The
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Number 1

THEME: Urban Programs

THE
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EDITOR'S PAGE

Can Vo-Ag Adapt?

JASPER S. LEE, EDITOR
(The Editor also serves as Professor and Head, Department of Agricultural and Extension Education, Mississippi State University.)

Many urban areas have successful programs of vocational-technical education in agriculture. These programs are often not the same as those found in the rural areas. In effect, attempts have been made to adapt the programs to the educational, cultural, political, and economic environment of the urban areas.

Adaptions

Adapting means that something changes (or is changed) to better conform to the circumstances under which it exists. Several examples of how vocational agriculture has been adapted for the urban areas are described in this issue of THE MAGAZINE. Adaptations are needed in order to operate a program which was established to serve rural youth and adults. Program components and procedures which work well in rural areas may not work so well in urban areas if transplanted from one to the other without making adaptations.

Adaptations must be made in the instructional program, delivery of supervised occupational experience, FFA program of activities, and adult/young adult education. Agricultural educators who have come through and learned from predominantly rural programs may not be comfortable with how urban programs are carried out. Successful urban programs involve many of the same principles of program delivery but the details may be modified.

We must assess what is appropriate in urban programs. A good example is the role of the teacher. Vo-ag teachers in rural areas are often perceived as community and agricultural leaders. There may be considerable visibility among the citizens. In urban areas, teacher visibility is often less. The teacher may be more school-based in program delivery. There may be less home visitation and involvement of students and parents after regular school hours.

Who is to say whether urban or rural programs are best? Is it possible that many urban programs have been adapted better than those in rural areas? Sometimes tradition gets in the way of providing quality education in the rural areas. Some rural programs have changed very little to cope with changes in modern agricultural history. Neither rural nor urban programs need to cling to outmoded program features.

Satisficing

Have urban programs been adapted for maximum efficiency and relevance? It is doubtful if the adaptions have maximized program delivery. Satisficing has occurred. This means that the urban programs have been adapted only up to a given point, with comprises made in what is and what should be. Something less than the ideal is often provided. Part of the satisficing is due to the rural tradition of vo-ag programs.

A program of agricultural education must be developed to meet the needs of the individuals to be enrolled and of the agricultural industry. Therefore, the processes in program planning and development are essentially the same. The details by which a program is carried out vary from one location to another.

Leadership

Good leadership can help to further refine urban programs. This leadership should come from within the agricultural education profession. Research is needed to clarify urban needs and identify strategies for meeting them. Curriculum development is needed to insure relevant competency development and instructional materials. (The "down-on-the-farm" instructional materials which are now widely used must be improved upon. A few good materials have been developed, but, because of "down-on-the-farm" leadership, they have not been used to the fullest extent.) Teacher education programs must prepare teachers for the urban areas.

The future of urban programs relates to the effectiveness of the leadership provided. The leadership will come from all levels of education — local, state, and national.

This Issue

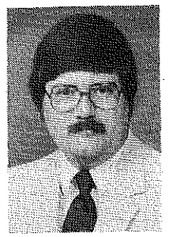
This issue of THE MAGAZINE features urban programs. Dr. Richard M. Hylton of California Polytechnic State University — Pomona has served as Theme Editor. His assistance in obtaining articles and photographs is appreciated.

The Cover

On the corner of Lemon and Berkeley, amidst the urban sprawl, a vocational agriculture program flourishes at Fullerton (California) High School. Vocational agriculture programs in urban areas continue to meet the needs of students with interests in ag griculture. (Photograph courtesy of Richard M. Hylton, Pomona, California)

THEME

Urban Programs: Success At Last?



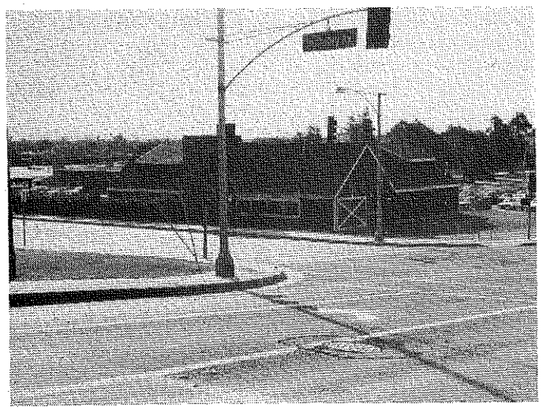
By Richard M. Hylton, Theme Editor
(Editor's Note: Dr. Hylton is Associate Professor, Department of Agricultural Science/Vocational Agriculture, California State Polytechnic University, Pomona, California 91768.)

As a part of the preparation in addressing a topic, a writer often gleans the available information. Some interesting thoughts entered my mind as I read through writings on urban programs recorded in the annals of this magazine. Some thoughts of earlier writers on urban programs include the planning and development of urban programs, the facilities required, the agricultural needs of urban areas, and the responsibilities and training of teachers for urban programs. Many other writers have cited examples of successful urban programs. Let's review some of the advice given by others on this topic.

Their Advice

Writing some 18 years ago, McClay stated in his article on "Our Future in the Urban School" that vocational education in agriculture needs to expand in at least two frontiers — in adult education and in urban schools. Other authors have addressed the problem of planning successful urban programs. Stearns, writing 21 years ago in this magazine in his article entitled "Vocational Agriculture for an Urban Area," states "considerable organization through advisory committees, school officials, cooperating enterprises, and vocational agriculture supervisors would be necessary to develop a vocational agriculture program which would fit the community needs in an urban area". Many authors have advised us on teacher responsibilities and abilities in conducting urban programs. Woodin stated in his editorial, "No Bed of Roses," that "creativity and ingenuity on the part of the teacher become especially important in dealing with the problem of securing appropriate facilities and carrying out a new and different (urban) program."

McMillion suggested that teachers involved with school farms (common in urban programs) "should be involved extensively with the laboratory facility related to their teaching" and "the teacher of the related subject matter should be the manager of that facility." In addressing the topic of urban facilities in 1964, one author writing in this magazine advises the inclusion of greenhouses as necessary facilities in teaching horticulture in urban areas. This idea has been incorporated not only in urban programs, but rural programs as well.



The Fullerton High School Vocational Agriculture Department is one example of a program in an urban California area.

Tangible Results

Advice from others is only as effective as the results are tangible. How far have we come in developing urban programs? Have urban programs met with success? Has vocational education in agriculture crossed the frontier that McClay addressed in 1964? Recently, while looking for a teacher's telephone number in the California Vocational Agriculture Teacher's directory, this author noticed the following statement: "The Los Angeles City Unified School District has 70 teachers offering agriculture courses in 31 junior and 28 senior high schools, 4 special education programs, 2 occupational centers, and 1 magnet school." Miami, Philadelphia, New York, Cleveland — you only have to pick up your directory to find urban programs all across the Nation. Urban programs have been established. Have these programs, however, been successful?

Documentation of the success of urban programs is like the word "success" itself. You know that it's there, but you can't put your hands on it. Survival of our successful urban programs may depend on our image in urban areas. (Be sure to read what L.H. Newcomb has to suggest on evidence for image building — February, 1982). Urban programs must not just appear to be in vogue, but rather are meeting the needs of students in urban areas. I am not suggesting that urban programs have not been successful. They have been very successful! However, let us never forget that we need to document those successes so that others (administrators, board members, legislators) won't consider urban programs as merely "chic," and, therefore, as willing sacrifice for the budgeting axe.

Future Challenges

Vocational agriculture has crossed the frontier in establishing successful urban programs. Our leaders have used excellent advice and implemented many successful urban programs; however, the task is not complete. Many urban areas of our Nation do not have programs in vocational agriculture. While unemployment rises, especially in urban areas, it will be to our advantage to demonstrate the success of our urban vocational agriculture graduates. Now is the time to permanently establish our programs through research and thorough evaluation. We can no longer scramble for information when we are faced with program cuts.

Educators in urban programs face the challenge of developing effective evaluation techniques in defining viable programs. They are to be commended for the past and reminded that they face a challenging future.

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THEME

The Urban Dimension

By Kenneth A. Parker
(Editor's Note: Dr. Parker is Assistant Professor of Agricultural/Occupational Education, University of Massachusetts, Amherst, Massachusetts 01003.)

Vocational agriculture programs in urban centers in this country are here to stay. One needs only to make a quick review of the literature to find that there is a constant increase being recorded in new non-farm programs of vocational agriculture. Warmbrod supports this point in his article, "Agricultural Education in the 1980's," where he points out that, "one of the major growth areas of the 1970's in agricultural education has been and will continue to be in the area of persons whose major interests are in the non-farm sectors of agriculture."

Some of the best known programs of vocational agriculture were established years ago in what many would consider to be the fringe areas of our great cities. The initial programs, for the most part, mirrored what had been accomplished in the predominantly rural areas of our country. One of the major reasons these successful programs were established on the fringes of our cities was that there was land available and the programs could carry out their rather traditional offerings with little major change to their curriculums.

As time passed, young people in the centers of our major urban areas began to express an interest in agriculture. This interest began to manifest itself by increased enrollments in the land-grant universities by students raised in predominantly urban areas.

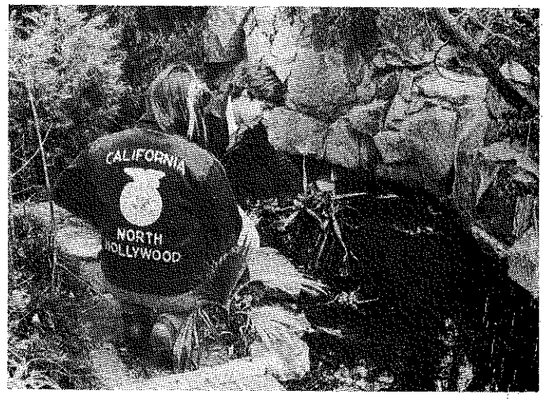
Agricultural educators began to react to this demand by moving into the urban areas with programs designed for the urban needs. Programs which had a horticultural emphasis were among the first to be established in urban areas. Greenhouses began to flourish on the sides of many schools. Many people consider that urban agricultural education had advanced with a giant step.

Urban Curricula

Today, when urban vocational agriculture is suggested, the immediate thought is a horticulture program. Agricultural educators, at all levels, need to begin to look with greater peripheral vision at all the other areas of agriculture that affect the quality of life of all urban dwellers. Rawls, in his article titled "Facing A Decade of Change," points out that as the populations shifts, there will be a shift in programs needed. He states that, "Agricultural educators must be aware of and responsive to these and many other pressure points if we are to survive as a viable element in the education community." Greater education opportunity for urban youth could be provided.

Agricultural Mechanics. Students who will be working in urban parks, home landscape maintenance, industrial complexes, residential apartment complexes, and many other such operations need to have both knowledge and skills in the operation and maintenance of equipment pow-

(Continued on Page 6)



Student-teacher creativity and careful employment analysis are important in urban programs. These students are shown studying a functional ecosystem as a part of their vocational agriculture instruction. (Photograph courtesy of Richard M. Hylton, Pomona, California.)

The Urban Dimension

(Continued from Page 5)

ered by small and large gasoline engines. Simple push lawnmowers need to be adjusted to work correctly. More complicated equipment requires the knowledge of small engine maintenance and repair. An owner of a landscape maintenance business once confided to the author that an employee who could keep equipment repaired was worth a great deal more than a person who could only operate that piece of equipment. The reason is obvious. Time is money and downtime costs money. Many other areas of agriculture also use small engines. The area of agricultural mechanics is a must for urban programs.

Small Animal Production and Care. At first glance this area of agriculture would appear limited in job opportunities. However, one only needs to look in a telephone directory for an urban area to see the large number of animal related businesses that become potential employers of the youth trained through urban vocational agriculture programs. Veterinary hospitals, pet shops, animal protective leagues, zoos, and other animal-related businesses are listed. Many animal care facilities are not listed because they are units within other operations. One that comes to mind is a major medical facility in a large midwestern city with well over one acre of animal care operations underground. The animals are part of the teaching programs for the facility and an essential part of the educational program at that center. There are at least five other medical facilities in that city where animal care is part of the educational operation. People are needed to care for these thousands of animals.

Many students may find it profitable to begin raising livestock for sale to research facilities, pet stores, or other businesses dealing with animals.

Students may choose to open a dog grooming parlor where the cost of a hair cut for a pet may exceed the cost of having the entire family's hair cut.

Small animal production and care is a large business in urban areas and should not be overlooked as a potential educational program.

Agricultural Products Processing. This particular area of potential instruction has unlimited opportunities. From the produce department of each and every supermarket to the Railroad Perishable Inspection Agency, there are opportunities for young people to be involved with the preparation of agricultural products for the ultimate consumer. Everyone needs to eat and with the large production areas being further and further from the ultimate consumer, there is great need for people to grade, inspect, process, package and display the products of American agriculture.

Environmental Management. People are beginning to realize the need for protecting our environment. Much of the work must be done by people who understand agriculture and its importance to our existence. The importance of pure water, clean air, and non-polluted soil for production of agricultural crops is becoming more apparent each and every year. Solar and wind energy can also be harnessed in many cases to benefit the urban dweller. Vocational agriculture students trained in urban programs can work closely with industry and others to see that the environment will be a clean, safe, and useful place for years to come.

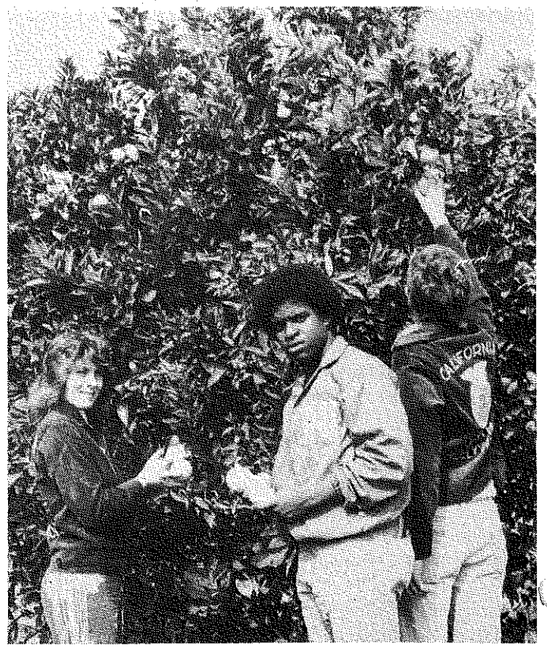
Horticulture. Urban offerings in horticultural areas need to be expanded to include subject areas beyond the traditional florist shop, landscape maintenance, and garden center offerings. Horticulture in urban areas includes turf work on golf courses in and around large cities, forestry or tree care for the thousands of residential homes and acres of parks, as well as many other horticultural-type occupations. Horticulture is a valuable agricultural education taxonomy for urban areas and should be used in its entirety.

There are other agricultural endeavors that might be worth exploring for certain urban areas. Some old mill and factory areas which may have required water to operate may now have canals and other water features which could be used for fish farming. Many older factories were built with sky lights which could provide for natural light for other agricultural endeavors.

The most important step in the establishment of any type of urban program should come before funds are expended for faculty or equipment. The first step is to determine through the use of advisory councils and area surveys if new courses such as those previously mentioned are needed. If it is determined that the courses are needed, then and only then should staff be hired.

Planning Considerations

Several very important considerations should be examined at this time. The first consideration should be the type of student that will be enrolled in the course. Urban students have not been raised with all the appreciations for the agricultural life that most rural youth have. Many of the urban students have not grown up with the technical agricultural skills that rural students have. This is not to say that urban youth are to be considered disadvantaged youth. Rural youth would have similar problems if they were to be exposed to programs which might be considered urban in nature. Rural youth would be lacking the "city wise" mentality if transported to an urban environment. The reverse is true for urban youth.



Fruit production may be studied by students in urban programs. (Photograph courtesy of Richard M. Hylton, Pomona, California.)

A second consideration would be to insure that the instructors of an urban vocational agriculture program are also "city wise." Youth enrolling in a new program will not wait for an instructor to become "city wise." They will be skeptical of an agricultural program in the urban area and an unprepared instructor will only add to this skepticism.

Third, and perhaps most important, is the commitment of an urban board of education to the vocational agriculture program. The program should be a year-round program, just as it is in most rural areas. This may be where state staff and teacher educators can help the most. Urban school committees will not always see the importance of extended service. State staff and teacher educators should be prepared to explain the value of extended service. The reasons for extended service in rural areas are just as valid in urban areas and should be stressed from the very beginning.

A fourth factor important to the success of an urban program is commitment of the urban board of education and local school administration to supporting the establishment of an FFA chapter. Urban youth will very quickly point out that they do not want to be called "farmers." It is at this point that everyone should be prepared to sit down with the young people and be prepared to talk and listen.

Urban youth have just as much need for the FFA as do the rural youth. Urban youth will support the FFA vigorously if it is presented to them correctly. One key is to make sure that student leaders and opinion makers are "on your side," so to speak. Peers will sell the program faster than anyone else.

New FFA chapters must have activities that are of interest to the urban youth. Inter-school judging contests and public speaking contests can be a spark, because like rural youth, urban youth thrive on competition. If an urban school system has more than one school with an FFA program, a city-wide council could be established, similar to city-wide student councils. Once the urban youth have developed their own pride in being a part of agriculture, they should begin to participate with other FFA chapters throughout the area.

Kellett in her article, "City Chapters Are Worth The Effort," seems to sum up the importance of youth organizations such as the FFA in urban areas. Kellett states, "Vocational student organizations offer opportunities for urban students to achieve their potential as they experience personal growth, a sense of direction, achievement, and the rewards of leadership. The ingredients for success are enthusiasm, commitment of vocational teachers and chapter advisors, administrative support and encouragement, a high level of city-wide organization and coordination, and student involvement." Kellett continues, "it's working . . . and it is worth the effort."

A fifth and very important consideration for any urban vocational agriculture program is the need to insure that the youth enrolled participate in meaningful supervised occupational experience programs. For most urban youth this means placement for agricultural experience. Supermarkets provide placement sites for meat cutters and produce workers. Small animal students can work for animal protective leagues and zoos. Environmental protection agencies and water treatment plants, small engine repair shops and small implement dealers, golf courses and tree crews in parks are all areas where urban youth can gain meaningful experience. This component of an urban program, along with the concept of extended service, is necessary to make the program significant to each and every student enrolled.

It would appear that if agricultural educators are going to meet the expanding needs of the agricultural community, a major commitment must be made to urban vocational agriculture programs. Our urban youth, our profession, and our country deserve no less than that commitment from us.

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BOOK REVIEW

ELEMENTARY FORESTRY, by B. McManus Collins, Fred M. White, Reston, Virginia: Reston Publishing Company, 1981, 211 pp., $16.95.

ELEMENTARY FORESTRY was written as an informational and semitechnical text about forestry in the United States. It is an excellent text for high school students in beginning forestry seeking an understanding for basic information and a basic introduction to forestry.

This text contains fifteen chapters of information which range from the history and beginning of forestry in the United States, to information about government assistance programs in forestry. The text covers all basic areas of forestry: dendrology, silviculture, pathology, entomology, mensuration, logging, and fire management.

Basic information is included on each subject, but there is a lack of depth in some areas. Chapters on economy and recreational uses are covered wich are sometimes eliminated in a more technical text. One chapter, "Forestry Abroad," discusses world-wide forest resources, forestry in Europe and international forestry organizations.

The authors of this text are well versed in forestry education. B. McManus Collins received his Doctorate in Education from Duke University. Fred M. White is Professor of Silviculture in the School of Forestry and Environmental Studies at Duke University.

Reid Ledbetter
North Iredell High School
Olin, North Carolina 28660

THEME

Teaching Horticulture To Handicapped Students In Urban Areas

A horticulture program for handicapped students has been established at Virginia Randolph Special Education Center, a public school which serves Henrico County, Virginia, a suburb of Richmond, the capital city. The school provides educational needs as well as vocational opportunities for the trainable mentally retarded (TMR) and the severely and profoundly handicapped (SPH) population, from 5 - 22 years of age. Virginia Randolph strives to achieve a balance between academic and vocational preparation. Vocational training begins when the child first enters the facility and continues through young adulthood. During the last years of instruction, emphasis is placed on vocational training in the hopes of increasing the possibility for job placement.

Ornamental horticulture is one of the three vocational classes offered. This program provides an opportunity to develop skills and abilities required for employment. The emphasis is on basic plant propagation, plant care, the responsibilities of a greenhouse worker, and landscape maintenance, with special attention given to safety in handling and operating hand and power tools. The course offers instruction on procedures used in applying for jobs, such as signing applications and job interview etiquette. Academic instruction is geared to practical application that may be necessary for employment in horticulture. It includes such areas as reading a thermometer or measuring volumes by spoon or cup. In addition, the students learn to punch a time clock. Reading is kept on the level of recognizing survival words such as warning or danger, or signs seen and used often: Restrooms, Do Not Enter, and Employees Only. Upon completion of the course, the student is prepared to seek employment in various horticulture jobs.

In addition to vocational skills, instruction is provided

Students respond well to individual attention and instruction.

By Meg Hopkins
(Editor's Note: Ms. Hopkins is Instructor of Agricultural Education for the Handicapped, Virginia Randolph Educational Center, Glen Allen, Virginia 23060.)

in self-improvement, especially personal grooming, good employee attitudes, and the value of work.

Job Placement

Five steps are used to facilitate job placement. To begin the process, the student must be "staffed" in a vocational class, provided he or she is capable of being employed in a field suited to his or her interests and abilities. In the first step the student will undergo evaluation and training in his or her chosen field. The student then enters the work experience program which is two work hours a day. Part of the time is considered work experience, while in the other, the student receives monetary compensation.

The program is a cooperative effort among the vocational staff, the student, the parents, the community, and the school system. It provides in-class training and actual on-the-job experience. Virginia Randolph's staff includes a work coordinator, who acts as a liason between each of these components. The student in the work experience program is placed in a working position on campus where his or her teacher or other school personnel acts as supervisor. When all of the people involved have agreed that the student has met the established criteria, the student is placed off campus, possibly at a nearby school or other county facility. In the fourth step, provided the student is adequately prepared, he or she is placed in competitive employment in the community. A job trainer will usually accompany the student and remain until he or she is comfortable and able to complete the job duties. The fifth and final step deals with follow-up. Communication is kept open between our work coordinator and the student's employer in order to remain informed as to the student's progress or regression.

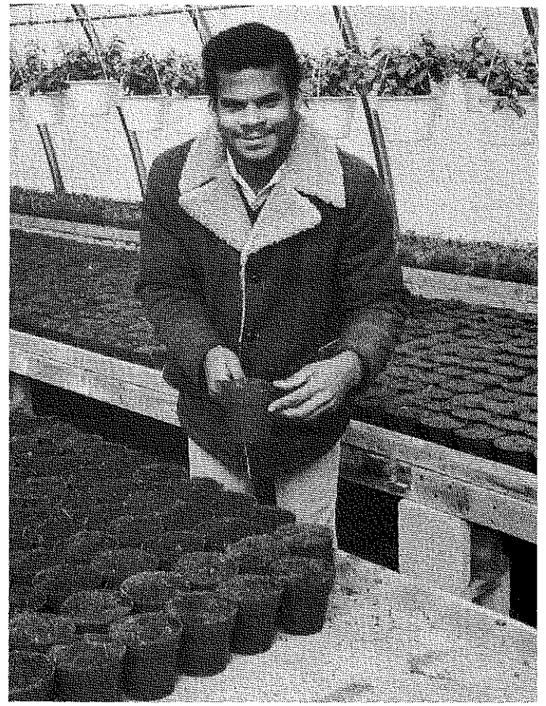
Good Employers

Good employers also play a key role in making the program successful. They must be patient, understanding, and willing to give a little extra effort in dealing with these individuals. The students become easily disoriented when confronted with making decisions, or confused when given too many instructions at one time, especially if given by more than one person. However, these individuals are diligent and conscientious workers and take pride in their jobs, regardless of how repetitious or tedious.

Transportation is the greatest obstacle we encounter. It is unlikely these individuals will ever have a driver's license, making complete independence even more difficult to achieve. We must utilize all available resources, whether it be arranging a ride with family or fellow employees, or training them to use public transportation on their own.

Success Stories

Programs like ours all have success stories. One of our success stories includes that of a young man who came to Virginia Randolph in the early '70's. Due to his mental limitations, his progress in academics was very slow. His vocational skills, however, were excellent. He enjoyed working with plants, and followed directions well, learning quickly through "hands on" experience in the classroom. As it became evident that he was ready for employment, he was placed in the work experience program as a greenhouse assistant on campus. The next year he proved ready for competitive employment and a position was located at "The Greenhouse," a local horticulture business in Glen Allen, Virginia. The owners were receptive to our program and agreed to hire him as a part-time employee. He worked in the mornings and returned to school in the afternoons, transported daily by school bus. He continued as a part-time employee at "The Greenhouse" for his remaining two years at Virginia Randolph. Upon graduation from the facility in 1979, he was hired at "The Greenhouse" as a full-time employee. Transportation is no longer a problem as he is transported daily to and from work by a fellow employee. He has proved to be a faithful and hardworking employee, never missing a day of work unless it is absolutely necessary. The owners have found a loyal employee in him, and he has found a secure and rewarding position for himself.



This student is proud of the work he is doing.

With practical experience in the classroom and on-the-job training, Virginia Randolph is working toward its goal of successful training and placement for handicapped students. Our goal is to achieve proper job placement for retarded adults in order that they may become contributing members of society.

BOOK REVIEW

Farming Systems in the Tropics, by Hans Ruthenberg, New York, New York: The Clarendon Press, Oxford University Press, 1980, 3rd Edition, 424 pp. $89.00.

This is the third edition of a book by a highly respected author in tropical agriculture development. It updates and adds to the previous editions.

Farming Systems in the Tropics presents a comprehensive description of tropical farming systems. It describes rural life from the basis that farms are systems, that they interact with the environment in economic terms. The descriptions of the various systems stress the interactions between the technical and economic aspects of farming.

The book is a descriptive classification of tropical farming systems. Seven major systems are described: shifting cultivation, fallow systems, ley and dairy systems, permanent upland cultivation, arable irrigation farming systems, systems with perennial crops, and grazing systems. Each system is described and illustrated with multiple examples. The farm management data provided for the examples include labor applied, land areas, yields, economic returns and productivity.

Farming systems are viewed as dynamic, changing and evolving over time. Each system is described from initial stages through sophisticated, highly evolved climax stages. Once a farming system is classified, a sense of its potential for development and future stages is provided.

This is a book which presents a very useful approach to the understanding of rural life, why and how it is organized and functions as it does. It provides a basis for understanding the rural situation on a comprehensive rather than a piecemeal basis. It should be read by all tropical agricultural development workers. It will help them to understand the farming system in an area, the system from which it evolved and future development potential. The chapters which summarize the difficulties and potentialities of tropical farming and the trends in tropical farming development are useful summaries.

The section on cropping and farming system research methodology should be of value to anyone doing research in agricultural development.

Eugene Anderson
University of Minnesota
St. Paul, Minnesota

THEME

Agricultural Education in the Los Angeles Unified School District

The pledge, "To practice brotherhood, honor rural opportunities and responsibilities, and develop those qualities which a Future Farmer should possess," is recited in the Opening Ceremony of every FFA meeting. Taken in its entirety, the objectives in the pledge are appropriate to most FFA chapters in the Nation. However, (and it may come as a surprise to many readers) Los Angeles, an urban center in the truest sense with a population of over three million people, conducts an extensive and effective agricultural education program with its concomitant FFA chapters.

By Ted T. Hirayama
(Editor's Note: Mr. Hirayama is Supervisor, Agricultural and Environmental Education, Los Angeles Unified School District, Los Angeles, California 90051.)

Production Agriculture in Los Angeles County

Los Angeles County, located in a once semi-arid basin bordered by the Pacific Ocean on one side and series of mountain ranges on the other, was transformed into a center for agricultural production in the early 1900's. The key factor was the transfer of water from watersheds surrounding the basin, which (coupled with an ideal climate) created an agricultural bonanza. Los Angeles was the leading county in agricultural production in California for many years. Such crops as citrus, nuts, berries, truck crops, and nursery stock were grown.

Following World War II, a dramatic growth of population in the area caused much prime agricultural land to be converted to industrial and residential complexes. With the influx of people and the loss of valuable agricultural land, Los Angeles County lost much of its production capabilities. However, it still ranks first in the nation in ornamental and nursery stock and horticultural crops which totaled $122,500,000 in 1980. The County ranks as the largest wholesale distribution center in the nation.

The Los Angeles Unified School District and Los Angeles Beautiful have cooperated in a "student planting program" which provides high school juniors and seniors the opportunity to beautify their agricultural units, school campuses, home, and communities. (Photograph courtesy of Richard M. Hylton, Pomona, California)

Agricultural Education

During the first half of this century, when agricultural production was a major economic force in Southern California, production agriculture was emphasized in the Los Angeles City Schools as well as in rural areas. During that period of time, graduates of the program went to work on family farms or were employed by growers. Thus, the program served a meaningful purpose.

However, decades later, leading into the '80's, a complexity of demographic, sociological, meteorological, technological, political, and air quality factors necessitated a change in emphasis from production agriculture to ornamental horticulture and agribusiness in concurrence with the needs of the student population and local industries.

Despite the success of some urban agriculture programs, many are facing problems. There is often a lack of awareness of the potential of vocational agriculture within the City. Since there is no established tradition of urban agriculture, recruitment of both teachers and students is difficult. The transition of rural-oriented teachers to new positions in urban areas requires great changes in concepts and techniques, and staffing is often a difficult task.

Membership in the Future Farmers of America has been a continuing problem, although it has been accomplished with a high degree of success in high schools in the suburbs of Los Angeles. There are currently 21 chapters in the District with slightly more than 500 members. In the inner city, where there is a predominance of ethnic minority students, acceptance of FFA is noticeably lacking. Understandably, a Black or Hispanic teenager, who has grown up on concrete and asphalt, is unable to identify as a future "farmer." Unfortunately, it is these very young people who have the greatest difficulty in obtaining employment, and are in the most urgent need of vocational training to move successfully from school into the world of work.

There is no formalized agricultural education program in the 427 elementary schools in the Los Angeles Unified School District. Enrollment of secondary students (grades 7 through 12) in the district numbers nearly 250,000 with 28 junior high schools and 26 senior high schools offering programs in agricultural education. Each agricultural unit contains a classroom, toolroom, propagating room, lathhouse, greenhouse, soil storage bins, and from one to five acres of land laboratory for plant science activities. Some schools have facilities related to animal husbandry.

The philosophy of instruction in the junior high school is that every student enrolls in a series of short-term practical arts classes (horticulture, wood, electric, drafting, cooking, sewing, etc.) for exploratory purposes. In the ninth grade, students are allowed to enroll in an elective program of horticulture or floriculture/floristry. Upon entering senior high school, the students interested in pursuing studies and possible careers in agriculture enroll in a core class entitled **Introduction to Agriculture.** After completing this introductory course, the students elect to concentrate his/her studies in horticulture, landscape horticulture, floriculture/floristry, agribusiness, animal science, or urban forestry. Two additional years after the **Introduction** course is used to prepare the students with the needed proficiency in their chosen areas of emphasis to qualify for employment or for training at a higher level.

Our supervised occupational experience component has had to be modified because of limited space and residential zoning laws unique to urban areas. These factors restrict large production-type projects at home, and require students to maintain their projects on school grounds. Off-campus projects are related to home landscaping and work-experience in such enterprises as nurseries, flower markets, florist shops, produce markets, pet shops, and feed stores. The project, though not likely to be extensive, still requires abilities in the basic skills related to the business principles associated with the student's project record book. The successful graduate with a project possesses practical agribusiness skills.

The relationship the school has with the community agencies is important to the conduct of a viable agricultural program. Los Angeles Beautiful, a civic organization dedicated to the improvement of the city's natural beauty, has been especially supportive of the agricultural education program. Each year since 1949, the Los Angeles School District and Los Angeles Beautiful have cooperated in a Student Planting Program which provides junior and senior high school students the opportunity to beautify their agricultural units, school campuses, homes and communities. Thousands of students participate in this program each year. Their projects are judged by educators, community leaders, professional nurserymen and landscape experts. Awards are presented at a banquet attended by approximately 600 persons, including students, teachers, parents, school administrators and community representatives. Activities of students and teachers in this annual event have made a major contribution in developing public awareness of the need for a clean, attractive environment.

Students enrolled in vocational agriculture at North Hollywood High School display recent awards attained through competition in the Los Angeles Beautiful program. (Photograph courtesy of Richard M. Hylton, Pomona, California)

A concept unique to California is the Regional Occupational Program (ROP). This is an augmentation of the vocational agriculture program in the high school. Specialized programs such as **Floral Design; Landscape Design, Installation and Maintenance; Natural Resource Management; Urban Forestry; Animal Care and Control; Small Animal Care; Professional Pet Grooming;** and **Veterinary Assisting** are provided after school and on Saturdays. A tremendous benefit of this particular delivery system is that the training is provided at an actual industry site and by a person "in the trade." The training is realistic, and the more promising students often gain employment at the site where the training is completed.

The Tomorrow

Predicting the direction that education will take in the near future is impossible. With resources for the continuation of quality vocational agriculture programs being reduced at all levels, creative thinking on the part of educators is required in order to continue the technical training and character development of students who will be the backbone of our society. In the future, who will be more important than those involved in agricultural occupations, enhancing the quality of the environment, and producing food for an expanding population? The answer is unmistakably clear.

BOOK REVIEW

The World Food Book, by David Crabbe and Simon Lawson, New York: Nicholas Publishing Company, 1981, 240 pp..

The publication is designed as a comprehensive reference guide to agricultural subjects. The information is referenced in an A-Z format. There are approximately 800 entries. In addition to the major crops and animals grown in the world, the reference includes the minor crops and animals that contribute to the diet or economy of particular countries.

The maps contained in the atlas section of the publication pinpoint the areas of production of primary crops. The statistical section includes data on world yields, production and consumption of agricultural products.

The World Food Book would make a valuable addition to the agriculture library of a middle school, junior high, high school or postsecondary institution. Agriculture students and teachers will find this publication useful, well illustrated, and a valuable reference.

Glenn A. Anderson
Virginia Department of Education
Richmond, Virginia

THEME

Alternatives For City Youth

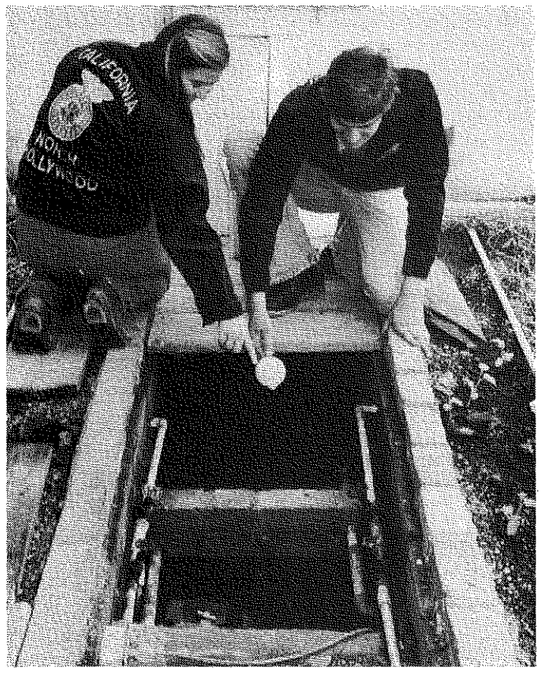
By Curt Combs
(Editor's Note: Mr. Combs is Vocational Agricultural Teacher, Buena Park High School, Buena Park, California 90621.)

Not too many years ago, most of Orange County, California, was covered with orange groves, dairies, and crops. As the mass migration of people to this area took place, the dairies, orange groves and most of the farms moved on. However, many of the high school agriculture departments that prepared the children of those farmers remained and actively teach agriculture today in the middle of hurried city life.

The story may be different in your area, but whatever the case may be, the facts are that agriculture programs not only exist, but often flourish in urban areas. This article will address some of the basic questions concerning their purpose, success, and continued existence.

Meeting the Needs

Are urban programs successful? Can urban students find agriculture jobs without moving out of the area? Yes, they can! Lest we forget, ornamental horticulture is becoming more and more a significant part of the agriculture picture. Quite often in urban areas you will find the integrated agribusiness, agricultural processing plants, and many acres of land devoted to crops within or very near large urban areas. Landscape design, installation and maintenance, nurseries, and florists are just a few of the successful agriculture businesses employing many people year-round, especially in urban areas.



Students in urban areas often do not understand the many opportunities available to them through agricultural training. In order to sell fresh vegetables to the local community, these urban vocational agriculture students prepare to start their hydroponic lab activities. (Photograph courtesy of Richard M. Hylton, Pomona, California)

The vast majority of young people in urban high schools have no understanding of the variety of agriculture careers available. Most of their parents, I'm sure, would agree that, "my son or daughter is going to be a lawyer, not a farmer." Do agriculture departments have anything to offer these individuals? A good lawyer should possess excellent public speaking ability, to be able to make sound judgements, and in order to get through school, he or she must be very responsible and competitive. A lawyer should also be familiar with accounting principles in order to deal with business for which he may have to keep the books. Leadership is important in order to be able to encourage others to take the right path. What program at the high school level could prepare a person in all those areas?

In my opinion the most effective program would be the vocational agriculture program. We often forget those things which our program offers even to those who later choose a career other than agriculture. The record keeping skills taught our students are sufficient to run some small businesses. The FFA is one of the few areas of academic competition remaining today. The public speaking and leadership opportunities are often greater than those offered in all other campus programs combined. Enrolling in a successful agriculture program and participating in the FFA provides an enriching experience for many urban students.

SOE — Urban Public Relations

Student and vocational agriculture department projects often serve as good public relation tools. Far too many urbanites think that the high cost of food is directly attributable to farmer profits. This misunderstanding is prevalent in an urban society far removed from agricultural life. Urban agricultural programs provide the means to instruct the public in the production, marketing, and distribution of agriculture products. Consequently, this instruction makes them some of agriculture's best ambassadors.

How can students have projects in the city? Many are unaware of the successful school farms existing today and that urban land is often zoned for this purpose. You may be driving down a busy boulevard and see sheep and beef grazing in a small pasture. Some city schools because of zoning restrictions cannot raise large animals. Instead, they emphasize landscape, gardening, floriculture, and small animal projects.

Wherever there is vacant land in the city, there is excellent money to be made from agricultural endeavors. Christmas trees are a good example. The urban market is always good for quality Christmas trees. Many urban FFA chapters can and do generate large sums of money in this way. Fresh eggs are always in demand. Some high schools are producing 400-500 dozen a week for sale to the surrounding neighborhood. Opportunities exist for profitable student projects. They are often our best public relations tools in urban areas.

A Continued Existence

The urban setting often presents many potentially dangerous alternatives to urban students. Many productive lives go down the drain each year due to lack of "opportunity." With the existence of a solid agriculture program in the area, it is conceivable that many students can be spared the loitering and unoccupied time that can eventually lead to a life of crime and drug abuse. Yet, our greatest challenge seems to be in not only demonstrating vocational agriculture's effectiveness in urban settings, but guaranteeing its perpetuity.

When one considers the fate of agriculture programs in urban areas, many think that they should be the first to go in times of budget cuts. Many believe that agriculture is certainly not essential in urban areas. During a recent board meeting of the Fullerton (California) Union High School District, drastic cuts were proposed for vocational agriculture. At the board meeting, time was given to members of the audience to voice their opinions. When the topic concerning the closure of agriculture departments was addressed, there were several well-planned presentations by students, parents, and FFA alumni members. The one that I found most impressive was given by an alumnus who is now a medical doctor. His comments were, "Quite often I talk with people in the county hospitals whom I feel are more intelligent than myself. Yet, they are down and out, and not succeeding in this game of life. I had to consider why this was so. When I did, I concluded the difference was my opportunities in vocational agriculture."

How did the board vote? They did not make budgeting cuts for the agriculture program, but actually allocated an additional $200,000 to help rebuild two vocational agriculture programs.

Does this give us concrete information as to how urban agriculture programs will fair during hard economic times? No, it does not. What this does say is that teachers in urban settings must continue to be aware of community and student needs. Educators must continue to document the positive results of vocational agriculture programs in urban areas.

THEME

What Makes an Urban Program Successful?

By Elgia L. Easter
(Editor's Note: Mr. Easter is Horticulture Teacher, Virginia Beach Vocational-Technical Education Center, Virginia Beach, Virginia 23456.)

There was a time when the vocational agriculture programs offered in the nation's secondary schools were for rural boys. There was such a time, but that time has long since passed. We are now training urban students in all areas of agriculture. This is a profile of one urban program, not meant to be totally representative of all urban programs, but one which has been successful for me.

Student Backgrounds

Let us be aware of the fact that students in the urban areas of our nation have needs, wants, and desires concerning agriculture much as those of their rural counterparts. While those in the rural setting have worked with plants and animals all of their lives, they experience it as a common everyday occurrence. Thus, involvement in a course in vocational agriculture for them is to supplement and extend an already basic knowledge and understanding of the "workings of nature." The rural student associates with others in the rural community, and, of course, their parents' livelihood is largely dependent on agricultural practices.

Thus, rural students often enter the agricultural classroom with a vast background of knowledge in both plant and animal areas. Many understand life cycles, the effects of weather on crops, and have an interest in the economics and efficiency of the agricultural industry. To illustrate, my young daughter, Becky, at the age of five startled a parent who was visiting the school greenhouse one afternoon by asking if she should carry "the aloe plant." Consequently, it is easy to see that when people are exposed to something rather frequently, they pick up the language and common terminologies of those with whom they associate.

To the urban student, agriculture rarely has an influence on the family lifestyle because the parents probably work in an occupation not related to the agricultural industry. In the urban situation, the family prosperity usually does not depend on whether the trees or plants were pollinated, the weather, or whether the hay has cured.

Both the urban student and the rural student have all come in contact with plants, lawns, shrubs, and trees. The

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What Makes An Urban Program Successful?

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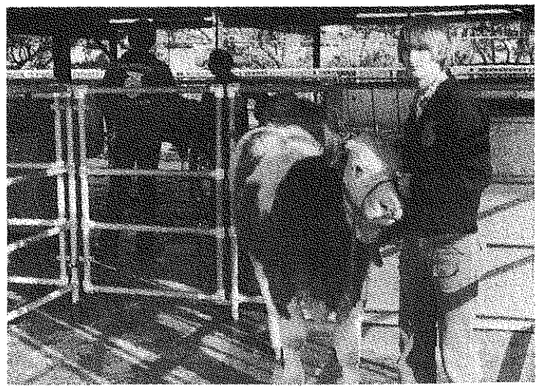
greatest difference may likely be in the degree to which each understands the sequence of plant development. Urban students may have more of a desire to actually "see things grow," and in some cases, this process may hold more fascination for them. One of the greatest motivators in classroom instruction for urban students appears to be their magnetism to knowledge outside their urban background.

Curriculum Challenges

In the vocational agriculture curriculum, some modification must be made in order to accommodate urban students. Some of these can be made with a minimum of negative impact on the student and the overall program. For instance, under our state guidelines, horticulture, natural resources, and other options are divergences that the student enters only after he or she has completed basic preparatory classes. In many, if not most urban school systems, the agriculture core courses are not available. For the teacher this is really no problem except for the fact that these students have had no introduction to the vocational agriculture programs or, for that matter, to any of the vocational program offerings. Sometimes urban students register for a course from an avocational interest rather than from the standpoint of their vocational interest. As a general rule, however, once the students become acquainted with the curriculum and with the types of tasks performed in the horticultural industry, their viewpoint changes to that of an occupational interest, and their interest and enthusiasm mounts.

Difficult Decisions

SOE is a little more difficult to come by for the urban student. On the farm, the rural student may be allowed to raise a calf or to tend a plot of corn or other crop and make all the decisions concerning those enterprises. For the student who lives in an urban apartment or on a small lot, these options are not available. Sure, they can have a school project, we say, but success and degrees by which they are measured are often in terms of quantity and income derived from that project. Basically, we as teachers of off-farm students must use a lot of imagination in order to accomplish project activities, and with dedicated students those activities work reasonably well. One of the greatest values of projects for urban students is bringing students to the point of accepting responsibility and being able to work with their peers in an actual job excercise. Hopefully, it is closely related to that in the actual world of work. By working each day, the student achieves self-confidence and self-esteem. This accomplishment is often a primary factor in the orientation of proper attitudes on which teachers often place basic emphasis and interest. We



Vocational agriculture teachers and urban students often face difficult decisions in the selection of SOE programs. The housing of large animal projects in on-campus facilities often provides for successful results. (Photograph courtesy of Richard M. Hylton, Pomona, California)

are aware that the student who meets with success has a good healthy attitude, and feels confident about what he or she is doing. The student has a sense of fair play being exercised and exhibits confidence in the program and the instructor.

Public Awareness

The public needs to understand the urban agricultural program just as it does the rural program. In the urban setting, we need to be aware of our public relations program in order to avoid being lost in the hustle and bustle of urban life. In our urban program, students place displays and answer questions during special career days at the junior high schools. They present an open house that draws in a large number of interested citizens, including school board members, school administrators, city council members, urban employers, and parents of students and potential students. During National Vocational Education Week, students set up and attend displays in areas of heavy pedestrian traffic, such as major shopping malls. When students discuss their area of vocational interest, especially when helping the general public in answering technical questions, the vocational program is demonstrating a positive factor in the school and community.

Community involvement is important in urban programs just as it is in rural programs. We involve the community on advisory committees, as judges for contests, and for assistance on field trips. There are times when there are special training situations that are needed, but are not available on the school grounds. Urban community resources are vast, but the secret is identifying and cultivating them for student benefit. Urban vocational programs are strong and influential factors in the urban school community. As economic conditions become more serious, so will our vocational commitments to these programs.

Financing SOE in Urban Programs

By Mamie L. Mitchell

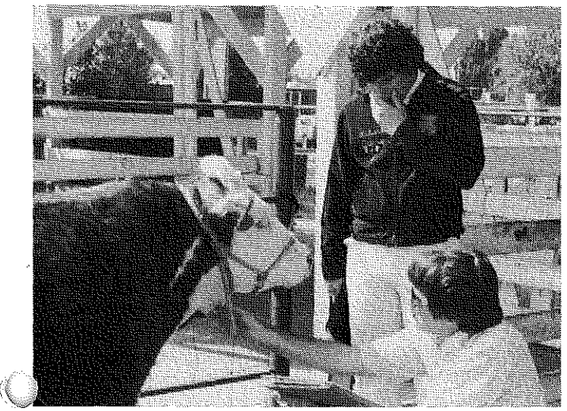
(Editor's Note: Ms. Mitchell is a graduate student in the Department of Agricultural Science/Vocational Agriculture, California State Polytechnic University, Pomona, California 91768. She is pursuing a masters degree in agriculture.)

A common problem is how to finance student participation in supervised occupational experience. Major banks in Southern California, however, are playing a significant role in the advancement of urban programs utilizing student participation.

Institutions such as Security Pacific Bank, Wells Fargo Bank, Bank of America, and First Interstate Bank spend thousands of dollars each year to sponsor vocational agriculture project competition. Why would a bank like Security Pacific, for example, be interested in this type of youth program? Primarily, they feel that it develops citizenship, character, and good work habits. They are willing to provide urban and rural students with an extra incentive to develop outstanding supervised occupational experience programs. This is the twenty-eighth year that Security Pacific Bank has provided a helping hand with supervised occupational experience programs in Southern California. Since agriculture is the largest industry in California and the Nation, it seems wise to invest in its future.

Security Pacific and the other major banks want to encourage student interest in agriculture. Agriculture is a major user of credit and other banking services. The bankers want to introduce young people to the important relationship that exists between a businessperson, banker, and successful agricultural enterprises. The banks challenge and encourage vocational agriculture students to develop excellence in their activities and occupational endeavors through project competition. Not only does this program encourage competition, but it also supports the development of leadership, personal responsibility, knowledge, diligence, and integrity developed through supervised occupational experience programs.

In order to fully understand why a bank like Security Pacific supports project competition in urban areas, we will take a closer look at the competition in Orange County, California. Every FFA member enrolled in vocational agriculture in California can enter the competition. Security Pacific Bank, provides financial support for student projects from the very beginning by providing low interest agricultural loans for the acquisition of livestock and other agricultural enterprises. They might include anything from a beef steer or market lamb to plants involved in a horticulture enterprise.



During project competition, FFA members are quizzed on technical knowledge by a representative of Security Pacific Bank. (Photograph courtesy Richard M. Hylton, Pomona, California)

Competition begins at the local vocational agriculture department between members of the same chapter, and ends on a county (sectional) level with competition among members of different FFA chapters. Competition at all levels involves two divisions. Division I involves students enrolled in their first or second year of vocational agriculture. Division II includes those students in their third and fourth years.

Judging at the local level is the responsiblity of the vocational agriculture teacher. In most cases, a representative of the bank's branch office will help with the competition. Factors considered at all levels of competition include occupational objectives, technical knowledge, involvement and scope, records, and performance during an interview with project competition judges. The number of competitors who advance to the final county competition is dependent on the individual performance of chapter members and on FFA chapter size. Awards are made at the local level for all students who compete.

Security Pacific Bank provides support in many areas on the final level of competition in which FFA members from several chapters compete on a county basis. The financial support provided by the bank encompasses student awards, the project competition awards banquet, photographs, and judge's expenses, as well as the purchase of student projects at auction in association with county fairs. At the county level, judging is conducted by one representative from the sponsoring bank, plus one or more other judges selected by the Regional Supervisor for Agricultural Education. Approximately half of the competitors will receive gold ratings. The others will receive blue ratings.

The awards banquet is the final step in the project competition program. Generally, the sponsoring bank invites

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Financing SOE in Urban Programs

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teachers, school administrators, all contestants, plus radio, television, and press reporters to one of the better restaurants in the area. The awards are the highpoint of the banquet. In many cases, the bank sponsors a banquet speaker and slide presentation of the competitors.

The support for SOE competition provided by California's major banks has provided each vocational agriculture student added incentive to establish and conduct successful supervised occupational experience programs. Teachers everywhere should establish this type of cooperative relationship in developing effective vocational agriculture programs.

ARTICLE

Vo-Ag Supervisors: Generalists or Specialists?

By
R. Kirby Barrick
(Editor's Note: Dr. Barrick is Assistant Professor, Department of Agricultural Education, The Ohio State University, Columbus, Ohio 43210.)

During the past several years, a number of state departments of education have reorganized administratively for various reasons. With these changes in state-level administrative structure, teachers and supervisors of vocational agriculture have complained that vo-ag supervisors are becoming generalists, with no clear responsibility for local programs of vocational agriculture.

As a part of a 1980 study* the investigator attempted to determine what the role of state supervisors of vocational agriculture is and what that role should be as perceived by state supervisors and local teachers of vocational agriculture. The 196 state supervisors in the U.S. and 504 randomly selected teachers of vocational agriculture from 19 states participated in the study. Relationships were investigated between the perceptions of the current and expected roles of state supervisors of vocational agriculture across four state-level administrative structure types.

Authority

For the study, role was defined as the degree of authority state supervisors have or should have for each of 37 statements. Respondents indicated their perceptions of either the current degree of authority or the expected degree of authority of state supervisors on a scale ranging from one (no authority) to seven (a high degree of authority). Structure was based on the responsibilities of state supervisors, the position of agricultural education in the state education agency, and the degree of contact between state supervisors and local teachers and programs. It was hypothesized that as structure changed from a generalist, low contact approach of supervision to the more traditional high contact specialist approach, the degree of authority of state supervisors for the 37 statements in the study would increase.

The 37 statements were categorized into four groups: administrative activities, improvement of instruction activities, research and evaluation activities and public relations activities. Relationships were calculated between perceptions of teachers and supervisors for each of the four groups of activities for both current and expected roles of state supervisors and state-level administrative structure.

Low, positive relationships were found between state-level administrative structure and both the current and expected roles of state supervisors as perceived by teachers and as perceived by supervisors. Generally, as state-level administrative structure moves from "generalist" to "specialist," respondents indicated that state supervisors of vocational agriculture do have and should have a slightly higher degree of authority for the activities included in the study. Relationships between structure and degree of authority ranged from Kendall's tau c of .11 to .29 ($p = .05$), which are low relationships at best.

There were few differences between the perceptions of teachers and supervisors regarding the current or expected role of state supervisors. In general, supervisors rated the current and expected degree of authority of state supervisors slightly higher than teachers rated the degree of authority of state supervisors. The expected role of state supervisors was also slightly higher than the current role of state supervisors, according to the perceptions of teachers and state supervisors.

Have Others Taken Up the Slack?

A logical question at this point is why is there not a greater difference between what is and what should be? If teachers and supervisors are displeased with the current trend, why is there such a low relationship between the role of supervision and state-level administrative structure?

There may be several reasons. First, there may be other groups within certain states, such as local vocational supervisors, teacher educators, and local administrators, that may be performing activities in the absence of state supervision of vocational agriculture. Secondly, the majority of teachers and supervisors probably have taught and supervised in only one state. Therefore, it may be difficult to compare "what is" with "what should be" if an ideal role for state supervisors has not been experienced. Thirdly, in some states, especially those with a low number of teachers, the role and state-level administrative structure are determined by economical feasibility rather than educational standards.

In summary, perhaps the role state supervisors play and the way in which state education agencies are organized are not as controversial as some of us have believed. The key may be that other groups have taken up where state supervision has left off, so that the issue becomes is the work being done rather than who is doing the work.

ARTICLE

Using Land Laboratories in Panama

By Martin B. McMillion
(Editor's Note: Dr. McMillion is Associate Professor in Agricultural Education at Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061. He is a past Editor of The Agricultural Education Magazine.*)*

Ricardo Racines and Rogelio Rodrigues, two exchange students from Panama, each listed on their applications that they came from a large farm with identical acreage. That was difficult to understand until it was learned that they were students at a residential high school and had listed the acreage of the school farm. Rick and Roy, as we called them, were in a typical situation for agricultural high schools in Panama. Nearly all the students are boys, and nearly all the students live in dormitories at the school. Each agricultural high school has a farm owned by the national government and a teaching staff hired by the national government. Home projects are not used, and students gain nearly all of their occupational experience at the school.

School Farm Size

Based upon twelve school farms at agricultural high schools which the national supervisor of agricultural education said were representative, eight out of twelve farms had over 100 acres. Three had over 500 acres. All schools had adequate land for teaching. An average of eight agriculture teachers per school were teaching an average of 160 students. The same teachers were the supervisors of the work experience of the students on the school farm during one-half of each school day. The teachers managed the phase of the farm for which they give instruction.

Common Enterprises

The common enterprises were swine, corn, vegetable gardens, poultry, rabbits, and honeybees. Only three of the twelve schools had goats, but goats were being encouraged by the national supervisor. These common enterprises are those that boarding schools can use for adequate nutrition for students, which also happens to be those which if grown by the general population provides good nutrition.

Many of the common enterprises on school farms in Panama require little land and would be appropriate home projects for students in other countries, including the United States. Self-sufficiency in food or a degree of self-sufficiency would be welcomed by families. Civil defense authorities would also be pleased to have food available to people in case of a disruption of supplies and transportation.

Students

Part of the enterprises on the school farms were owned by the vocational youth clubs, Future Agriculturalists of Panama (FAdeP). A formula had been devised to share the profits in a way that was agreeable to the students. Some unhappiness by parents had been expressed earlier about all profits going to the schools.

A plentiful supply of student labor was accompanied by considerable mechanization. Most of the schools visited had medium size tractors and machinery to go with them. The two-wheel Kabota tractor was available on nine of the twelve farms.

A shortcoming of the agricultural programs was that agricultural mechanics was not a part of the curriculum. Repair work had to be done at a private repair shop or at a different kind of vocational school at considerable expense and inconvenience.

The idea of animal chains was being used at the national level. Private foundation money was being used to provide rabbits, goats, hogs, etc., to local FAdeP chapters under an agreement to return offspring which would be given to other chapters. The animal chain idea was not being used in the local chapter to provide better stock for live-at-home students. Several years ago home projects and home visitation were a part of the occupational experience program, but no such activity existed anywhere at the time of the study.

A sound idea which was used in nearly all the schools visited was the placing of all seniors at an agricultural business (including farms) full time for a least a month near graduation time. Teachers visited these seniors on the job. All of these students returned to the school after the experience and had seminars related to their job experience.

Adult education took the form of field days at the schools to which farmers were invited for a program and observation. Two to three different field days per year were conducted by all the schools visited.

Commendations

An exchange of ideas between countries usually benefits both countries. This exchange of ideas was no exception. The commendable Panamanian land laboratory ideas are:

providing a land laboratory for every school,

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Using Land Laboratories in Panama

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management of the laboratory facility by the teacher of the subject matter,
placing every senior in a job in the agricultural industry on a full-time basis as part of their training,
conducting seminar sessions back at school after the industry experience, and
relating the farm and club enterprises, (honeybees, rabbits, goats, pigs, vegetable gardens) to the need for good nutrition through homegrown products.

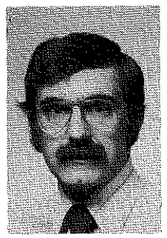
Some aspects of the program in which Panama could learn from U.S. programs are:

1. Inclusion of agricultural mechanics in the curriculum would keep a higher percent of the machinery in running order and help with the school budgets.

2. Attention to home projects of students who live at home would seem to be beneficial.

ARTICLE

Selection Criteria for Determination of Competency-Based Curriculum in Agricultural Mechanics



By George M. Brown, III, Harrison Gardner, and T.H. Burkhardt
(Editor's Note: Mr. Brown is Instructor and Dr. Burkhardt is Associate Professor in the Department of Agricultural Engineering at Michigan State University, East Lansing, Michigan 48824. Dr. Gardner is Coordinator of Agricultural and Natural Resources at the same University.

As "accountability" becomes more and more the by-word in educational circles, the ability of vocational agriculture instructors to be able to develop a curriculum soundly based on real community needs is of increasing importance. This is especially true in agricultural mechanics where the opposing forces of traditional skills (and perhaps out of date instructors) and a rapidly changing technology are vieing for the educator's attention.

This article will describe the challenge of accountability (as often seen in state mandated program quality and evaluation standards) and how to provide the community with a program meeting the needs of the student and the industry. Using well-defined skill heirarchies will invariably lead to more organized instruction, help define specific student outcomes, allow for variable entry levels into the program, and provide a ready vehicle for individualized instruction techniques.

Several basic assumptions must be made before criteria for the selection of agricultural mechanics curricula are presented. The most important is that of what vocational education is all about, namely providing students with entry level job skills. If the instructor is firmly committed to this goal, the criteria will provide a viable decision-making tool. On the other hand, if the agricultural education program is involved in the area of "nice to know" teaching, the criteria do not necessarily apply.

It is also assumed that the instructor will use such criteria as facilities and resources available, potential clientele (age, education, experience), and instructor competencies as well as the criteria when developing units of instruction.

SELECTION CRITERIA

Relevancy to Local Conditions
- Geographic
- Economic
- Agricultural Enterprises

Relevancy to Current Technology

Relevancy For Entry Level Jobs Representative of Actual Agricultural Industry Procedures

A job market survey is mandated to determine local employment conditions. Those portions of the survey most important to us are the types of enterprises employing students completing the program (especially the differentiation between on and off farm jobs), the tasks entry level workers usually assume, and what specific agricultural mechanics skills these tasks entail. Differentiation between on and off farm employment is especially important, for off farm jobs that are wholly within the agricultural mechanics area (such as farm equipment repair shops, farm building construction, and wells and irrigation systems) often exhibit task-skill combinations more closely related to their industrial counterparts, whereas off farm jobs in other areas (such as sales and services and ornamental-landscape horticulture) often exhibit skill combinations and levels typically seen on the farm. Thus a job market survey and associated job-task-skill analysis will provide the instructor with the essential information regarding what skills are relevant to local conditions.

Technology

Relevancy to current technology is best shown by several illustrations. Repair of leather harnesses would certainly be considered out of the question, except for a few very specialized locales. On the other hand, many vocational agriculture departments still put extensive emphasis on forge work, in a time when this is not likely to be a skill required of students entering the job market. At the other end of the spectrum we find some instructors equipping their shops with expensive MIG welding equipment, an item seldom found on the farm and not often used in equipment maintenance shops, but rather a tool of fabrication and production welder, a job for which we feel few instructors could claim they are preparing students.

As mentioned earlier, one of the basic assumptions is that vocational agriculture instructors are preparing students for entry level jobs. This is an important concept, not only for definition of what jobs are available in the community and development of the job-task-skill analysis, but also as a method to prevent under and over training. Under training rapidly manifests itself in poor job placement and job success records for program graduates.

Students can be deluded into thinking they have been trained for a specific job, when in fact, that job does not exist at the entry level. In addition, students may not have the educational capacity to learn these "advanced" skills, and waste valuable time trying to do so, time that could have been better spent mastering skills at a lower technical level. The program is adversely affected when valuable funds and instructor resources are spent on exotic topics with few measurable returns in terms of student job placements. An example of overtraining of this type would be instruction in diesel injection pump repair for beginning equipment mechanics.

A final look should be taken at any skill proposed for inclusion in the curriculum to be sure that it is representative of actual agricultural industry procedures. A typical error made here would be teaching the use of power tools for a specific task when hand tools are actually used on the job (for example, use of a router and templates to set door hinges, versus using a square, mallet, and chisel). This is especially important when deciding exactly what process to teach when several processes are used to accomplish the same task.

Sound Criteria

The use of sound criteria in a critical decision making process will allow a vocational agriculture instructor to provide meaningful learning experience for students. The careful consideration of local conditions and use of a job-task-skill analysis, combined with specific selection criteria will provide the instructor with a list of well defined, relevant skills that can easily be developed into teaching units. In addition, this analysis will provide the opportunity to group these skills into learning progressions that provide a logical learning sequence, and progressing from the simple to the more complex, and from single skills to multiple skill tasks.

Safety instruction is enhanced by placing it at the point in the curriculum where it is relevant and convincing to the student. Evaluation is continuous, with students receiving feedback at each step of the learning process, as well as having the opportunity of applying the individual skills to a problem solving situation.

Sample Agricultural Welding Skill List for Competency Based Curriculum in Agricultural Mechanics

This list is designed for the high school level, to be used in the agricultural mechanics portion of a production agriculture program. It is assumed the student will complete all the units on the list. If it is desired for each unit to stand alone, additional skills would need to be included in certain units (such as adding safety test and equipment lighting to brazing). It is also assumed that relevant hand and power tool skills and general shop procedures and safety are covered as separate topics, either prior to or integrally with these welding skills.

Required Skills Checklist

Oxy-Acetylene Welding — *Flat Position —Mild Steel*
- ____ *Safety Test*
- ____ *Light, Adjust, Shutdown*
- ____ *Puddling*
- ____ *Fusion w/o rod, outside vee*
- ____ *Fusion w/o rod, butt*
- ____ *Fusion w/rod, running bead*
- ____ *Fusion w/rod, outside vee*
- ____ *Fusion w/rod, butt*
- ____ *Fusion w/rod, lap*

Brazing — *Flat Position*
- ____ *Equipment Adjust*
- ____ *Black iron sheet, lap joint*
- ____ *Mild steel strip, lap joint*
- ____ *Slit in mild steel tube*
- ____ *Cracked casting*

Oxy-Acetylene Cutting — *Flat Position*
- ____ *Equipment Adjust*
- ____ *Slot in mild steel plate*
- ____ *Hole in mild steel plate*
- ____ *Bevel mild steel plate (30°)*

Arc Welding — *Flat Position —Mild Steel —AC Welder*
- ____ *E6013, strike arc*
- ____ *E6013, run bead*
- ____ *E6013, single pass butt*
- ____ *E6013, single pass tee*
- ____ *E6013, single pass lap*
- ____ *E6011, strike arc*
- ____ *E6011, run bead*
- ____ *E6011, single pass butt*
- ____ *E6011, single pass tee*
- ____ *E7024, strike arc*
- ____ *E7024, run bead*
- ____ *E7024, single pass butt*
- ____ *E7024, single pass tee*
- ____ *E7024 over E6011, multi pass tee*
- ____ *E7024 over E6011, multi pass, V groove butt*

Soldering — *Flat Position*
- ____ *Propane, galvanized iron sheet, acid core solder*
- ____ *Propane, black iron sheet, acid core solder*

(Continued on Page 20)

Selection Criteria for Determination of Competency-Based Curriculum in Agricultural Mechanics

(Continued from Page 19)

___ *Propane, copper pipe, paste flux, plain solder*
___ *Oxy-Acetylene, galvanized iron, acid core solder*
___ *Oxy-Acetylene, black iron, acid flux, plain solder*
___ *Electric Iron, galvanized iron, acid flux, plain solder*
___ *Electric Iron, galvanized iron, paste flux, plain solder*
___ *Electric Gun, Wire, paste flux, plain solder*
___ *Electric Gun, Wire, rosin core solder*

The optional skills list contains skills not frequently needed, or only needed for specific agricultural enterprises, e.g., aluminum irrigation pipe or stainless steel dairy piping. These are also useful for more advanced students.

Optional Advanced Skills Checklist

Oxy-Acetylene Welding — *Horizontal position — Mild steel*

___ *w/rod, run bead*
___ *w/rod, butt*

Oxy-Acetylene Welding — *Vertical position*

___ *w/rod, run bead*
___ *w/rod, butt*

Brazing — *Vertical position — Mild steel*

___ *run bead*
___ *butt*

Arc Welding — *Horizontal position — Mild Steel — AC*

___ *E6011, strike arc*
___ *E6011, run bead*
___ *E6011, single pass butt*
___ *E6011, single pass lap*

Arc Welding — *Vertical position — Mild Steel — AC*

___ *E6011, strike arc*
___ *E6011, run bead, up*
___ *E6011, tund bead, down*
___ *E6011, single pass butt*
___ *E6011, single pass tee*
___ *E6011, single pass lap*

Arc Welding — *Mild steel — DC*

___ *E6011-repeat E6011-AC skills (flat, horizontal, vertical)*
___ *E7024-repeat E7024-AC skills (flat)*
___ *E6011-repeat E6011-AC skills (flat, horizontal, vertical)*
___ *E7014-repeat E6011-AC skills (flat, horizontal, vertical)*
___ *E7018-repeat E6011-AC skills (flat, horizontal, vertical)*

Arc Welding — *Flat position — Mild Steel*

___ *hardface, strike arc*
___ *hardface, run bead*

Arc Welding — *Flat position — Cast iron*

___ *joint preparation*
___ *strike arc*
___ *run bead*
___ *butt joint*

TIG — *Flat position — Mild steel*

___ *strike arc*
___ *run bead*
___ *butt*
___ *tee*
___ *lap*

TIG — *Flat position — Aluminum*

___ *strike arc*
___ *run bead*
___ *butt*
___ *tee*
___ *lap*

TIG — *Flat position — Stainless steel*

___ *strike arc*
___ *run bead*
___ *butt*
___ *tee*
___ *lap*

BOOK REVIEW

TURFGRASS MANAGEMENT, by A.J. Turgeon, illustrated by Floyd Giles. Reston, Virginia: Reston Publishing Company, Inc., 1980, 391 pages, price $15.95.

TURFGRASS MANAGEMENT seems to be a very practical and relatively new guide to turfgrasses aimed at the senior college level student or as a handy teacher reference tool for high school horticulture teachers. The author has organized the book into nine chapters which thoroughly cover the important aspects of turfgrass and turfgrass management.

The first three chapters deal with careers in turfgrass management, the structure and metabolism of the grass plant, and the characteristics and criteria for selection of turfgrass varieties.

Chapter four deals with the three distinct environments that interact within the turfgrass environment: atmospheric, edaphic, and biotic influences that affect growth, and health and propagation. Two chapters deal with the cultural practices of turfgrasses: fertility, mowing, irrigation, top dressing, etc., in a very effective manner.

A thorough treatment of pest control is presented in one chapter dealing with the most common insect and disease problems associated with turf grasses. Color illustrations and photographs depicting disease signs are found in the back cover of the book.

The final chapters are devoted to methods of site preparation, planting, renovation and maintenance of turfgrass.

Three very helpful appendixes are located in the back section of the book which contain calibration tables, conversion tables and a listing of pesticide chemical and common names.

Edith S. Foreman
Gwinnett Vocational Center
at Oakland
Lawrenceville, Georgia

ARTICLE

Teaching Tractor Safety

BY STEVE FORSYTHE
(Editor's Note: Dr. Forsythe is Assistant Professor of Agriculture and Agricultural Mechanics at Mid-America Nazarene College, Olathe, Kansas 66061.)

Farm machinery skills and equipment repair are often emphasized in vocational agriculture. Some vo-ag programs offer specific farm power and machinery pre-lab type courses for additional emphasis. "Hands on" experience is often used. A big question is: Are we teaching safe tractor operation and upset prevention?

Agriculturists, both young and old, operate tractors in a variety of ways with varying degrees of expertise. Nationally, about 350 people are killed each year in tractor upsets! Many are more seriously injured, affecting their future livelihood in agriculture production. National studies tell us also that these deaths and injuries are more likely to occur to operators under 20 years of age or over 65 years of age. (What is the average age of your vocational agriculture students, grades 9-12?) We also know that nearly 90% of all tractor extra rider-related fatalities involve youngsters 15 and under. Will these national trends involving tractor upsets and related accidents affect any of your young people? A regular program of safety related to tractor operation can help diminish this worry.

Agricultural Child Labor Requirements

Amendments to the Fair Labor Standards Act which were passed in 1966 have a direct affect on vocational agriculture students and other youths under the age of 16. Basically, this legislation states that no youngsters under the age of 16 may be hired to work at jobs listed as too hazardous for this age group as defined by the legislation. Included in this list is the operation of tractors of over 20 PTO horsepower and most pieces of powered farm machinery. Youngsters between the age of 14 and 16 may be allowed to work for hire to operate tractors and certain pieces of farm machinery if they have completed an approved training program on safe tractor and machine operation conducted by either the Cooperative Extension Service or the vocational agriculture program. This training program consists of 24 hours of instruction as outlined in the legislation. The training program should be part of every vocational agriculture curriculum! Not only would we be providing youngsters with an opportunity to go to work but we would also be providing valuable training in safe tractor and machinery operation to all youngsters in our programs.

Causes of Tractor Accidents

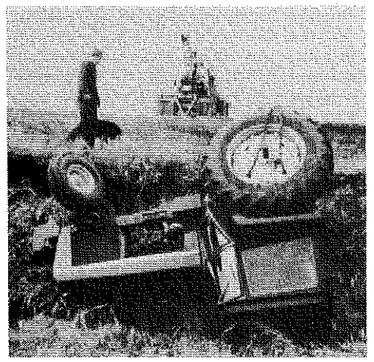
Many of the accidents involving tractors and machinery could have been prevented. Over 90% of the accidents which occur each year are caused by operator error, carelessness, or inexperience. Young operators should understand what causes a tractor to overturn or upset and should be aware of the precautions necessary to prevent an upset. Are these principles being taught as they should be?

Tractor Upsets

There are two basic types of tractor upsets. Those of a rear overturn and those of the side overturn. These occur because of four types of forces that react during tractor operation. A combination of two or more of these usually end in an upset and tragedy! The forces reacting during the time of tractor operation are:

1. Rear-axle torque
2. Leverage (on drawbar or hitch)
3. Gravity
4. Centrifugal forces

Is the theory behind these forces presented to your students for their benefit and knowledge? Are the whys being taught and shown to your students in addition to the actual operation skills?



Tractor safety and upset prevention should be taught in vocational agriculture.

Safe Operation

Knowledge of the tractor being operated is the main point in tractor safety. Several other points need to be emphasized.

Use your seat belt and stay alive. Only if the student's tractor has roll over protection should this be done. If the student is operating a tractor with no roll over protection, he or she should be unhampered for a chance of being at least thrown clear of the overturning machine.

Only the operator alone should be in or on the tractor. Many of the tragedies that occur involving young people are those deaths or injuries where two passengers are on the vehicle.

Stay off slopes too steep for safe operation. Keeping the tractor in gear

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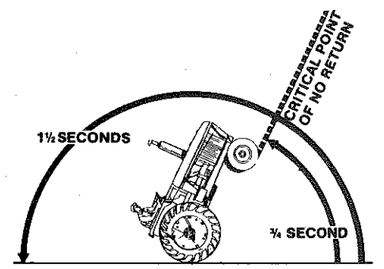


It only takes a second for disaster to happen.

Teaching Tractor Safety

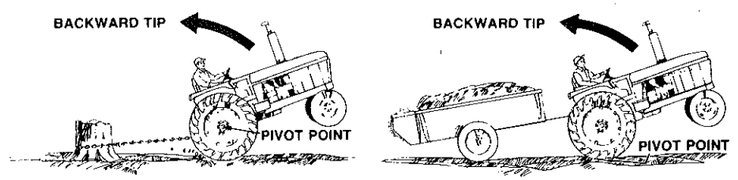
(Continued from Page 21)

while going downhill as well as driving slow are important principles of safe operation are the students aware of these?

The guidelines and principles of safe tractor operation and upset prevention are many and yet varied. They are dependent some on location and on agriculture practices involved. However, the fact does remain, tractor operation safety should be taught and "learned by doing".

Responsibility

Teaching vocational agriculture students the safety principles of tractor operation and upset prevention is necessary. It is a crucial phase of the vocational agriculture total safety program. It is a part of the agriculture educator's responsibility to become a part of the national figures mentioned earlier, particularly as a result of insufficient or no tractor safety training!



A. Rear axle torque will upset the tractor if rear wheels can't spin or move forward.

B. Hitching above normal drawbar height may tip a tractor backward.

Teaching students torque and hitching can help them safely operate machinery

ARTICLE

A Baker's Half-Dozen Ideas for Recruiting Vocational Agriculture Students

By John Hillison
(Editor's Note: Dr. Hillison is Associate Professor, Agricultural Education, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.)

Are you satisfied with both the quantity and quality of students enrolled in your program? There are many ways that teachers of agriculture can encourage additional students to enroll in their courses. The recruitment effort should be a year-round effort and involve many people in addition to the teacher or teachers in the department. Most of the activities can be combined with activities already conducted and consequently, require only a minimum amount of money and time. There are at least seven (or a baker's half-dozen) recruitment activities which agriculture teachers can use to enhance both the quantity and quality of students enrolled.

Visit prospective students while making supervised occupational experience program visits.

Many younger brothers and sisters or neighbors of students currently enrolled in the program are prospective students. A few minutes spent with a future student can be most meaninful to that student and certainly encourage his or her enrollment in vocational agriculture.

Such a visit should emphasize the exciting and interesting activities conducted as part of the vocational agriculture program. Many younger students also have questions and concerns about high school in general. A high school teacher, such as the vocational agriculture instructor, who can appease such concerns will gain a great deal of favorable light in that student's perspective.

Invite prospective students to the FFA Banquet.

One of the most impressive activities which is held in many vo-ag programs each year is the FFA Banquet. Many prospective students can be recruited into the program by observing such an activity. Current members could be encouraged to bring neighbors or friends, as their guests to the annual FFA banquet. An incentive system could be used which has half price tickets (if a charge is made for the banquet) or a prize could be given to the member who brings the most guests. Each member bringing guests should introduce them to the banquet participants. Many chapters have missed a golden opportunity for recruitment by not permitting younger brothers or sisters to attend the annual parent-member banquet when half or more of the family was already in attendance.

Have prospective students visit the department.

The Food for America program of the FFA has been very successful in bringing future vocational agriculture students to the department. The Food for America program has proven to be an excellent public information device and long-term recruitment aid. In some school divisions it may also be possible for prospective students to visit your department for a day before deciding what course of study they will pursue before attending your school. Many high schools have traditionally permitted students to visit a college for a day before enrolling at that college; the same procedure may apply here. Students who visit the department should have an opportunity to see both classroom and laboratory facilities and instruction. They should also leave after the visit with an understanding of the FFA and its many activities.

Visit schools or classes that have prospective students.

It may be possible for the teacher to visit future students in a school setting. If such an opportunity is presented it is best for the teacher to take along at least two high school students who are active members of the FFA chapter. The teacher and students can discuss interesting parts of the program, including FFA activities. Such a team can also answer many questions which will be concerns of the younger students.

Have advisory council members, FFA alumni, members and adult students identify potential students.

In addition to current high school students, it is also possible to have adults who are part of the program to identify future students. Such adults will be able to identify the children of friends, neighbors, and even relatives of their own who are future enrollees. A personal contact or at least a telephone call or letter follow-up should be made for students identified. Teachers using this recruitment device should also mention to the recruit the name of the individual who suggested that he or she might be interested in the program.

Utilize both departmental and FFA chapter publicity.

All departmental and FFA chapter publicity can assist in recruiting future students. Each time a future student reads about or hears about an exciting topic studied in the department or about an FFA chapter team winning an award, that student can imagine the opportunity to do the same thing. Major agricultural companies spend millions of dollars on publicity to help create a favorable public image. Certainly, agricultural education departments and FFA chapters can benefit from the same concept.

Maintain standards for student expectations and accomplishment.

Teachers make a mistake when they compromise standards of quality in order to attract additional students. High quality students are never attracted to low quality programs. Eventually, even low quality students refuse to enroll in a low quality program. Maintenance of high and reasonable standards for students in a program of agricultural education is an effective way to achieve desired levels of both quantity and quality.

Insure a Good Future

Teachers of agricultural education should be concerned about the future of their programs. Such a future depends heavily upon the students who are enrolled. There are numerous ways to enhance enrolling both the number and the type of students needed. Generally these ways involve contact between the teacher or the department and future students, as well as utilizing departmental and chapter publicity. Overall, recruitment activities can be most beneficial to agricultural education.

BOOK REVIEW

Approved Practices in Swine Production, E.M. Juergenson, Danville, Illinois: The Interstate, 1981, 6th edition, 432 pp., $8.50.

The authors state that the purpose of this book is to furnish a comprehensive list of activities in swine production which involve approved practices, including information as to how they should be performed. It includes eleven chapters on such topics as opportunities in raising swine; selecting and managing the breeding herd; caring for the sow and litter; feeding swine; controlling diseases and parasites; marketing; keeping and analyzing records; housing and equipment; butchering and curing pork; and essential skills for raising swine. In addition an appendix includes a summary of each chapter along with a list of resources and a glossary of useful terms.

The book is well illustrated with photographs and drawings. It also includes information in the form of charts and graphs. Those teachers who have used previous editions of this book will find that the illustrations have been changed to keep up with changes in the swine industry. Information is given in a concise form. The book is well organized making it simple to find desired activities. Other references will be needed to provide a greater depth of facts, but this is an excellent "how-to-do-it" book.

High school students will find it easy to use, and will find it especially useful in starting a swine project. More experienced students and swine farmers will also find this book to be a valuable reference. High school vocational agriculture teachers will want to consider this book as a text for swine units and as a reference in their livestock library. The authors have done a good job of revising this excellent text.

J. Robert Leonard
Mingo Community School
Mingo, Iowa

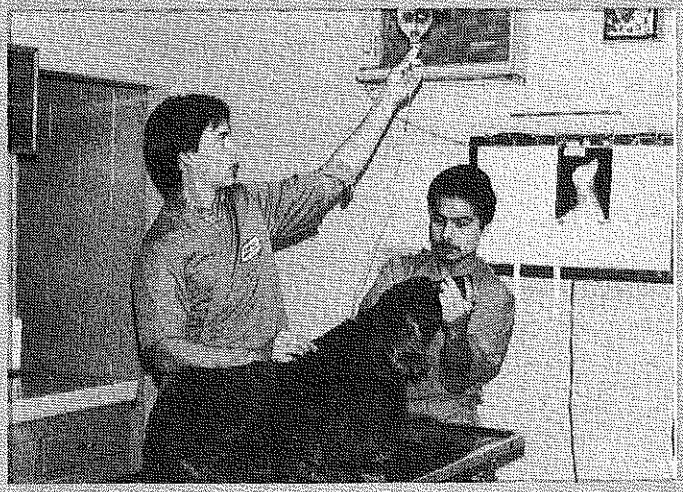
Applied Animal Reproduction, by H. Joe Bearden and John Fuqua, Reston, Virginia: Reston Publishing Co., 1980, 320 pages, $15.95.

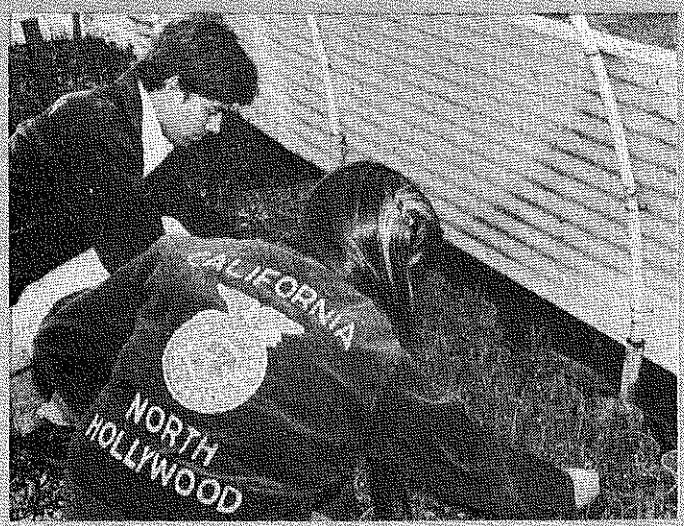
This book is designed for the college undergraduate majoring in animal or dairy science. It is a complete overview of animal reproductive processes, filled with tables and figures and written with clarity. The authors are experienced faculty members in Dairy Science at Mississippi State University.

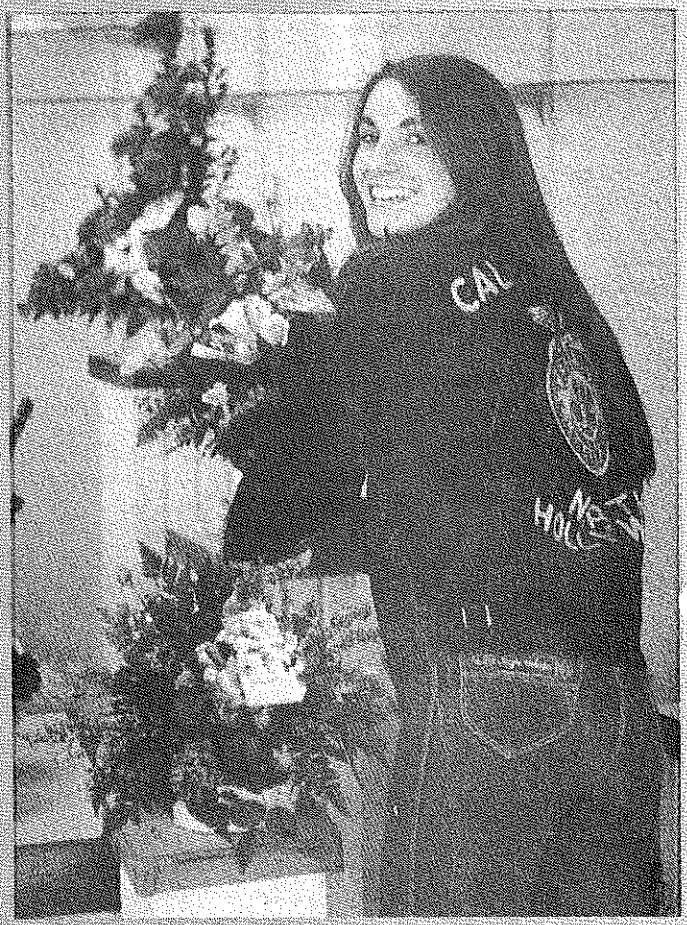
An excellent reference for those interested in details of reproduction and the management of the processes. Too technical and detailed for the usual instruction in high school agriculture classes.

Cayce Scarborough
Professor Emeritus
Auburn University
Auburn, Alabama

Stories in Pictures







From the classroom to job location, urban vocational programs meet the job market demands of urban employers. Current employment trends in agriculture for urban areas include the need for employees with skills in horticulture and small animal care, as shown in these photographs.

Photographs courtesy: Bobbi Roderick, North Hollywood High School, North Hollywood, California 91601 and Richard Hylton, California State Polytechnic University, Pomona, California 91768.