THEME: Programs in Animal Agriculture
Programs in Animal Agriculture

Animal agriculture is concerned with all of the activities in producing domestic animals. It includes the care and management provided on farms and ranches as well as sales and services from off the farm. Today's educational programs in animal agriculture must be broad enough to include preparation for the off-farm occupations. Further, these educational programs have expanded beyond the traditional farm animals to include pets, laboratory animals, and service animals, such as guard dogs.

The Supportive Network
The producers of cattle, hogs, poultry, and other animals do not operate in isolation. They depend upon a network of businesses to provide the needed supplies and services. Animal agriculture supplies include feed, health care products, and equipment. Animal agriculture services include a wide range of activities such as health care, breeding, inspection, and marketing. Without the off-farm supportive network, the production of animals would be much as it was 200 years ago in the United States.

Vocational agriculture/agribusiness programs must be responsive to the total of animal agriculture. Individuals employed in off-farm animal agriculture need specific preparation for their jobs.

The Role of Vo-Ag
The role of vo-ags is to prepare individuals with the competencies needed for gainful employment in animal agriculture as well as other areas of agricultural industry. The key to vocational education is "needed competencies." What to teach is determined by what employers and entrepreneurs need to know. It is time to assess our program content for relevancy.

What's Going On In Washington?
The Editor recently visited in Washington with various individuals in the U.S. Department of Agriculture and Congress, attended the 4-H and FFA Centers. The purpose was to get brought up to date on the trends and directions at the national level. It was a meaningful experience — one which made me proud of our profession, yet concerned about where we are headed in the future.

Department of Education
In the new Department of Education, the organizational structure is not fully developed and operating. Individuals in the higher levels of the Department appear to be placing more emphasis on politics and less emphasis on professionalexcellence and providing quality educational programs in the United States. You get the feeling that there is more emphasis on complying with regulations than on whether or not the students in the school of this nation learn anything.

Unfortunately, the trend away from providing leadership for substantive, program-oriented education has begun to permeate state and local educational administration. Some school officials are more concerned about special groups and meeting court orders and Office of Civil Rights quotas than about student learning. Their jobs are easier when they categorize students (Continued on Page 4)
What's Going On In Washington?
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things as achievement test scores) and put them into educa-
tional tracks. When this occurs, the students are far from being placed in the least restrictive environment. In fact, they are placed in a dangerously restrictive environment.
Daryl Hobbs, a sociologist at the University of Missouri, briefly mentioned the trend of diminishing middle class sup-
port for public education during his speech at the National Seminar on Agricultural Education in July, 1980. Dr. Hobbs did not elaborate on the trend. This movement has been underway for several years. Speculation is that it is due to excessive regimentation of public education with regulations largely imposed by "educational leaders" and others in Washington, D.C.

Vocational Education
In vocational education, a major concern is the re-
authorization of the Vocational Education Act. An action plan has been developed for drafting a legislative proposal which has a high priority and which will be introduced with Congress. The procedure is to be completed by March, 1981, with the submission of the legislative proposal to Congress.

Where do we stand on general vocational education ver-
sus specific program areas? One being vocational agricult-
ure/agribusiness. The movement toward general voca-
tional education still has strong support. A message that we need to send to Washington — the Department of Education and Congress — is that the specific program areas in vocational education must be identified. People must be prepared for specific occupations — not just general voca-
tional education. One of the problems in the Department of Education is that there are many compliance-oriented generalists and few individuals with substantive program

orientation. (We are fortunate that there are individuals with program orientation in vocational agriculture/agri-
business.) The "generalists" lack competence in specific program areas. Although they have written books they can do check statistical information and open the mail, tough talk — right? My point is this: If vocational education is to prepare individuals for gainful employment, it must focus on specific occupational needs, and this requires competent leadership that has a program orientation.

All program areas in vocational education need to coop-
eratively seek legislation which is mutually beneficial to each area. However, a united effort does not necessarily mean success. If specific program identity and provisions for the unique features of the program are not included, should we support a united effort? United efforts which result in the loss of local autonomy are detrimental. Good examples can be seen in teacher education institutions which have emphasized the generalist concept. Empha-
sis on the needs of agricultural education has diminished. Washington is a good place to visit to study education. Those individuals who are brave enough to work there need our support. And we need to thank those who are providing program leadership for vocational agriculture/agribusiness. Byron Rawls, thank you!

The Cover
Farming and ranching have changed from a way of life to complex business ventures. Animal agriculture is much more than their schools when they are for the market. One cannot tell the whole story involved. Certainly there is nothing wrong with receiving — recognition in fact we all need it — but it is important to realize that the program is for the students. Our primary concern must be for the students and their success rather than our own personal recognition.

It concerns me that there are teachers in our profession who apparently condone, if not encourage, or perhaps even teach, practices which clearly are unethical. The policing required at major livestock shows to curb un-
ethical practices is an indictment on our profession. Can we be a profession if we permit such practices? What pos-
tive steps are we taking to correct this problem? Certainly, teacher ethics of program substance are detrimental.

Another key notion is that of "challenge." Dr. Stockton's article presents a challenge to teacher educators and state staff personnel education opportunities which will assure that teachers are prepared adequately for their role in animal agriculture. The model being us-
ed in Texas is discussed in hopes of generating ideas that other states might consider. The articles by Dr. Taliaferro and Mr. Casada on "Using Animals to Teach and Develop Young People" and by Mr. Meeks on "Developing Competen-
ties in Animal Agriculture Through the Instructional Program and the PFA" offer a challenge to teachers to use experiences in animal agriculture for the maximum benefit of students.

Some Questions
The ideas generated from these articles and my own per-
sonal concerns give rise to a number of questions, namely:
• What is the relationship between experiences with ani-
mals by vocational agricultural students and their subse-
quent career choices?
• Is the opportunity to work with animals a factor in the choice of vo-ag teachers to select vo-ag teaching as a career?
• Is the opportunity to work with animals a factor in the retention of vo-ag teachers in the teaching profession?
• How much time is being devoted by vo-ag teachers to

animal science as compared to other areas of the curric-
ulum?
• Are programs in animal agriculture being developed to provide students in urban areas with opportunities for experience with animals?
• Does the animal science curriculum component being taught in vocational agriculture reflect the contemporary animal agriculture industry? Are we utilizing persons en-
gaged in the animal agriculture industry to assist with cur-
riculum development and revision?

• Are preservice and inservice teacher education pro-
grams preparing teachers adequately for their role in con-
temporary animal agriculture?

It is hoped that this issue of THE AGRICULTURAL EDUCATION MAGAZINE will prove challenging and thought-provoking, and that the result will be improved programs in animal agriculture which will be of benefit to every student enrolled in vocational agriculture.

THEME
The Future Of Animal Agriculture

By Dr. J. Carr
The editor's note: Dr. Pope and Dean and Director of the College of Agriculture at New Mexico State University.

Domestic animals are truly "dollar earners" in U.S. agri-
culture, returning $7 billion in 1979 to farmers and ranch-
ers. It is the product of acres of crops and forage, plus vast areas of range land must be utilized by livestock to return a profit. All signs point to an even greater role for livestock, partic-
ularly ruminants, as humans around the world compete for grain. Today, the animal side of agriculture is under-
growing more change than ever before.

Animal agriculture must meet the daily needs of about 230 mil-
lion Americans. The requirements are staggering. Over 150 million pounds of meat products must be delivered to the table each day, requiring a cattle inventory of nearly 110 million head. It takes 13 billion pounds of pork yearly and 122 billion pounds of milk in all forms, yet the supply of quality meat products is so certain that we take them for granted. We even entertain such silly arguments as whether or not meat is a luxury in our modern world, or whether we should shift to vegetarian diets.

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The Future of Animal Agriculture
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The Past
Looking back, animal agriculture in the U.S. has advanced along a rocky road, often beset by rapid ups and downs. The greatest increase occurred during the past century. Cortez first introduced domestic livestock to Mexico and Coronado provided North America with large flocks of cattle and sheep in his futile search for the mythical seven cities of gold. Settlers on the east coast brought livestock on some of the first sailing ships to provide meat, milk, hides, clothing, and a source of transportation and power.

A few events of the past century that shaped our future are worth remembering. Barb wire, boys in Illinois shortly after the Civil War, helped fence in the vast plains, and windswept, pumping endlessly, opened the great southwest to cattle and sheep. Refrigerated rail cars for transporting a perishable product and the birth of large packing plants at the river markets were milestones in the wholesale food business.

In the 1940s, the 1950s and 1960s, the U.S. was the world's largest exporter of beef, pork, and poultry. The government paid subsidies to farmers to hold back supplies and then allowed them to sell their crops at prices higher than the world market. This system worked until the early 1970s, when the world market for meat began to decline. The result was a glut of meat and a drop in prices. The government then paid farmers to destroy their crops, but this did not solve the problem.

The Future
So we observe history and learn from it — but the big question is: What's ahead? The answer is: more of the same — and more. This will come from within the industry as we develop better and more efficient livestock operations to produce more meat with less water and air pollution. It will also come from new technologies and innovations.

Another outside influence of great importance is government regulation, already evident in bans on certain hormones and antibiotics and on the nitrates in curing pork. The trend is likely to continue and increased regulation may affect us from without — as consumer demands influence the kind of livestock we produce, and how we merchandise our meat products. The sheep industry is only one-fourth of World War II levels, for example.

One thing seems certain — animal agriculture in the 1980s and beyond will move forward. Marketing channels that will call more of the shots and livestock production will lose some of the time-honored "art" so evident throughout history, and shift more toward science. There is every reason to believe the consumer will want more food at lower prices. The key lies in one of the greatest opportunities for gifted young stockmen. They can prepare for careers as "decision makers" and managerial roles.

Dramatic change could be forced on the U.S. livestock industry due to outside forces. To cite an example: New processing technology with beef, now rather fully backed by research, shows that lean beef and meat from the entire steer carcass — even as quality steaks and roasts for the higher priced trade or as "flaked and formed" cuts. The latter are the key in improving the meat quality of the restaurant and fast food trade. Thus, one might envision an "all steak" steer carcass. Its impact on our present feeding, management, and selection process could be significant.

If the crystal ball is right, much will depend on the health of the general economy. Today's meat industry is largely oriented toward the needs of busy housewives and convenience, plus the fast food trade and eating-out habits of Americans. Should the economic recession we are now experiencing prove to be longer or more severe than predicted, a shift back to "do it yourself" items may be in the cards. Economists are already concerned about what appears to be a softening of demand for beef against strong competition from pork and poultry in the meat counter. The impact of this can spill over into commercial feedlots, which are highly capitalized and prone to risk. Also, the recent Russian grain embargo impacts uncertainty into future production costs and signals that we are to use food and grain as weapons in economic war. These are sobering times, especially for young producers, heavily in debt and operating on borrowed money.

For the swine industry, growth of confinement units and specialization will continue. The strides made in genetics and feeding will continue, but the industry is especially vulnerable to issues related to meat quality and consumer demand. The past year's performance of hog markets suggests considerable volatility, slim margins, and high uncertainty.

Again, genetics will play a big role, with specific lines of swine developed to produce hybrids, although type may swing back to a more moderate base. Continued pressure on antibiotics and hormones can be expected. Marketing organizations could well develop under the control of the computer.

For the beef industry, the biggest change of all may be upon us. The beef and lamb industry may be a shift in consumer demand, after two decades of high priority for beef. Pork and poultry products appear favorable to many budget-conscious consumers. Yet opportunities abound for cattlemen who study the lessons of the past. We have realized only a fraction of the maximum gain possible from use of crossbreeds. Many larger operations will develop individual programs from "range to rail" through contractual arrangements with feedlots. By doing this, they can expand returns, improve overall efficiency, and capture more of the genetic potential bred into their cattle. The needs of specific markets or outlets for the product will be watched closely. Holding down the industry are staggering interest rates and long-term financial commitments.

Exotics may fade somewhat in importance, yet crossbreeding for size, scale, and stewardship will predominate. Right around the corner are shifts toward more short-fed cattle from feedlots, young bulls, and a relaxing of grading standards, perhaps even to a "time-on-feet" basis.

Opportunities
For young stock producers about to enter the arena of animal agriculture, the opportunities for the 1980s and beyond will be exciting. One must become a specialist — a real pro — in both production and marketing. Knowledge of finance and business takes on added importance.

The opportunities are there for resourceful and energetic persons. Preparation through the college level will be a major avenue toward success. Many colleges are now offering professional-oriented graduate degrees to better prepare the young producer, Bob Zupke, lifelong football coach at Illinois, used to say, "When the going gets tough — the tough get going." Such will be the need in the U.S. livestock industry in the years ahead.

Themes For 1981
Agricultural Education Magazine

Time Management
Community-Based Programs
Keeping Up To Date
Programs in Agricultural Supplies and Services
Energy Education
Adult/Young Adult Education
Professionalism
The Beginning Teacher
Student Management
Teacher/Professional Liability
Using Research
Relationships with Agricultural...
THEME

Preparing Teachers in Animal Agriculture

Since the beginning of vocational agriculture in the public schools, animal agriculture has played a significant role. In each state, different interpretations are applied as teacher educators develop varying plans to prepare vocational agriculture teachers for their role in animal agriculture. The result is that all teacher education institutions plan strategies at both the preserve and inservice levels to meet the needs of teachers.

The nine universities certifying vocational agriculture teachers in Texas are actively involved in inservice as well as preserve activities. Texas has always emphasized animal agriculture, reflecting the vast animal industry in the state.

Agricultural education majors who have had vocational agriculture in Texas high schools usually have strong back-grounds in animal agriculture. The SRA programs are primarily animal oriented with an emphasis on livestock shows. There are local, county, regional, and state livestock shows and judging contests available to FFA chapter members choosing to participate. Parents of many FFA members are either farmers or ranchers and their incomes are derived from involvement in animal agriculture. As these students enter teacher education programs, they generally have an intense desire for more knowledge about animals, and tend to take 10-12 animal science courses as electives. This is also true to a large extent for students who have not had high school vocational agriculture.

Preservice Education

Each university curriculum must meet the state minimal requirements for certification with at least nine semester hours in animal science. Universities may, however, require additional hours to meet individual university standards beyond the state minimum. While there is significant variation in the elective course content in the various universities, the required nine semester hours of animal science have strong commonalities. In most cases, students are required to take an introductory general animal science course, a nutrition course, and a livestock production course. The introductory course includes selection and reproduction, as well as management and marketing of beef cattle, swine, sheep, goats, and horses. A laboratory is required in the beginning course. The nutrition course requires students to concentrate on plant and animal components, feed consumption, digestion, absorption, storage, utilization, and excretion. Either a general livestock production course may be offered or specific production courses in swine, sheep and goats, beef cattle, and horses.

Additional preservice courses often selected by the students include animal breeding, livestock judging, meat selection, evaluation and grading, reproduction, and livestock marketing as well as dairy science and poultry science. Some universities offer a course in livestock management skills and in selecting, feeding, fitting, and showing beef cattle, swine, sheep, and horses. Many students will complete their preservice requirements with eighteen semester hours or more of animal science courses. With their animal science background and their preservice training, they have sufficient competency in animal agriculture to begin teaching.

Inservice Education

As young teachers assume teaching roles, they quickly realize that many skills accrue only with preservice and additional training. Animal agriculture changes rapidly. Interested teachers seek every opportunity to accumulate knowledge and skills which will help in inservice education. Competition is brisk and vocational agriculture teachers take great pride in their students who win livestock shows and judging contests.

Inservice education in animal agriculture is offered primarily during the summer months. Each university includes these in-service training programs. Most teachers attending the one- and two-day workshops are employed in schools located within reasonable driving distance. For the teachers to be eligible for travel and per diem reimbursement, the workshops must be approved by the Texas Education Agency. The accumulated listing of all approved inservice workshops is then mailed to all vocational agriculture teachers in their respective school superintendents. The teachers must have the approval of their superintendents before they can receive reimbursement for expenses. Each teacher is eligible to attend a maximum of five one-week of inservice training. In the summer of 1980, one-third of the workshops were oriented to animal agriculture. This might seem excessively high, but the workshops are designed with input from the teachers themselves.

The workshops in animal agriculture cover many areas. Teachers request judging and showing workshops more often than other specific areas of animal agriculture. In the summer of 1980, for example, workshops were offered in judging livestock, dairy cattle, poultry, meats, milk quality and dairy foods, range and pasture, and land. In many cases teachers who have a reputation of training winning teams will either teach or assist in teaching the workshops. Successful teachers are usually willing to share their knowledge with others.

Each summer, the state inservice workshop for teachers of vocational agriculture is held in one of the major cities in Texas. The five-day conference allows adequate time not only for necessary meetings but for workshops of one to three hours in length. The workshops are structured by vocational agriculture teachers and are quite successful. Several are offered at the same time to allow teachers to select the workshops they wish to attend. Animal agriculture is probably the most popular subject. Fitting, feeding, showing, school farm laboratories, judging, selection, and preemployment training laboratories regarding animal agriculture are in demand.

Inservice education is available during the school year and the summer months for adult education programs in animal agriculture. The agricultural education adult special- ists, through non-credit, 15-hour shortcourses are employed full time and travel the State teaching the courses. The courses are generally 1 - 2 weeks in duration. Two specialties in beef cattle and one in swine are available. The shortcourses are popular with the adults in the community, and they serve as in-service programs for vocational agriculture teachers. Some teachers establish their own shortcourses utilizing local resource personnel or available university personnel in their area of the State.

Three-week, non-credit, summer shortcourses are offered in pre-employment laboratory training for those teachers employed to teach a specific program but who did not complete a university program as an undergraduate student. There are eight pre-employment laboratory programs taught at the high school level in Texas, two of which are animal agriculture programs on dairy cows and beef cattle. These programs consist of two sessions of five weeks periods each day to junior- or senior-level high school students. Teachers need additional knowledge and skills beyond the production agriculture level to teach these courses. If they do not have the specific university background, they must work closely with the workshops. The courses are taught eight hours each day for three weeks. They are funded and coordinated through the Texas Education Agency and taught in different universities according to need, location, expertise, and facilities. The intensive training is apparently of great benefit to the individu- als who complete the shortcourses.

Summary

Animal agriculture is a significant industry in Texas. Many of the vocational agriculture teachers have animal agriculture backgrounds. Inservice and preservice courses are available at the university level. Inservice training is available for many teachers. The competition in animal agriculture keeps the teachers interested.

Teacher preparation in animal agriculture will continue to be a challenging, changing priority. Today's methods will become tomorrow's history. As economic, technological, and scientific changes, governmental actions, and other factors continue to impact animal agriculture, teacher educators and state staff personnel must listen with an open mind in order to prepare teachers effectively for their role in animal agriculture.

THEME

How Animal Programs Develop Young People

By WYLER C. TALIAFERRO and CHARLES W. CALADA

A changing set of values and circumstances constantly affects the teacher of vocational agriculture. We have been faced by fund problems, parental attitudes, turnover among teachers, state and federal government regulations, and new programs. One force that has remained steady has been the use of livestock as a motivational tool. Students need more motivation now than ever before. Many times students need only a small boost to start them on the road to success. If a good workshop in teaching can serve this and many other purposes.

Students who work hard at training, feeding, cleaning, and using T.L.C. (tender, loving care) on their show ani- mals will have a carry-over value in other phases of their school and home life. For many, an animal may be the very first thing that is really theirs to possess. They must see to all of its needs. It is easier to accept challenges and responsibilities in life if they have had practice meeting them head-on. Showing and caring for animals gives them this edge.

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How Animal Programs Develop Young People

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We like for students to start off, struggle, experience some failure, and then put forth extra effort and win as a result of their diligence. Winning is not everything. All the events that lead up to winning make for a teaching program. It has been said, "The mark of a good teacher is when students do not know when they are being taught." Teachers can use animal science to teach without the students knowing it. Some of the techniques and values they learn on trips to select animals and to participate in livestock shows are not realized until later in their lives.

Selling Parents on the Program

Parents may question the value of a show program and the expenses involved in purchasing good animals, feed, and other necessities. Our approach is to convince parents that a busy young person will be more likely to stay out of trouble. There are many different environments, people, and situations encountered as students participate in livestock showing. With proper supervision and guidance by the teachers, students can learn to make wise decisions as they meet challenges and temptations. We try not to sell our program as a money-maker, but as a way to guide and teach young people.

Choosing Projects

We believe that students should be able to choose their own type of project. Students need assistance in choosing the kind and breed of animal. By specializing or having one or two breeds among FFA chapter members, students can become very competitive. Establishing rapport with a breeder opens doors for our students. They can often buy higher quality animals for less money. This brings added pressure on the teacher as breeders expect to see that the best possible job is done. Also, parents begin to question the reasons for their herd as students, through close contact, establish themselves with these people. This, in turn, leads to much needed help later in their lives.

Academic Requirements

We strongly recommend some sort of grading system and requirements for students to meet in order to be eligible to participate in livestock shows. A student who cannot pass in school surely cannot pass if he or she is kept in school on a trip. We must be sure that our program is compatible with the total school program, rather than fighting local school requirements.

Rules

Teachers must be firm in their hair and take no excuses for wrong doing. Rules about drinking, smoking, dress, grooming, and neatness may be needed. We can teach values to students in our program.

Winning and Losing

Most people can win graciously. Losing graciously is a real test of character. Our program is designed to build character, values, and responsibility. We learn more from losing than we do from winning. When we see our students pull for each other, then we know they will be the type of people the world must have to survive.

Developing Self-Esteem

Young and old alike need recognition and praise. Our job as teachers is to build self-esteem for our students. We can praise the jobs our students are doing in feeding and fitting, offer constructive criticism, and counsel with them on problems. A student doesn't need super athletic abilities or superior grades to be top in the show ring. Our programs should give the marginal students a chance to succeed if they want to participate.

Motivating Students

Students do what they want to do. If properly motivated, they can achieve success. Our program keeps from six to eight students in school each year who otherwise would drop out. Sometimes a show program will get teachers so close to students that it will create an extra demand for time for veterinarians because the students look up to the teachers for help. This is not a disadvantage, but a real chance to be a teacher.

Developing Decision-Making Skills

Raising show animals teaches students to make decisions and how to plan ahead and budget time. If students can learn to think, the teacher's job is justified. It teaches them to decide when and what to feed. It teaches how to be in charge and totally responsible. The old used up clichés of building character and responsibility through our animal programs are true.

Developing Money-Management Skills

We have developed a supportive relationship with a local bank. Many of our students have borrowed their first money and established their credit rating through their animal programs. In recent years, we have never had one student fail to pay off a livestock loan. Meeting people in obtaining a loan and paying it off are valuable experiences for youngsters. Every part of a show program can be used to teach important skills and values.

Developing a Cooperative Spirit

Our youngsters help each other. Our past students help current and future students. This has established a tradition of cooperation.

Problems and Rewards

It is important to realize that teachers involved in animal programs may encounter problems. Administrators may fail to understand the programs. It is essential that the program be fully explained to them and that they be informed of all field trips, results, and methods. Fellow teachers in the school need to understand the program. This helps when students need classes. Parents need to understand and be kept informed on program activities, especially if they are to be supportive.

Rewards teachers get as a result of a show program include:

1. Seeing students excel and do more than they thought they could.
2. Improving community ranching programs and the quality of life in the community.
3. Seeing students cope with new environments and situations.
4. Getting students developed financially so they can continue their education beyond high school.
5. Seeing students develop pride in themselves as they win honors and awards.

Is it worth the effort? Based on our experiences with hundreds of youngsters over the last several years, we answer this question with an enthusiastic "yes!"

A Non-Traditional Animal Agriculture Program

By Steve Johnson

Editor's Note: Johnson is Vocational Agriculture Instructor at Montgomery County Joint Vocational School, Clayton, Ohio.

Sue, a high school senior, lives with her parents and pet cat in a suburban Dayton. Her goal after graduation is to be employed caring for animals. The chances that Sue will attain this goal is slim unless she is enrolled in one of the Ohio Animal Production and Care vocational programs. Fortunately, she is a member of the Montgomery County Joint Vocational School Animal Production and Care (AP&C) class, a part of the vocational agriculture/FFA program.

The Program in AP&C

For two years Sue and her 24 classmates have been studying to prepare themselves for employment as pet groomers, pet shop employees, kennel workers, and licensed assistant laboratory animal technicians. In order to prepare for this specialized work, AP&C students spend three hours each day grooming dogs, caring for the school and FFA animals, performing laboratory animal health checks, and operating the pet shop operated by the school. Besides the daily three-hour laboratory, students attend 90 minutes of related class and 40 minutes of academic class.

The local course of study for each AP&C program is patterned after the Ohio Animal Production and Care Curriculum Guide with input from a local advisory committee. Instructors for the classes have a variety of animal-related experiences including research, pet shop sales, veterinary technician, dog grooming, and dog training. Most of the instructors also have a baccalaureate degree in biological or animal science.

In the animal health field, students learn handling, sexing, spaying, and neutering; animal selection; and understanding laboratory animals. Cats, dogs, mice, rats, hamsters, guinea pigs, rabbits, and monkeys are used for individual animal identification, blood drawing, and practicing handling and restraining techniques. Other important skills in animal health are identifying anatomical parts, testing for and identifying veterinary; biologicals, and mixing and administering.

Student groomers start by answering the pet shop telephone and scheduling grooming appointments. When owners arrive with their pets, students greet the customers and record information on the work to be done on each of the five pets groomed each day. The pet grooming involves combing, nail clipping, ear cleaning, hair clipping, bathing, drying, and disinfecting all breeds of dogs. Just as in industry, students keep a file on the style of each pet groomed. The grooming is not limited to only dogs. Cats, skunks, a pet goat, and a lion have been groomed by the students.

AP&C students are responsible for the breeding, feeding, cleaning, and caring for the health of the school's animals and the FFA chinchilla herd. The AP&C classes pet 50 chinchillas each year from the 150 animal herd with the profit going into the FFA budget. During their two years, students are required to complete two production projects and one research project. One production project is done at school with school animals, and the other production pro-

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ject can be done at home in the summer between the junior and senior year or in the fall of the senior year at school for students unable to raise animals at home. The research project is an animal data study to help students gather measurements on animals, work with numbers, charts, and graphs, as well as report these data in an approved form.

**FFA Participation**

FFA awards that students apply for include the State Farmer Degree in Animal Production and Care and the Animal Care State Proficiency Award. To apply for the State Proficiency Award, students must have experiences in four of the following animal-related areas:

- Business Management
- Dog and Cat Management
- Animal Laboratory and Animal Health
- Small Animal Management
- Large Animal, Zoo, or other

Students are encouraged to compete in the State AP&C skills contests. Industry experts assist the instructors in preparing the contests. Industry people also judge the pet shop, animal health, dog grooming, and dog obedience contests. Students must demonstrate ability in performing industry skills related to that job. By competing in one of the skills contest areas, a student can be eligible to receive industry recognition. For achieving a passing score on the animal health skills contest, a student receives national licensing from the American Association of Laboratory Animal Science as an Assistant Laboratory Animal Technician. This certification is required by most animal laboratories as a prerequisite for employment. Skill certification in other contest areas enables students to be more competitive in acquiring employment, since they have achieved a level of expertise in that field.

**Student Placement**

In 1980, Mr. Robert Nehring, senior AP&C class instructor, achieved over 75% placement in animal related employment of the 23 students in his class. Most years over half of the students employed have jobs in dog grooming, pet shop sales, veterinary office, and laboratory animal facilities. Other related jobs include show dog handler, kennel worker, and horse, livestock and dairy farm hand.

Sue and other urban students can obtain employment caring for animals if they have the necessary knowledge, experience, and skill which employers find necessary. Through the FFA production projects, the in-school laboratory, and the related class instruction, young people are fulfilling their goals of working in a career caring for animals.

**Supervised Occupational Experience**

What type of instructional material and program will work with students who have very little practical or "hands-on" experience? Many vocational agriculture and FFA programs are being criticized for lowering requirements for enrollment. We need supervised occupational experience because it is an excellent tool to assist young people in developing skills associated with animal agriculture. Records of the farming program should be kept carefully and accurately, whether the program is a 100-cow herd or only one calf. The ratio of pounds of feed to produce a pound of gain should be figured on one animal as carefully as it is on a 100-head feed lot. A vocational program that does not include supervised occupational experience is neglecting the instructional needs of students.

Certain degrees of responsibility and knowledge that come from owning and caring for an animal will remain with students all of their lives. Livestock projects promote proper feeding and watering practices, disease prevention and control, proper shelter establishment, and buying and selling techniques. Several advantages are as follows:

- Develops cooperation. Students help each other to care for and work with animals in areas of feeding while on vacation, grooming at livestock shows, delivering of the newborn, and sharing knowledge.
- Utilizes material taught in the classroom.
- Develops closeness between parents and students as parents realize that students can take on important responsibilities.
- Provides opportunities for students to begin careers in agriculture.
- Helps students to solve problems, form judgments, evaluate, make decisions, keep records, and, possibly, make a little money.
- Motivates students to excel. Livestock shows cause students to be aware of quality animals.
- Develops pride of ownership. Many times this is the first thing students have ever owned.

**Judging Contests**

Judging contests are used for instructional purposes. Several areas are included here.

**THEME**

**Developing Competencies in Animal Agriculture**

Increasingly, students enrolling in vocational agriculture do not have a farm or ranch background. Many of the students are girls. They may be learning skills which are new to them. Some students enter the vocational agriculture program unaware of what the program has in store. Vocational agriculture instructors have a challenging task to take these young students and help them develop their abilities to the greatest extent possible. Some ways of helping students develop competencies needed in animal agriculture are discussed in this article.

**Livestock Judging**

This contest prepares the students for selection of their animal herd, whether it be sheep, swine, or beef. Many students who have animals need to be able to upgrade their herds by the addition of quality breeding stock.

**Dairy Cattle Judging**

This contest helps the students who live on dairy farms by enabling them to keep up with new breeding lines. It also keeps them aware of the selection of certain bulls for improvement of each individual cow.

**Poultry Judging**

Students involved in this contest are better able to select the proper pullets for their flocks and to cull out hens that are non-productive. If they choose a broiler project for their supervised occupational experience, they are able to select birds that will produce quality and quantity.

**Classroom Instruction**

Instructors should make class an informative and interesting place for the student to learn about the livestock industry. Classes should be followed up with field trips and other activities that pertain to the subjects being studied. The learning process is enhanced by first-hand observation of those things studied in the classroom.

In order for the student to develop competency in any area of agriculture, the material must be well organized and properly presented by the instructor. Dedicated vo-ag teachers are always helping students better themselves. The concepts students have of themselves and their projects can be promoted by the vo-ag teacher. Teachers should work hard to motivate freshmen students to become competent in the areas of animal selection. Most instructors believe that by the third or fourth year of class, students should be able to carry on on quality supervised occupational experience program with much less assistance from the teacher. Students should develop in selecting, caring, and culling procedures for the herd so as not to be dependent entirely upon the advice of the instructor.

In summing up the competencies developed in animal agriculture, we must consider one of the best tools of motivation — the FFA. Vocational agriculture and the FFA compliment each other in many ways. The FFA organization has developed many programs that enlighten and motivate students. The FFA is a positive force to be utilized by all instructors in developing sound and useful skills.
Personal Development For Agricultural Industry ... Dressing For Success

By Ronald A. Brown, Vi McKee, and Gail Sullivan

ARTICLE

Why Agricultural Education Is Needed In Belize

By David L. Paulkner

trying to note that a resource person must be "taught" so that the goals of the program will be accomplished. In general, the program is designed around a specific location. The resource person would likely not bring clothes and models, but would lecture. Remember that most resource persons have not been taught how to teach and you must tactfully structure the program for maximum educational benefit. After contacting and selecting the resource person, a follow-up letter was written which specified the date, time, location, estimated number of participants, and the goals of the seminar.

Publicity for the seminar was planned next. Handbills were sent to heads of departments in the College of Agriculture and Home Economics, to graduates, and to the presidents of youth organizations in the College of Agriculture and Home Economics. Interested persons were asked to notify the Department of Agricultural and Extension Education so a tentative count could be made for purposes of seating, room arrangements, and refreshments.

On the day of the seminar, the resource person brought approximately 30 suits of clothing of various types for demonstration to students. He also brought a large sample of clothes and to use models to demonstrate what was to be taught. It is important to note that the quality of a coat is explained.

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ARTICLE

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In Belize (population approximately 140,000) is a small, internally self-governing country in the Caribbean. The climate is dominated by two seasons — June to February, the rainy season, and March to June, a distinct dry season with little or no rainfall. The latter portion of the rainy season is often influenced by ocean currents from the north, which mix with the warm tropical air. The net effect is more rain, only it is cooler, lighter and comes from the north. However, most of the rain is brought to Belize by trade winds off the Caribbean.

The original inhabitants of Belize were the Mayan Indians. Their civilization flourished through the ninth century A.D. and began a rapid decline, for reasons uncertain to archaeologists. The intrusion of Europeans began in the early 16th century. They found the Mayan people in a state of independent village communities, based upon a shifting cultivation system of agriculture known as the "milpa." Today, most of the Guatemalan (Mestizos) and Spanish (Mayan and Spanish) still carry on in a village culture that is the basis of their milpas in the surrounding bush.

The first British settlers came to exploit the land of Belize by harvesting "lupogood" — a tree from which dye was extracted for the coloring of woolen goods in Britain's textile industry. This trade grew and was sustained through the use of slave labor from West Africa. Gradually, the importance of "lupogood" declined and the forest camps turned to harvesting mahogany. The methods of harvesting were very crude and were sometimes conscious of the great physical demands upon the laborers. The climate limited them to an annual growing season and transporting the logs downstream during the rains when there was sufficient water to float them over all of the streams. In addition to these problems, they were subjected to occasional attacks by Indians and Spanish military forces.

Spain had claimed the territory of Belize long before the first British arrived, but Spaniards had never settled the area. Early government was discouraged by the British in the 1800's to deal with the growing popula- tion and lowpop trade and to try to firmly implant British interests and claim the area by occupation.

Several treaties between England and Spain from 1763 to 1766 recognized lowpop trade and, by firmly asserted Spain's sovereignty by forbidding the development of plantations. The treaties also prohibited any other agricultural venture, with the exception of subsistence farming. Those terms were followed through most of the 1800's and even as late as 1945 the export economy of Belize was 90 percent dependent on forest products.

The prohibition of agricultural development encouraged negative attitudes toward farm work. The slaves used in the logging camps were allowed a lot of freedom and long periods of relaxation before work began again at the start of the rainy season. During these times, they developed conducive attitudes toward the slaves who worked year-round with the subsistence crops. This attitude persists today among many Belizeans.

Knowing something about the history of Belize is important in understanding present conditions. Today, Belize is a multi-racial and multi-cultural nation seeking economic and political independence from England and a guarantee of territorial integrity from Guatemala. Even today Guatemala claims to have inherited Spain's rights to the area and threatens to invade if British military forces are pulled out of the area or the territory is granted independence. This uncertainty in Belize's future has the effect of inhibiting outside investment and leaves the development of agriculture to its people, the major (Continued on Page 16)
Why Agricultural Education Is Needed In Belize

(Continued from Page 15)

ity of whom are without a history of agriculture to build on.

The Legacy of Mayan civilization and colonial exploitation by Spain and England is still exerting tremendous influence upon Belize. The problems develop are many and very complex, but the government realizes that the future of Belize lies in an economy based upon agriculture and fishing, since Belize possesses no other known natural resources.

The development of agriculture and its diversification has been relatively rapid in the last two decades, but Belize still isn't completely independent in staple foods production. The main agricultural products today are citrus, sugarcane, rice, bananas, corn, red kidney beans, beef cattle, and broilers.

Vocational Agriculture in Belize

The agricultural program of which I have been a part for the last two years came about as a recognition of the need to change attitudes, stimulate interest, and hopefully, lead young Belizeans into agricultural careers. Belize has a shortage of trained teachers and skilled workers and fills some of these positions with American Peace Corps volunteers, of which I am a member. Located in the capital (approx. 4,000 people) I teach at the Belmopan Comprehensive High School whose students are of high level government officials, civil servants, and villagers who come in each day from the surrounding area.

Early in my service here, the principal (Michael Price) and I outlined the goals of the program to develop an agricultural curriculum relevant to Belize and the tropical conditions and to provide the agriculture experiences through practical projects. We started the 1978-1979 school year without tools, supplies, or textbooks and only the beginnings of the curriculum, which I had complete freedom to develop.

Under these resource restrictions and with communicative due to cultural differences, we began the year with great skepticism on the part of the students. Fortunately, my principal

BOOK REVIEW

Agricultural Economics and Agri-

BOOK REVIEW

Enriching: An Introduction by Gail L. Cranmer and Clarence W. Lensen, 1979, 48 pp. $8.95

The text is designed primarily for students interested in basic agricultural economics concepts and provides excellent coverage of agricultural, natural resources, policy, agricultural systems, international economics, and rural development.

This book provides the reader with a structure of agriculture and discuss economic principles as they apply to agriculture. The main topics include agricultural economics, crop and animal behavior and demand, decision making, supply and price determination, marketing regulations and commodities, and livestock. It is an excellent text to prepare for college students, high school agriculture students, and college and high school agricultural instructors.

West Virginia, Instructor

Sedan, Kansas

Competency-Based Instructional Programs in Animal Agriculture

By Max L. Aasen

Editor's Notes: Dr. Am-

Anson, Director, Depart-

ure and Industrial Edu-

article at Montana State University.

Tremendous efficiencies have been taken place in recent years and the changes in the animal industry have occurred because people in this industry determined what changes needed to be made and just go about making them. As a result, each year several animal species production and efficiencies are broken. Good management has become the key in every phase of the animal industry. Persons fulfilling management roles, therefore, must possess a combination of the right competencies — knowledge, decision making, and skills needed in order to perform at expected high levels.

Historically, vocational agriculture curriculums in animal science were based on the practiced approaches determined essential to growing, managing, and marketing each type of commercial beef or farm animal. Each species of animal, such as cattle, hogs, broilers, and turkeys, has a separate course. The approved practices made up the body of knowledge that has been learned and helpful experience by vocational agriculture students. Approvals were given for each species in production and did not consider knowledge, skills, or experiences necessary in financing or marketing of animals.

The trend in teaching animal science has been working towards specific competencies needed by persons employed in the several animal science fields. Courses were based on these knowledge. The competencies, when determined, have been commonly clustered into classifications, such as breeding, nutrition, animal care, disease control, and management.

Common competencies have become the basis for course objectives, subject matter, and methods. Common competencies are those competencies that are essential for all employees whether in production or agriculture education. Some competencies are generally selected because of their commonality across animal species lines. Determining common

competencies and selecting appropriate subject matter also is efficient use of time, since there is little need to repeat each competency with each species of animal.

Basing courses on competencies needed by employees provides the accountability demanded of modern day programs in vocational agriculture. Unique specific competencies are those knowledge, skills, attitudes, and experiences which agriculture employees must possess in order to enter and advance in a specific job title. These competencies are not needed by all agriculture employees and, therefore, they need not be taught as part of a core agriculture science curriculum to all vocational agriculture students. Unique specific competencies are commonly taught the last one or two years of their high school vocational agriculture programs or in specialized programs at postsecondary area vocational schools or community colleges. Examples of these types of specialized programs are meat cutting, feedlot management, livestock marketing, dairy herd management, horse management, and sheep shearing.

Basing instruction on the competencies provides vocational agriculture teachers with information needed to determine teaching methods to be used.

Determining Competencies To Be Taught

Determining the competencies to be taught is a time consuming and painstaking effort. In only a few instances it is necessary for each teacher to take the time and effort to design programs needed by students. A number of individual state efforts in Montana, Ohio, Illinois, Texas, California, and a U.S.O. sponsored nation-wide study to determine competencies needed by workers in agricultural production/agribusiness have been conducted. The individual state efforts in animal science and other areas are available upon request from state teacher training departments and should be used. The national study is available by writing Byron Rawls, Program Specialist in Agricultural Education, Office of Education, Division of Adult and Vocational Education, Washington, D.C. This is an extremely valuable document for teachers planning animal science courses.

Where to Start

The old saying "getting started is one-half of the way towards comple-

tion." This is very much the case. If you read this article, why not take a minute to write and acquire the several studies mentioned herein which you now teach in animal science and ask yourself, "are there common competencies which I am teaching several times?"

During the coming year, as a suggestion, you might put together some large sheets of paper on a bare wall and begin to list common competencies under several units of instruction, such as breeding, nutrition, management, and disease control. In time, you will have your competency-based instructional tasks.
Report on a Postsecondary Program: Using Computers in Farm Management Education

One of the most discussed topics in agricultural education in recent months has been the use of computers in farm management education. At the University of Minnesota Technical College, Waseca (UMW), computers play an important role in farm management education. A course in computer-based farm management has recently been added to the curriculum. This new course is the result of a long-term plan to develop a strong farm management thrust at UMW.

The Minnesota Farm Business Management Analysis System has been used for many years by the students enrolled in the applied farm accounting course and the Home Farm Pre-Occupational Preparation Program (POPP) to analyze the records of a student’s home farm business. The farm account book is maintained for a full accounting period, prepared for analysis, and then sent to the Specialized Data System computer. The annual report which summarizes the records of all participating farmers into high, low, and average groups, are used as a basis for generating a data bank by the students. The Austin area sample farm analysis is used as a teaching tool in both the Home Farm POP and Applied Farm Accounting courses.

The Program at Waseca

Eight years ago at UMW the MECCE Competency-Based Instructional Programs in Animal Agriculture

(Continued from Page 17)

this documentation than to show them what you have accomplished. Specific competencies at a level specified by their instructor. If you were an employer, would you be impressed if a student presented you with a portfolio of tasks they could perform? Would the tasks taught in the classroom, such as identifying specific knowledge skills, attitudes, and experiences that our students have developed as a result of our teaching efforts. Making your animal agriculture course competency-based would be a first step towards this end.

One of the most effective tools that is being used is the microcomputer. A microcomputer has the advantage of being portable. It can be used to keep detailed records of crop and livestock records. The microcomputer provides us with the ability to analyze records on any given day rather than at the end of the month or at the end of the year as many farm accounting systems allow. Furthermore, the student sees it as a tool that can be used to keep track of marketing activity as it happens, and thus provide early indications of when marketing activity will be needed to sell goods. The microcomputer is a low-cost system which could easily be obtained. It provides flexibility for the manager to input farm home records based upon the needs of the farm family.

The "Scare Factor"

One of the greatest barriers to overcome in the use of computers in farm management is the "scare factor." This is the reluctance of the individuals to work with computers because they have a fear of the complexity of the machine. An objective of the course is to provide the opportunity for students to become familiar with computers, basic terminology, and fundamentals, and develop a willingness to work with computers. Once they understand the system and what it can do for them, they tend to lose their fear of working with computers. Furthermore, it helps students develop a portion of their own computer to speak intelligently with technical representatives of computer firms and provides an understanding of the applications of computers in the entire field of farm management.

The End Product

The end product of the computer-based farm management course is a long-term management plan for a farm. Topics included in this report are the history of the farm, the maps of the farm, the inventory of farm land, livestock, and capital, as well as plans for the future use of these resources. A calendar of management activity schedules is developed which is based on the expected demand for a specific product or to plan for an upcoming season. This is then used to develop a replacement schedule for farm equipment. Current equipment records, farm's net worth statement, current year profit analysis, and projections are computed.

A major part of the student's project is the development of budgets for farm planning periods. The students set management goals for each farm enterprise. The goals are then transferred into economic data for budgeting purposes. Their cash flow analysis is prepared to be used as the starting point for projecting future cash flows. Budgets and cash flow data are prepared by computer to determine the economic feasibility of the management plan. This allows students to develop the best combination of short-term plans which will provide the greatest income while achieving personal and business goals.

A summary of the project is the final summary of the student's personal farm management plan. The summary includes the conclusions and limitations of the plan. By completing an in-depth home farm budget, the student becomes much more aware of the home farm financial situation. Students spend much more about planning and budgeting and the need for keeping accurate farm records is emphasized. The emphasis is placed on developing the most accurate information that can be possibly obtained. By using the microcomputer, and MECC terminal, break-even prices can be established so that the student will have an idea of what the marketing activity can be used to sell goods. The student is responsible for the long run by having a complete knowledge of the position as well as the structure of the farm business.

Computers have been found to be effective tools to motivate and stimulate students enrolled in farm management. Students feel the planning process becomes easier and more interesting. Once they have collected accurate data, the projections and reports generated by the computer provides them with more reliable and more accurate information to help plan the farm business when the plan is implemented.

References

BOOK REVIEW

Agriculture and Energy, edited by Donald Marler. Milaca, Minnesota: Alternate Sources of Energy, Incorpora
tes. 1977, 56 pp., $2.00.

Agriculture and Energy is a special edition of the Minnesota Farmers' Cooperative Association's book, "Alternate Sources of Energy." This feature articles eight articles which deal with the use of solar energy and other applications of alternate energy sources in agriculture.

A report on the Nebraska Small Farm Energy Project provides information on the use of solar heat to dry grain, heat a barn, and heat water on a dairy farm. An unsuccessfull attempt to develop a methane system for a small farm is also reported. Other articles deal with the application of solar energy to irrigation and food preservation, a solar grain dryer, aquaculture in solar greenhouses, and the view of biomass research and activities.

A list of useful publications for small-scale agriculture and alternate energy applications. The applications include windows, electric products dealing with alternate energy. The authors of the articles in this publication have wide experience in the development and application of alternate sources of energy. They convey a sense of dedication to the use of these sources in agriculture. The book is for people who have an interest in using alternate energy sources in small farms on a small scale. It would serve as a good reference source for the vo-ag instruction and for students seeking information on alternate energy sources and applications.

Eugene Anderson
Agriculture Extension Service
University of Minnesota — St. Paul


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For the Beginning Teacher... Practical Practice With Adults

By Scott McCarty

One of the concerns of the beginning teacher is "How do I, a young college graduate, work with adults?" The teacher feels that adults suspect that a new "fresh out of college" teacher "Knows all." The teacher fears that adults think the teacher will talk down to them or ridicule their present methods of production. The beginning teacher must put a few years in college instruction against the many years of experience of adults. Perhaps more appropriately the question becomes, "How do I get my students to listen to what I have to say?" Usually the teacher has had instruction on the characteristics of adults and the types of teaching methods most favorable to their learning. Very little actual teaching has been done in front of an adult class.

Most teacher training instruction focuses on the high school-age pupil. To some individuals, this seems logical since teachers may be hired to teach students in the seventh through the twelfth grades. Agricultural education is one teaching profession that offers the opportunity to teach adults as well as adolescents. One of the opportunities in working with adults on school boards, advisory committees, adult classes, young adults, and other community groups are listed below.

School Boards. This is an opportunity to sell the activities of your department. If you can communicate well with them, they will have a better understanding of your program and will be better able to support your ideas, while also encouraging the community to help support the program as much as possible. You will also be able to get suggestions, criticism, and evaluation information as time progresses.

By Rosemary Conroy

How One School Used CETA

The Proposal

In the Winter of 1978, the administration of the Delaware (Ohio) Joint Vocational School, announced to the faculty that proposals were being accepted in the local CETA office for youth programs. All were encouraged to prepare proposals. One energetic instructor, being very familiar with CETA, and willing to explore the possibility of working with youth, decided to apply.

With summer drawing to a close, a proposal was written to carry the CETA project into the school year. Fall, winter, and spring activities centered around the school grounds. Involving the work of six students and one supervisor, the crew stayed after school two hours per day to continue projects in grounds maintenance and greenhouse production.

This past summer, CETA again sponsored the youth program. Accommodations included designing and planting the grounds around the city swimming pool complex, planting and maintaining the tomato garden, and increasing the size of the sitting green at the city golf course, and plugging the greens.

The Advantages

To understand the benefits of CETA programs, it is important to examine the program's long-range goals. These include increasing agricultural opportunities to work with high school age youth. Instruction in areas such as planting and pruning techniques and equipment operation is given by the teacher and supervised by the experience of individuals. The experience provides the prospective teacher with a valuable insight into some aspects of the teaching profession.

The Skills

In addition to learning technical skills, CETA workers learn job skills in record keeping, budgeting, pay check, and the responsibilities that go along with employment. Workers must be regular in attendance and can be fired if adequate warnings and conferences do not produce acceptable performance.

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**Are You Teaching Competencies or About Them?**

By Alan Fennker
Editor's Note: Mr. Fennker is a teacher of vocational agriculture/agribusiness at Freeman Public School, in Freeman, South Dakota.

Planning lessons that effectively prepare our students for occupations in agricultural industry is a never ending job for the vocational agriculture/agribusiness instructor. The outline for a good lesson plan should include objectives, interest approaches, subject matter presentation, summary, and evaluation.

To be considered vocational, a class must provide students with the attitudes, skills, and knowledge that prepare them for a specific job. It is up to the instructor to incorporate the competencies that the students will need in the lessons.

Vocational agriculture instructors are often too busy supervising the FFA, being a class advisor, making farm visits, and the like, that it is easy to "skim" over the teaching of skills and competencies and fall into a pattern of teaching theories instead of the actual skills and competencies that are needed on the job. Because of the diversity of agricultural occupations, it is sometimes difficult for the instructor to determine the specific competencies that the student should have.

The report of the national ag occupancy competency study is an invaluable tool in my lesson planning. The competencies listed become the terminal behaviors for my students. The following example is given.

**Example:** In planning a unit on dairy production for my Production Agriculture students, I consult the National Ag Occupations Competency Study. I find the job title "Dairy Farm Manager" and the sub-titles "Dairy Farmer, Farmer and Dairyman" listed. Twenty-six skills and competencies and their sub-competencies or tasks are listed.

One competency is "selecting breeding and production animals." Under this heading, several tasks are listed:

- select for production and physical traits that are highly heritable
- cull cows that do not meet standards
- use performance and pedigreed information in selecting herd replacements
- and determine expected production increases from the selection of top quality sires

These are the skills that a good dairy farmer-manager should have and each guides the instructor in preparing lesson plans.

**Summary**

I have found the National Ag Occupations Competency Study to be an invaluable tool in planning and conducting a program that is vocational. It aids in identifying the skills, attitudes, and knowledge that students need to prepare for a lifetime of work. I use the database on the Occupations Competency Study is like having a committee of professional advisors helping you with your lesson planning.

Copies of the National Ag Occupations Competency Study can be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

**Principles of Management in Agriculture**

by Kenneth D. Duft

The author notes how agricultural management has become a subject matter discipline without close academic linkages to business administration, and agricultural economics. As a result, there is a lack of supportive texts. This book is designed to fill the void.

The text is divided into nine chapters. It begins with an introduction to agriculture and the composition of basic managerial principles. The human element is presented from the standpoint of the employee, the director, the customer, and the manager. A discussion of the adequacy of financial planning and management for the agribusiness sector is also included.

The book concludes with references to contemporary issues confronting agriculture and its management. It is an outstanding reference for researchers in agricultural economics. The author concludes the book with a summary of the important points and conclusions in the book.

**BOOK REVIEW**

The College FFA: An Asset to Agricultural Education

By Fred Reynolds
Editor's Note: The author is a teacher educator in agricultural education at Southern Illinois University.

The shift from most beginning vocational agriculture teachers having both agricultural and vocational agriculture experience to many who do not have either FFA or related experiences in either area has placed a greater emphasis on FFA-related activities in the college training of prospective teachers. The 1979 College FFA/Ag Ed Development Committee of the 52nd National Convention of the Future Farmers of America presented the inaugural awards to five vocational agriculture teachers and FFA advisors.

The College FFA aids the total agriculture education program at Southern Illinois University at Carbondale (SIU-C). The SIU-C College FFA membership participates in several activities which increase the leadership qualities of members. The SIU-C College FFA membership is composed of 32 members (30 males and 2 females). Approximately 90 percent of the members are Agricultural Education majors.

**State, District, and Local Participation**

The College FFA members participate in local, district, and state leadership activities for high school FFA chapters. Fall activities are primarily centered to participation in activities and organization of the College FFA activities for the academic year. This includes monthly meetings, fund raising activities, recreational activities, and financial aid for the district and state FFA contests held at SIU-C.

During late January, 1990, the ten first and second place parliamentary procedure teams in each of the five sections in Southern Illinois were asked to participate in the College FFA District Five competition. Judges, time keepers, and other required personnel were supplied by the College FFA. By the chairman of District Five of the Illinois Section of the College FFA, and approved by the chairman of District Five of the Illinois Section of the College FFA. Teachers. Teachers are responsible for the question of public remedies: how to prevent big government and large agribusiness companies from taking over the family farm. Teachers answer the question of public remedies: how to prevent big government and large agribusiness companies from taking over the family farm. Teachers answer the question of public remedies: how to prevent big government and large agribusiness companies from taking over the family farm. Teachers answer the question of public remedies: how to prevent big government and large agribusiness companies from taking over the family farm.
Stories in Pictures: Dressing for Success

Sammy Smith of Smith and Byars, a men's clothing store in Starkville, Mississippi, presented a seminar on dressing for success to students in the Department of Agricultural and Extension Education at Mississippi State University. With the assistance of a model, undergraduate student Bubba Brown, Mr. Smith described the qualities to consider in selecting and fitting clothing. These photographs illustrate the following points: 1 - proper sleeve length, 2 - stitching and shoulder fit, 3 - effect of incorrect size and fitting, 4 - overall appearance, and 5 - fitting a vest. (See related article inside magazine.)

(Photographs by Ralph Ballew, Mississippi Cooperative Extension Service.)