experiences program to ensure that activities relevant to this program are kept by each student on his record. These are kept in a file drawer at school and each student fills out the form records at the beginning of each month during class time. The report forms are the New York State accepted forms for students in Vocational Agriculture.

The scope of the agricultural business industry is further explored by the use of business trade magazines, movies, and the project method. The project allows every student to choose a business or commodity he wishes to become familiar with. Each student writes the parent company requesting materials for display, record systems, and information on how the company is organized (corporate, cooperative, etc.).

When possible, a local part of the business is visited for other information and a personal interview is conducted with the manager or an employee. After researching the topic, the student will prepare a written report, a display and present a class talk.

The business or industry is also represented when each student is required to bring in a newspaper or magazine article relating to agriculture. This weekly assignment reinforces the classroom instruction while keeping the student up to date on business trends, trade agreements, and consumer trends.

Helping the student become aware of the necessary skills for business entry is probably the easiest goal to achieve. Local agricultural businesses are willing to send representatives to the classroom to explain how to become employed in their business. Examinations of feed mills, oil companies, machine dealers, milk plants, farm and garden centers. Class groups have been invited to annual sales and service meetings as guests and participants.

The business theory is introduced to students by using a text on selling borrowed from the business department. We feel this information and the department exchange of resources is a valuable asset to our program.

Our fourth goal is to encourage post
high school training. As students become aware of the opportunities and future careers, they see the need for additional training. Our rehabilitation program allows them to take the other high school courses they need. Many of our students who do not plan on additional study combine Agri-business with a horticulture, machine shop or production agriculture.

The use of the Agricultural Advisory Committee cannot be excluded from a successful agricultural program. Our committee consists of business leaders and farmers who critique our program and offer suggestions. Because they are aware of the school program, they are often willing to provide employment opportunities.

An important segment of our total agricultural curriculum is our continuing summer education program. The teachers visit every student who will be entering or continuing the agriculture program in the fall. The summer program also allows the teacher to become more acquainted with the agriculturists in the Springville area. This growing relationship is formed by visits to local farms and incorporated into classroom lessons.

Many color slides are taken on the students and used in bringing the business to the classroom.

In summary, our Ag program is designed to individuals gain an understanding of agriculture supply and service. It enables agriculture majors or students to understand the role agriculture of agriculture and the needs of the world of business. We believe that the Ag—business program has helped improve our total agricultural offering. A number of our students have gone on to post high school education. All of the above programs have been launched successfully in agriculture. Most notable are the two regional Star Agribusinesses in the last three years coming from our Ag—business program.
We found that we were limiting our Co-op student enrollment to only those who had the natural ability or those who were quick to learn. Many students now find it easy to transfer from the Lab Program to the Co-op Program.

The rules of the game are the same. The playing field has been extended. The number of players increased. So the bailgame is much more interesting to all. Vocational Agriculture in Texas has experienced a tremendous and beneficial change with the times. It was a fortunate change for the students in Vocational Agriculture that educational leaders in Agriculture Education and the State Board of Education recognized the need and the direction which Vocational Agriculture underwent.

Prior to that change, Vocational Agriculture was directed by the farm-oriented student and served its purpose well. Now, we recognize that production agriculture is still the round and solid foundation upon which the total program will be based. We recognize a winging out of the classroom to the agribusiness world and found a great educational tool in an Agriculture Cooperative Training Program. We found additional facilities and some great instructors at little cost. Then we found that we were limiting our co-op student enrollment only to those who had the natural ability or who were quick to learn. There was another group of students who had some ability and yet needed more "work experience" than that gained in Production Agriculture before we could turn them over to the agribusiness world. Such was the case, and we found that the Pre-Employment Laboratory Program was quite useful. This aspect of our program is one that requires research, advice from agricultural organizations, recognition of students' projected skill needs and adequate financing. The Laboratory Program fits our basic philosophy in teaching Vocational Agriculture at Mission High School in that a student must be exposed to a skill in the classroom. The instructor must demonstrate that skill in the shop or in the field. The student must then perform the skill. The student's ability to perform must be evaluated, graded, tested and repeated. The student's results must be evaluated individually and not compared to the whole group or class.

In the fall of 1966, Vocational Agriculture was added to the High School curriculum at Mission High School. In 1965, the Cooperative Training Program in Agriculture was initiated as a pilot program, one of several, statewide, in Production Agriculture cooperatives. In 1966, two students in each class of one, VA, VA II, and VA III. The first two students in Cooperative Agriculture were enrolled as agricultural mechanic's helper and as agricultural machinery setup mechanic. In 1968, the department was increased to include a second student in Production Agriculture due to the increased enrollment in Production Agriculture. The enrollment in Cooperative Agriculture was fairly stable at two or three each year. The several years of a small cooperative program, a Pre-Employment Laboratory Training Program in Meat Processing was investigated and researched in 1970. Facilities were made available by the Rio Grande Children's Home which was a Savings Plant and also processed beef. The plant was located in the campus of the school, which was necessary to provide for at least three hours of class time. The idea was to create a profit program and give the school, students and students actual, hands-on work experience. It was also important to find out if it could be possible for the school district to afford such an installation on campus. One of the instructors was certified as an instructor in Meat Processing and completion of the required program at Texas Tech University in the summer of 1973. So, everything we do for the first class of 14 students enrolled for the fall of 1971 was an initial investment of less than $900. In 1972-73, we had 10 students, 1 in 1973-74, 5 in 1974-75 and 8 enrolled this year. Our Co-op Program has been helpful to two students get an average of $75 students since 1973. The Co-op Program and Meat Processing and the student think of a rail program are similar and both carry the same credits toward graduation. The students find it very helpful to transfer from the Lab Program to the Co-op Program at any time during the school day.

The authors, Renee Vela and Jose Cones, display an appreciation plaque from the members of the 1974-75 Mission FFA.
CONTINUED

Agricultural Supply and Service

Students who select a job title card in Agricultural Supply and Service study subject matter concerned with preparing them for occupations involved in providing supplies used in the production phase of agriculture, including processing, marketing, consulting, and other services. Sub-group units of instruction include:

1. Agricultural Chemicals
2. Feeds
3. Seeds
4. Fertilizers
5. Advertising Services
6. Accounting-Bookkeeping
7. Personnel
8. Farm and Garden Supplies
9. Food Distribution
10. Sanitation
11. Management
12. Other, Communication

Within these sub-groups, individual modules are offered and students may select from the 26 modules offered in the Agricultural Supply and Service program.

All 175 agricultural students in the Center receive instruction in one or more select modules, e.g., "Securing Employment" and "Personal Financial Planning." The units are necessary for a successful student—a person with the vital skills and training to become gainfully employed in agriculture.

We in agriculture education have long realized that students learn best by doing. Establishing an agricultural supply store provides an excellent practical experience for the student. They receive experience in salesmanship, management, accounting, and distribution while supplying the Agricultural Department with the goods required to operate a program. The students take inventory, order supplies, arrange displays and distribute items to the other teachers requesting supplies. The Agricultural Supply Store allows the students to apply what they have learned in the classroom.

Work Experience

The most successful agricultural supply and service programs have required work experience each student. The location and availability of work experience should be coordinated by the teacher and the advisory committee. Every effort must be made to place students in appropriate stations where they are willing to train and supervise.

There are several ways that work experience programs can be integrated into the student's schedule. A module (Concluded on page 202)

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FEATURING

Paths to Ag Service and Supply Employment

Clayton Castileman
Director of Vocational Education
Stuttgart, Arkansas

Annette Greenland
Public Information Officer
Stuttgart, Arkansas Public Schools

Student Ralph Goates, a senior in high school, takes part in a Pathways to Ag Service and Supply Employment program. The program provides students with opportunities to explore careers in agriculture, including feed sales, fertilizer sales, and farm equipment sales. By participating in these programs, students gain valuable experience and develop skills that will prepare them for future careers in the agricultural industry.

(Concluded on page 202)
If the year of filing is placed on the materials, out-of-date materials can be more easily recognized by anyone using the file. Easily materials like slides and video tapes are AGDEXed and a 3 x 5 card identifying the material is placed in the file.

It is 8:35 Monday morning and you are on campus in the Agriculture Library. You cannot find a student in class expecting another day of tie-tac toe along the margins of their notes on farm management (you hope their notes are on farm management). But you have a little surprise for them, having spent some extra weekend hours (about the usual sixteen hours or so) you have jayed up the material a little with slides, transparents and audio equipment, using, of course, the problem solving approach of "present situations to the students," and a recent article called "How to Manage the Unmanageable" as motivation. You go to your friend and every ag teacher's friend—a well organized file cabinet or (cabine), if you are lucky) piled or haphazardly classified with good information and a "paper" to pull out the article "How to Manage the Unmanageable." But what is it? In the filing system. What can we do?

In 1959, research was completed by Ohio State University on a system of indexing agricultural materials. From this research and the efforts of the Agricultural Education Division of the American Vocational Association, we can standardize a filing system for agricultural materials—AGDEX. To obtain information in a simplified manner and dividing them into subject areas. The American Vocational Association, Inc., 1510 H Street, N.W.; Washington, D.C. 20005.

If you have not convinced yourself that a standardized system is needed on your farm, go here: on to more important things. But if you are convinced, read on, I will attempt to give you some helpful hints from my own experience of setting up an AGDEX filing system.

Let me give you some background. I am an instructor at the University of Nebraska School of Technical Agriculture at Curtis, Nebraska. We have a twenty-one-month post secondary agriculture school with twenty-six full time instructors in six departments. The departments are Animal Science; Crop and Conservation, Animal Health, Agricultural Technology, Agricultural Economics, and Veterinary Technology. One of the requirements for accreditation with technical school is that a unified system be used. For us, AGDEX served to be the obvious choice. As a graduate of agriculture education from the University of Nebraska, I had knowledge of the AGDEX point system, which was assigned the task of setting up a system for the Production Technology Department. Within the departments, there are four instructors who specialize in animal production, nutrition, and plant science. I have found that there are basic steps to setting up the AGDEX system. First, I put all of my pre-printed AGDEX label folders in numerical order and putting file dividers between the major sections. For file dividers, I used the dividers with the month and the date and the attached pre-printed label. I cut the index card to fit all of the labels and the index cards. The remaining labels are for all material for which I had no folder.

At this point my AGDEX had grown to fill one file drawer so it was expanded to a four drawer file cabinet. The system is now set up and functional. All new material coming to the office is numbered and filed by the department secretary. Any new material received is assigned a number. I have found that this setup allows me to find material in a reasonable time. The file cabinet is completely organized and I am able to locate the material easily. I found that the AGDEX system is a valuable tool in handling large volumes of information.

Continued...
supply, but also those related to agric- mechanics, through textbook units, field trips, speakers and involved.

By the end of the tenth grade, most agriculture students are ready to choose one of the following: future agriculture, agric-mechanics or service and supply. Production and mechanics has its separate curriculum, but other path leads to the co-op program.

Last year three-fourths of our tenth-grade agriculture students applied for the co-op program – twice the limit set by our supervisory capability at the present time.

Meanwhile, staff canvassing or agri-related firms had produced a capacity list of job slots. In conferences with the co-op supervisor, each student chose an area of interest. Then the staff attempted to match job to student.

Weeks before the students embarked on their agri-adventures, classroom time was spent discussing interview techniques, grooming, working with the public, and general procedures of bookkeeping, inventory, farm layout, and parts identification.

Enthusiasm ran so high that the seniors took many of their pre-internships before summer was over, and all but two were "on the job" in the afternoon of the first day of school.

The co-op students work half days during eleventh and twelfth grades, and are paid at rates set by the individual employers, depending on the type of job and the student's ability. A higher wage choice is thus more often less than the legal minimum wage.

Employers write evaluations of their students employees' behavior, more often if necessary. The co-op supervisor supplies his comments in writing, too, and all reports are shared with the student.

Class time is provided one or two hours each week for the co-op students to discuss progress and problems informally. Word-of-mouth "subsidizing" had caught the interest of next year's eleventh-graders.

Perhaps the first-year achievement of the co-op program in services and supply can be measured by the length of our two waiting lists: students anxious to join the program, and employers who have positions available. They know because we incorporate more business programs, giving the cooperative method of teaching agriculture students. This approach to the development of the program requires:

(1) What is happening to our students during the high school years in agriculture programs in Wyoming Community Colleges?
(2) Where are they now?
(3) What did their experiences in the program prepare them to attain their present positions?

To answer the questions of these students, a survey of 651 former agriculture students from Wyoming Community Colleges was conducted. The purpose of the study was to determine the effectiveness of the agricultural education program in Wyoming Community Colleges as viewed by former students.

Three broad areas were covered in the study:

(1) Placement of former student,
(2) Why the students chose a particular program,
(3) Improvement in the programs that would have been more beneficial to the students.

These areas were further subdivided into questions concerning, for example, the community college educational experience that is required in their present job, whether the program was most helpful and also that they were the least helpful and how well the students thought the program would rate to help them in the future.

The survey included students' education, jobs that they held, their work experience since they graduated from agriculture, and the student's overall opinion of the program.

The program as a whole received an 80 percent rating from the students as an excellent preparation, while 12.6 percent ranked it below average. Of the average above list, 17.5 percent noted their program excellent, 38.66 percent average, 68.07 percent very good and 10.81 percent poor. Of those programs that did not meet their needs, 10.81 percent, the military–8.11 percent, and others–24.82 percent. Students were then asked to rate how well the program met their needs. The program was rated average on the average score obtained by 47.4 percent of the students.

In order to determine what courses were the most helpful to the former students and which were the least helpful, the students were asked to list the courses. The first five courses listed as most helpful were: Agriculture courses, Animal Husbandry, Feeds and Feeding, Crops, and Economic Principles. In the last years of the study, more emphasis was placed on business and management and the changes took place.

Heading the list of courses most desired by the students was a practical veterinary course. This was followed by four business courses; Record Keeping, Ranch and Farm Management, Agriculture Economics and Farm Finance.

The students were asked; "How do you think the program could have been improved?" The most desired improvement most often was: to offer more practical work, delete unrelated requirements, have better relations with students, course, update material and add business courses.

The study showed that Wyoming Community Colleges were primarily returning to farms and ranches. Fifty-six percent were going back to production agriculture while 24 percent became employed in agriculture-business and 20 percent were in retail sales.

Of these in production agriculture, 17.65 percent were ranch owners, 13.45 percent ranch managers and 29.24 percent ranch workers. Farm owners comprised 6.72 percent of the students, farm managers 4.32 percent and farm workers 8.20 percent.

The students in agriculture business were divided in the following subcategories: Feed and Sales—6.72 percent, Agriculture Instructors—5.85 percent, Agriculture Mechanics and Welding—2.52 percent, Professional Rodock—1.68 percent, Forestry—1.60 percent, Feed Manufacturing—0.94 percent, Custom Operations—3.8 percent, Agriculture Economists—4.91 percent and miscellaneous 3.36 percent.

(Concluded on page 219)
Missionary in Zambia Makes Things Happen in Agricultural Development

Larry Hills\* Agricultural Editor Nega Nega, Zambia

O. Donald Meadows Teacher Education Michigan State University

Introduction
Planning and conducting instruction in agriculture to help youth and adults improve their level of living and to bring about an improvement of the total community is the objective of many teachers of agriculture. Outstanding teachers have taken into consideration several principles, such as the following, to help guide their activities:
1. The person to be affected by the program should be involved in planning activities.
2. The instruction should be based on what is needed for entrance and advancement in the occupation chosen or being considered by the students.
3. The resources of the community should be utilized for conducting the instruction.
4. The facilities and equipment to be used should be like or simulate the actual working conditions.
5. The program of instruction should include instructional activities for both preparing youth to enter the world of work and for those already engaged in occupations.

The following is a report of experiences helping rural people in Nega Nega, Zambia improve their conditions. It reflects activities which illustrate application of the principles mentioned above. Although the differences between conditions in Zambia and communities in the United States are great, perhaps there are more similarities, in principle, than differences.

Purpose of Work in Zambia
The Hills are members of a team sponsored by Family Farm and United Methodist Church. The team is called Missionary in Zambia (MIZ)

*cache* or sometimes labeled "settlement initiators." An area of approximately 30,000 acres is being divided for the relocation of people from other parts of the country. The "caches" are there to help with the settlement of families, the development of farming and community activities, and in general, to help people have "life" before "beginning.

The Area and Problem
The Republic of Zambia, formerly the Protectorate of Northern Rhodesia, came into existence on October 24, 1964. It contains about 4.7 million people in a land-locked area of just under 300,000 square miles in north-eastern Africa. Approximately 70 percent of the population is rural, engaged in farming and subsistence agriculture. The area measures over 800 miles in its longest east-west axis and 700 miles on its longest north-south axis.

Most of the nation is a broad plateau between 3,000 and 5,000 feet above sea level. It has sharply defined wet and dry seasons: May to August is cool and dry; September to November is hot and dry, and December to April is warm and wet.

Nega Nega Settlement is along 10 miles of the Kafue River at the eastern end of the Kafue Flats, a vast, flat, flood area, rich in fish, fishermen, and wildlife. A survey conducted in February 1974 indicated that 75 percent of the people in the area of the Settlement have been severely affected by the land uses policies in effect along the river for the past many years. The farmers who claimed ownership of the land along the river had not allowed the fishermen to live on the farm land. Therefore, the fishermen had to travel around on rough roads because of the farms that were not maintained by the communities. In 1972, a group of local leaders met with the farmers and community leaders to discuss the situation.

It is a five-mile walk from the farming villages of the Settlement to the nearest store in Nega Nega. The people need water, electricity, and access to medical care. In the village, there is a church and a school, but the community is quite isolated. The people live in simple houses made of mud and thatch.

Many of the people in the area are subsistence farmers, growing maize, beans, and rice. They also keep small livestock, such as goats and chickens. The main source of income is agriculture, with fishing being a secondary source.

Some Developments
Two areas on the Settlement engaged as fishing villages have been divided into farm-size plots with a 14-year renewable lease to qualified fishermen. Thirty-six fishermen have farmed fish and land for permanent house sites. The families number more than 120 per household. All of the farmers have married. Scattered diversions were made to help children have some schooling. Their families have more 

CONTINUED MISSIONARY IN ZAMBIA . . .

provide heat for baking bread, pies, and cakes. The baked goods, some of which are sold, have provided additional income to the families.

As Nega Nega grows and cash incomes come into being, a potential market is created for marketing vegetables. There is plenty of water for irrigation from the river bordering the Settlement so a stretch was made for some vegetable growers to settle on some of the land. One farmer was found to whom land was leased—a four-acre plot. A journey 300 miles north to the Copperbelt was planned to see if there was a graduate from Kalushi Farm College (where the Hills spent their previous term in Zambia) trained in vegetable and poultry production, who could come and settle with him. As this was being discussed with some friends, a man from the front yard one day, a young man came walking in, muleteering in hand, saying he was Pilgrim Hbabaje, he had just graduated from Kalushi Farm College, and was wondering if there was a place to settle in Nega Nega. The Hills live in an old abandoned farm house on the Settlement which they refurbished a bit and found quite comfortable. There is a small abandoned citrus orchard near the house, and land about 12 acres of good quality land around it. A young man could live from the citrus while planting bananas, paw paw and vegetables growing there. They would then lease and installing a surface irrigation system and settle in the Hills' house when they leave. After some discussion, it was agreed that the Hills should hire Pilgrim for a few months until he could get his citrus trees going and some vegetables growing. In the meantime, he could also begin to build a capital reserve. He would then gradually take things over and become a settler farmer in his own right. Under Pilgrim's careful attention the citrus are flourishing and providing enough income to cover his salary. Vegetables in the area are growing well and will soon be ready to be harvested. Plans are made for planting bananas and paw paw when the rains begin in six weeks or so. Pilgrim has a constant Christian faith and is a welcomed new member of the community. Some other developments include cattle improvement; organizing and training well-digging teams; assistance with arrangements through a local bank to secure financial support for new enterprises; a short course on operating and servicing motors for fishing boats; and use of a survey chain to lay out roads and house locations.

As the 10,000 acres of Nega Nega Settlement are divided up and people elected from the surrounding overcrowded Reserve areas gradually settle here, this story can be told over and over again with individual variations. Stoves appear on front porches, and new clothes replace the tatters. Better houses are built, machinery is replaced or added to, and crops flourish where weeds and brush once reigned. Water springs from new wells and songs of praise from happy hearts. Life has prospects and it is good. ---

Larry Hills, agricultural missionary and the co-author of this article, is the one coming up at the right of the city for this issue. He is in the use of a well mended for the excellent service.
The Montana Agricultural Manpower Project

Max L. Anderson
Department of Agricultural and Industrial Education
Montana State University

The Department of Agricultural and Industrial Education has completed a study entitled the Montana Agricultural Manpower Project. This study, organized in 1970, is to provide a state-wide effort to determine the nature and extent of rural youth participation in agriculture, and the knowledge and employment opportunities associated with it. The survey was conducted to gather data to reflect a more complete picture of the educational needs and opportunities available in Montana.

The project was jointly funded by the Montana Agricultural Experiment Station and the Office of the Superintendent of Public Instruction. The Agricultural Committee of the Montana Chamber of Commerce provided technical assistance and encouraged the activities of the project.

Survey Method—The initial survey of 2,213 Montana agribusinesses utilized an instrument designed and submitted to agribusinesses engaged in sales and service of agricultural equipment. This questionnaire requested information regarding job titles, vacancies and employment levels (managers, salesmen, skilled), the population selection of the agriculture survey was made through the cooperation of Chambers of Commerce, vocational agriculture teachers, and county extension agents.

Further research was undertaken in agricultural products and agricultural resources occupations in Montana.

The cooperative program in vocational agriculture/agribusiness was initiated in the departments of vocational agriculture through the Montana State University. This program was designed to identify curricula and job opportunities for cooperative education in vocational agriculture education based upon state requirements, and to assist in the planning of curricula and job opportunities for cooperative education in vocational agriculture education.

Cooperative Agricultural—State Organized and Administered

J. C. Simmons
Superintendent
Louisiana

1. Training received by the student must relate to the student's occupational objective.
2. Work stations must reflect the student's occupational objective.
3. Student must have satisfactorily completed Agriculture I and II (9th and 10th grades) as prerequisites to participating in the CAF program.
4. The CAF or off-farm training site must be a farm or agricultural classroom under one roof.
5. The CAF or off-farm training site must be an agribusiness with at least one owner by parents.
6. The CAF or off-farm training site must have a board of directors who are active in the community.
7. The CAF or off-farm training site must provide all necessary training in the selected field.
CONTINUED

COOPERATIVE AG E.G.

8. A written, planned program for training must be developed and approved by the student, parent, school, and employer and submitted to the Section Chief of the Vocational Agriculture/Agricultural Science Section, State Department of Education for approval.

Although there have been some problems relative to the program, school administrators have expressed their endorsement of cooperative agricultural education and have stated that the problems that have arisen are minimal. The major factor in their success, or failure, seems to be the placement of the right student in the right work station. It is recommended to the teachers that careful selection be practiced in this.

In one parish (county) system where both agri-
culture/agribusiness departments are located, a total of 101 students were en-
rolled in CAE during the preceding school year. Fifty were in agriculture and fifty-one in the on-farm phase.

The teachers report that they have received
excellent cooperation from the
employers of these students and that they feel that the results from the
agricultural education and the proper placement of the
students.

In summary, the cooperative agricultural education program in Louisi-
ana is an important part of the total program and is agricul-
ture/agribusiness. The key to
success in this program is the large
number of students who are receiving training in their particular field of
cooperative training upon high school graduation. Other states seem to be
receiving this same type training soon.

or the completion of the course.

In addition, forms are provided to all school systems to be used in requesting permission to establish the program in an individual department. Also, individual student applications and work

station description forms are provided. All applications must be completed and submitted to the Section Chief of the Vocational Agriculture/Agriculture-

tion of agricultural sections of the State Department of Education.

9. Provision should be made if a teacher is responsible for regular employee in the work station that this will not term,

as a continuing work station.

10. Enrollment must be for the full school year.

11. The student must have a passing grade in both classroom work and on-the-job training in order to receive credit.

Resource teaching units are in the process of being completed in Plant Growth and Development, Agricultural Chemicals, Crop Soils and Range Management. These materials are competency based and deal with the actual tasks involved in operating a farm or ranch.

Participating agriculture teachers in Montana has been extremely

Research is now available to persons desiring to establish curriculums in agriculture at all levels but more par-

particularly at the post-high school level where there seems to be a void of germs programs in agriculture, con-

sidering the importance of Montana's agricultural industries.

Findings

Finding: The study revealed that effective learning behaviors such as

personal qualities: competencies, "willingness to work" and "ability to get along with others," were considered extremely important qualities, the determinants of which could be included in many educational programs; that there is some diversity between what is important to the student and the importance of the activities evaluated by educators; and that agri-
cultural curriculum competencies make up a large part of the knowledge and skills needed in agricultural employment and should be included in any curriculums considered viable.

Of considerable significance is the success of the research model and the encouragement this affords vocational education materials development on a state level.

A secondary objective of the Mon-
tana Agricultural Manpower Project was the documentation of an effective survey research model. Methods used by the researchers proved to be successful and can serve as a system for future studies.

The Montana project is a cooperative venture and the responsibility of responsibility of the activities associated with the production of such research.


tinue training in a supply . . .

Conclusion

The modular system with job titles, the school supply store, and work expedi-
tions effectively train students for the many careers in agricultural supplies and services that farmers need, and to support and market the products of

Can you do an agricultural supply and service program that should be a student selection.

THE AGRICULTURAL EDUCATION MAGAZINE

ASSISTANTSHIPS AND FELLOWSHIPS IN AGRICULTURAL EDUCATION 1976-77

Paul Peterson
Coordinator, Agricultural Education
California State Polytechnic University, Pomona

June or September, one-half time, $500; reduced tuition; master or doctoral; March in: Dr. Janis L. Allen, Coordinator, Agricultural Education.

Louisiana State University

Assistantships (6): quarter time, August 1 to August 30; in residence, assistant stipend, M.S. candidates $1000.00, M.S. candidates $2500.00, and for Ph.D. candidates $1500.00; March 1 application deadline; J. A. Eubanks, Assistant Professor, Agricultural Education, Louisiana State University, Baton Rouge, Louisiana 70873.

University of Maryland

Graduate assistantship (12 months, July 1, 1976, to June 30, 1977); stipend, full-time, $12,000; M.S. or Ph.D.; $700 per month; approximately $4000 for educational materials and books; at least 12 credits per semester; beginning assistants are preferred. June or September, one-half time, $500; reduced tuition; master or doctoral; March in: Dr. J. W. Hines, Assistant Professor, Agricultural Education, University of Maryland, College Park, Maryland 20742.

University of Massachusetts

Teaching assistantship (12 months, September 1, 1976, to August 31, 1977); stipend, full-time, $12,000; assistant-level, low; August, $12,000; assistant-level, March 1 application deadline; Dr. William Herrick, Associate Professor, Agricultural Education, University of Massachusetts, Amherst, Massachusetts 01002.

Michigan State University

Teaching assistantship (12 months, September 1, 1976, to August 31, 1977); stipend, low; assistant-level, March 1 application deadline; Dr. Robert A. Hild, Assistant Professor, Agricultural Education, Michigan State University, East Lansing, Michigan 48823.

The list of assistantships and fellowships in agricultural education is prepared annually by the Public Education Committee of the American Association of Teacher Educators in Agriculture. Paul Peterson is Coordinator of Agricultural Education at California State Polytechnic University, Pomona.

For more information, contact Paul Peterson.

This information is based on the information submitted by the Institutions.

(Concluded on next page)
CONTINUED

ASSISTANSHIPS AND FELLOWSHIPS...

University of Missouri
Assistantships (6): 8 months; August 1, 1976; 20 hrs./wk.; Master's degree (teaching assistant); $3,200 per year (stipend). Assistantships are available for three of state's education, chemistry, and biological science programs. Information available from: Department of Education, 612 South Mallen, Columbia, MO 65201.

Montana State University
Assistantships (5); over 10 months; one 12-month teaching assistantship and three 8-month teaching assistantships. Jobs: 2 per hour; credit class; $3,200/year (stipend). Assistantships available in the College of Agriculture and Home Economics. Contact: Dr. W. L. Carlson, Dep. of Agriculture and Home Economics, Montana State University, Bozeman, MT 59715.

North Carolina Agricultural & Technical State University
Graduate research assistantships (20) in various areas of research. Assistantships are available for 8-12 months. Jobs: above 12 months. Contact: Dr. C. L. Jones, Dep. of Agricultural Economics, North Carolina Agricultural & Technical State University, Greensboro, NC 27411.

North Dakota State University
Graduate research assistantships (12): 12 months starting in September, fall semester. Jobs: above 12 months. Contact: Dr. W. T. Priebe, Dep. of Agricultural Education, North Dakota State University, Fargo, ND 58102.

Ohio State University
Research assistantships (16); 9-12 months; 160 hours per month as lab or clerical assist- tants. Master's degree (teaching assistantship); $3,200 per year (stipend). Jobs: two 8-month teaching assistantships in the Department of Agriculture and Home Economics, College of Agriculture Experiment Station. Information available from: Dr. W. L. Carlson, Dep. of Agriculture and Home Economics, Montana State University, Bozeman, MT 59715.

Pennsylvania State University
Assistantships (6); 12 months; Beginning Jan. 1, 1976; $3,200 per year. Contact: Dr. J. D. Kline, Dep. of Agricultural Extension, Pennsylvania State University, University Park, PA 16802.

Southern Illinois University-Carbondale
Research assistantships (8); 12 months; August 1, 1976; $3,200 per year (stipend). Jobs: above 12 months. Contact: Dr. J. D. Kline, Dep. of Agricultural Extension, Pennsylvania State University, University Park, PA 16802.

University of Wisconsin-River Falls
Assistantships (3); 9 months; August 1, 1976; $3,200 per year (stipend). Jobs: above 9 months. Contact: Dr. J. D. Kline, Dep. of Agricultural Extension, Pennsylvania State University, University Park, PA 16802.

Virginia Polytechnic Institute and State University
Graduate assistantships (3); 12 months; August 1, 1976; $3,200 per year (stipend). Jobs: above 12 months. Contact: Dr. D. H. Moore, Dep. of Agricultural Extension, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.

A leader in agricultural education who describes the life of George F. Kestrom during his forty years in agricultural education is the author of this article. He is stepping down as the editor of the Agricultural Education Magazine, as well as serving as the regional representative and business manager for the publication. In addition, he has authored eight special articles on biology. While at Missouri, this dedicated educator contributed not only to the development of people and programs but also to the literature and organizations so important to this field. He co-authored with McClelland the book, Agricultural Education in Vocational Agriculture, sponsored by the AVA, Public Relations, A Guide for Vocational Educators, and authored a total of 26 articles for professional journals. In advanced he participated in the National Agricultural Education United States, and in 1954 in the Encyclopedia Britannica. During the years 1960 to 1966, he was a member or chairman of AVA Educational Division, the year 1966 all but three years. He influenced programs and helped during this time not only by serving on the research, further education, standards, and policy committees, but also by serving as chairman of the National Agricultural Education Board. He is a member of the National Committee for Alpha Tau Alpha. He retired in 1981 and served as chairman of the Board of Alpha Tau Alpha since 1977.

The following formal retirement, he continued to serve as consultant. He is a member of the St. Louis Chapter of Alpha Tau Alpha, one of the oldest branches of the fraternity. (Continued on page 214)

George F. Kestrom

George F. Kestrom

Write!

Letters are welcomed. A 200 word limit is suggested. Letters must be signed and complete address provided.

Bob R. Stewart

Bob R. Stewart, Assistant Professor, Agricultural Education, University of Missouri, Columbia, MO 65201.

March 1976

Robert R. Stewart*

Robert R. Stewart, Assistant Professor, Agricultural Education, University of Missouri, Columbia, MO 65201.
CONTINUED LEADER IN AG ED

As is fitting for such a distinguished career, George F. Piksott received many honors and citations for his contributions. Among these were the National FFA VIP Award, the Honorary Agricultural Farmer In Recognition of The Honorary State Farmer Degree in Missouri, Minnesota and Iowa, the NVATA Distinguished Service Award, the AATEA Distinguished Service Award, and, this year, he was named to Who's Who in American Agriculture. It is truly most fitting that we recognize this gentleman and scholar as a leader in agricultural education.***

DATES AND EVENTS

Southern Agricultural Education Conference
Beaver Field, Plano, Ill.
April 6-7, 1976

Agriculture's growth in the past was limited by an absence of crops varieties that would respond to fertilization. Varieties now available which do respond to fertilization and the need now is for a massive investment in irrigation, according to Dr. Robert J. Ben. Ben received his Ph.D. in agricultural economics from the University of Wisconsin Madison. He has taught at the Beloit College of Agriculture in West Bengal, and served as a guest lecturer at the Post-Graduate Department of Agriculture and as a private consultant in agricultural economics. He has participated in studies of agricultural development and productivity in rural areas of various countries. Ben's publications are sponsored by the Minirth Food, Agriculture, and the Agency for International Development. He is presently with the former McDonald's Food, Agriculture, and the Agency for International Development in New Delhi as an economic advisor. The book is an excellent reference to be used at the post-secondary level. It is written in a clear and accessible manner, and is an invaluable resource for anyone interested in international agricultural development. It provides important insights into the complex and multifaceted nature of agricultural productivity. It is highly recommended for those interested in international agricultural development and is an essential resource for students, researchers, and policymakers in the field.
STORIES IN PICTURES
by Jasper S. Lee

SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAM IN AGRICULTURAL SUPPLIES AND SERVICES — These two photographs depict an important triangle in the program: the vocational agronomist, the student, and the sponsor in the training station. Here, Duane Babin, a student at Stokton Equipment Company, shows a high school student the基本 framework. Photographs by Bill Roth, student at Belgrade High School. (Photographs from Miss Amberson, Montana State University)

ELECTRICAL POWER IS AN IMPORTANT SUPPLY — Students enrolled in vocational agriculture at Linn (Missouri) High School are being guided through the laboratory of Three Rivers, Missouri Cooperative by Charles Strang, right, member service editor for the Cooperative. (Photo from James A. Bailey, Missouri Department of Education)

LUMBER IS AN IMPORTANT SUPPLY — Olin Zimmerman (right), a vocational agriculture student at Stokton shows him at his station. Photographs by Miss Amberson, Montana State University)

FSA CONTESTS REQUIRE CONCENTRATION — These photographs show individually competing in the recent National FSA judging contest. The photo on the left shows a student competing in the Agricultural Mechanics Contest. The photo on the right shows a student competing in the judging a market sheep. (Photographs from Dan Koons, The National FFA Center)

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