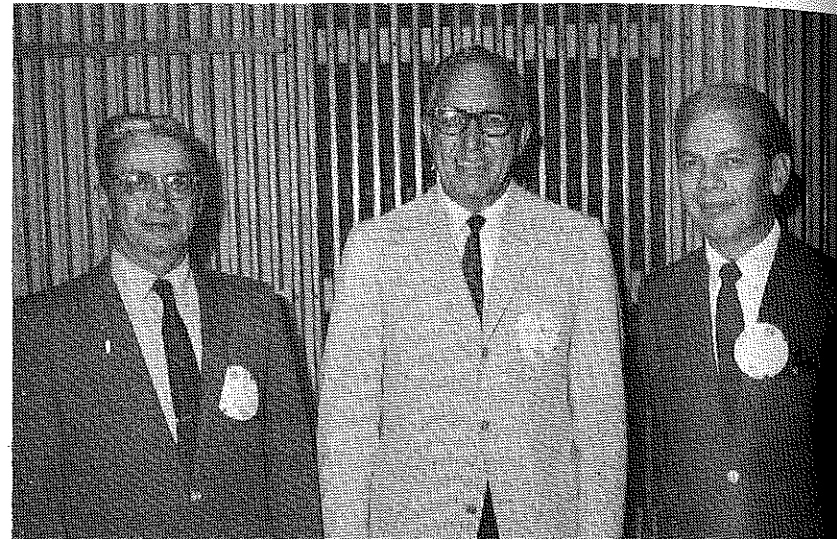


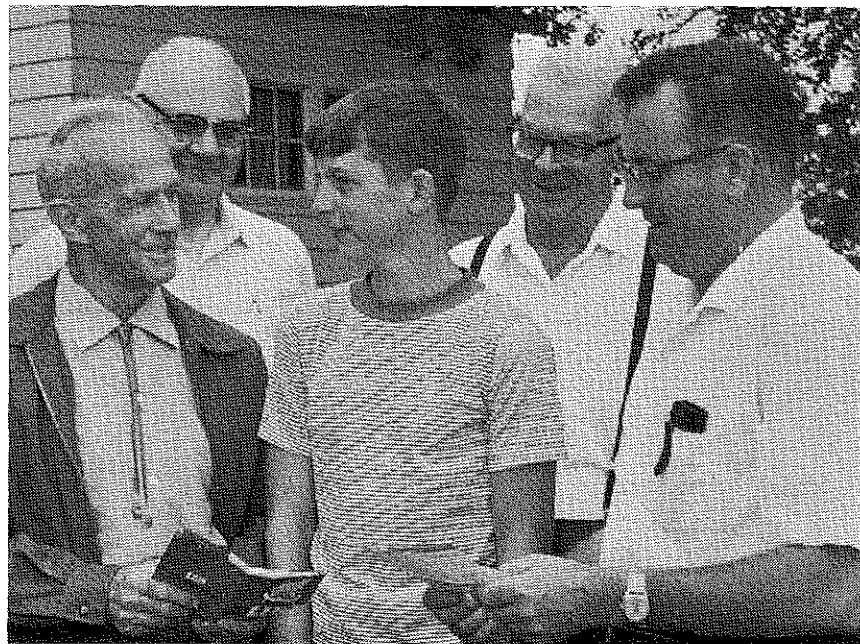
Minnesota's Governor Harold LeVander releases McGraw-FFA strain wild mallard ducks to kick off duck hunting in Minnesota. FFA members in Minnesota raise and release over 12,000 mallards and 35,000 pheasants each year.

## Stories in Pictures

ROBERT W. WALKER  
University of Illinois



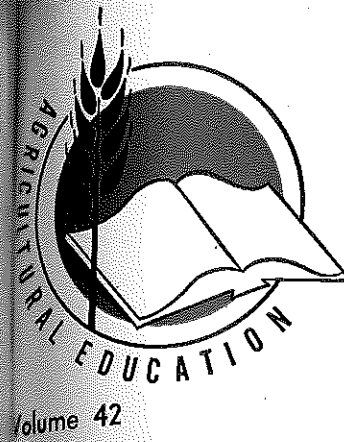
Dr. Paul Hemp (center), Chairman of the Division of Agricultural Education at the University of Illinois, served as chairman of the 1969 Central Region Research Conference held at the University of Illinois July 29-31, 1969. Keynote speaker was Dr. John Coster (right), Director of the Center for Occupational Education at North Carolina State University. Dr. Paul Marvin (left), Professor of Agricultural Education at the University of Minnesota, will serve as chairman of the 1970 conference. (Phot by Robert W. Walker)



Kenneth Herschleb (center), a vocational agriculture student at DeForest, Wisconsin, is selected as the recipient of a pig as a part of the Madison, Wisconsin, Kiwanis Club's annual pig project. Kenneth is flanked by Louis M. Sasman (left), retired state supervisor in Wisconsin, and E. H. Abraham (right), teacher of agriculture at DeForest, Wisconsin. (Photo by Wisconsin Farm Bureau)

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# Agricultural Education

December, 1969

Number 6



Featuring—

INSTRUCTIONAL PROGRAMS  
IN AGRICULTURAL RESOURCES

Also—

RELEVANCE THROUGH VOCATIONAL EDUCATION  
by AVA President C. Nelson Grote (page 137)

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From the Editor . . .

## Are We Ready for the Seventies?



J. Robert Warmbrod

Few decades of the past can rival the sixties for significance and importance in the development of vocational education in the United States. Within a five-year period in the decade, Congress enacted two major pieces of legislation designed to change the outlook and nature of vocational education and to establish education for the world of work as a principal part of public education. For vocational agriculture, the sixties brought unprecedented challenge and change. Early in the decade the very nature and purpose of vocational education in agriculture was staunchly challenged. The result of the challenge was a mandate to change which has been generally, though often reluctantly, accepted by the profession. As we enter the decade of the seventies, it is almost a certainty that neither challenge to nor change in vocational agriculture will diminish. Are we ready for the seventies?

## Guest Editorial . . .

## What Direction for Agricultural Education?



William G. Smith

Our profession is again in the midst of adjusting to new legislation, the Vocational Education Amendments of 1968. Other developments in Washington are also having their impact on agricultural education programs in the states and ultimately on vocational agriculture programs in local schools. Vocational agriculture is again "at the crossroads." There has been no more appropriate or urgent time for each of us to evaluate carefully what we are doing, re-evaluate what we have done, and very carefully analyze and prepare plans for the future.

As a close-knit group of dedicated professional educators, we are justly proud of the accomplishments of the past. To us the worth of our program is unquestionable. We as teachers all can look back to many outstanding vocational agriculture students and FFA leaders we have taught. Teacher educators can reflect on the excellent quality of teachers they have prepared, and state supervisors can enumerate the many outstanding local programs and teachers they have established, assisted, and improved. Over the years our program has been successful in fulfilling its mission. That success has been recognized by many who know the program and its objectives. Yet there have been many who either did not know the program or denied its successes. For too many, our image has been less than a true reflection of the program.

William G. Smith, *Teacher of Vocational Agriculture, East Brunswick, New Jersey, is President of the National Vocational Agricultural Teachers' Association.*

Unless the trends established in the sixties are altered drastically, the seventies will see continued growth and development in vocational education in the public schools. One challenge now facing agricultural education is whether vocational education in agriculture will share as it should in this growth and development.

First, we face crucial problems in developing and expanding agricultural education programs in cities and urban areas. To meet this challenge, our strategy in the seventies must be more imaginative and innovative and rely less on the transfer to new settings of programs, concepts, and techniques that have proven successful in rural schools. But strangely enough, it is probable that vocational agriculture's strongest challenge in the seventies may be in rural schools. As occupational education programs are expanded in rural areas, the position of vocational agriculture as the stronghold of vocational education in rural schools will not only be challenged but could easily diminish. A candid appraisal will reveal that some rural high school students enroll in or are counseled into vocational agricul-

(Continued on next page)

Agricultural education programs of today are considerably different from those in operation ten or even five years ago. The Vocational Education Act of 1963 brought about many significant modifications in vocational agriculture. For many of us, the changes made during this period were made with mixed emotions and serious reservations. It is a sound and natural inclination to stick with the "tried and true," however, in evaluating programs that have evolved since the 1963 Act, we can surely find worthwhile progress in many areas.

(Continued on next page)

ture for the simple fact that the school provides few if any alternatives. As expanded programs of occupational education enable rural students to learn about and be exposed to occupations other than agriculture, it is probable that the proportion electing to study agriculture will decrease. We in agricultural education are inclined to design vocational programs on the assumption that students with a rural background are interested in, or at least should be interested in, studying agriculture. It will be difficult for agricultural education to remain a viable force in occupational education in rural schools if this parochial assumption goes unchallenged.

Crucial to the progress of vocational agriculture in the seventies is a change in attitude within the profession toward questions and criticism about vocational agriculture. Often we conclude too quickly that new and different ideas, whether expounded by persons within or outside the profession, are destructive and threatening and that persons who advocate or support nontraditional points of view are bent on the demise of vocational agriculture. In the seventies, not only must we be more alert to listen and learn from our critics, but it is imperative that persons within the profession examine critically present practice and policy and develop creative proposals for improvement. The outlook for the seventies is bleak indeed if proposals for change, whether emanating within or outside the profession, are dismissed summarily simply because they clash with tradition. For example, to what extent does the recent action of a group of teachers to a proposal by one of their colleagues for change in FFA enhance the progress of vocational agriculture? According to the official minutes of the meeting, the teachers, representing seven states, passed a motion instructing the regional vice president to "write a letter to . . . telling him that we have nothing to do with his 'crack pot' idea."

The seventies will demand dynamic leadership from the profession. The lack of specific mention of vocational agriculture in the Vocational Education Amendments of 1968 should be welcomed rather than deplored. This general and permissive policy offers unlimited opportunity for progress in agricultural education, but it places the responsibility for growth and development squarely on our shoulders. Are we ready to accept the challenge? One lesson we should have learned from the Smith-Hughes Act and the legislation incorporating the FFA is that specific provisions for vocational agriculture in national legislation have a tendency over time of restricting rather than enhancing innovation. The current proposal for special legislation for vocational education in agriculture should be viewed carefully in view of past experience. Progress in agricultural education in the seventies demands that we use past success and tradition primarily for purposes of instruction and guidance rather than revere it unquestionably.—JRW



Let us look into the future. Where are we heading? What problems need to be solved? What is the mission of vocational agriculture in the seventies? We will not assume that we can answer these questions but trust that these comments will provoke some thought.

There will be a continuing need for sound, "traditional" vocational agriculture programs to train students for farming and ranching (production). More new and innovative programs will be developed to prepare students for related occupations. As school consolidation progresses in many areas, we will have fewer departments but more will be multiple-teacher allowing teachers to specialize and do a better job.

One of our current problems will be maintaining adequate funding for strong local programs under the current policies on the local, state, and federal levels. Another related concern is the need for refining our objectives and methods of evaluation. Ironically while work experience programs are in vogue, our pioneer program is increasingly questioned and along with it the twelve-months contract.

The mission of vocational agriculture in the future is something that requires careful analysis and definition. While we have a very broad field in which to work, we cannot do everything for everybody and do it well. We can and must, however, continue to plan and carry out sound vocational agriculture programs to suit the needs of students interested in pursuing agricultural occupations.

#### Themes for Future Issues

|          |   |
|----------|---|
| January  | <b>Teacher Education and Supervision</b>                            |
| February | <b>Instructional Programs in Agricultural Products (Processing)</b> |
| March    | <b>Instructional Programs in Forestry</b>                           |
| April    | <b>Instructional Programs in Agricultural Production</b>            |
| May      | <b>General and Practical Arts Education in Agriculture</b>          |

#### THE COVER PICTURE

Kervin Conover (left) and Larry Sparrow, students at Warsaw (Illinois) Community High School, identify and label trees along a nature trail located in the school forest laboratory. These and other vocational agriculture students in the New Opportunity Program for disadvantaged youth at Warsaw High School serve as nature trail guides for elementary school pupils. (Photo by Robert W. Walker, University of Illinois)

## Relevance Through Vocational Education

C. NELSON GROTE, President  
American Vocational Association

The jargon in education is born out of the ideas of men, idiomatic of the peculiar setting of their time and place in the history of our Nation. One such word in our vocabulary persists at a high level of popularity, unlike its contemporary counterparts, with an impact that has caused thinking men to ponder, reflect and contemplate about American education. This powerful word is "relevant." Webster's New World Dictionary states that "relevant implies a close logical relationship with, and importance to, the matter of consideration."

Relevance in education implies that education must have a close logical relationship with problems that society faces, which provides the primary justification for the support of that educational system. Education for the masses in a democracy is not for the development of the sophist as in Grecian times, or for the socially elite as in early America, but rather for its functionalism in the improvement of mankind and society. If education is to be relevant then it must be logically related to the major social, political and economic matters under consider-

ation. To separate education from society, to divorce application from theory, to insulate children from the realities of the world of work, is to develop an irrelevant system of education wrought with frustration and conflict.

#### THE MANDATE

America can ill-afford the luxury of its present system of manpower education nor can we afford the belief that the solution to our problem is through remedial education rather than a primary concern on preventive education. We are losing one of the most precious resources we have when more than three quarters of a million kids drop out of America's high schools each year. We cannot afford to continue having 25 per cent of our high school graduates entering the world of work with few if any saleable skills.

When 12 per cent of those who graduated in June of 1965 are unemployed by October of the same year and when 27 per cent of the non-whites from the same class are unemployed, how can we argue that their education was relevant? Neither can we suggest relevancy when the ma-

majority of boys and girls in our secondary schools are guided into college preparatory curricula by socially conscious parents and by teachers and guidance counselors representing middle class values. In addition, the labor market in the 70's will be able to absorb less than 20 per cent college graduates without serious underemployment. The dichotomy of a national unemployment rate of nearly 4 per cent and at the same time serious shortages in the fields requiring skill and knowledge that the unemployed do not possess is another evidence of an irrelevant educational system.

The unanimous passage of the 1968 Amendments was a vote of confidence on the one hand and a mandate on the other. The Congress gave us the structure and the resources that they felt we could use effectively and at the same time set up some priorities based upon national need. They did so through the "set-asides" regarding how we spend whatever money is authorized and appropriated. We must broaden our thinking in vocational education to include the total manpower needs of this Nation through a comprehensive program.

The Congress built into the legislation some assurances of comprehensiveness by establishing the National Advisory Committee and State Advisory Councils that are very representative in their composition. Congress provided for change by requiring that state plans be resubmitted each year with projections which can be modified in light of recommendations by the advisory committees as a result of an annual evaluation. If we in vocational education had, in general, been more effective in constituting and utilizing advisory committees at all levels, not only would we have had a more effective program of occupa-

(Continued on next page)

May I take this opportunity to express my appreciation to the Editor for the invitation to publish a manuscript in this professional journal. While not formally prepared in the field of agriculture education, my life on the farm and a close professional association with vocational agriculture education for nineteen years have given me an unusual opportunity to develop some understandings of the field and an appreciation for the great contributions vocational agriculture has made in the field of vocational education. It is an honor to be associated with agricultural education, represented by your distinguished Vice President, Dr. Ralph Bender, and the many men in the field dedicated to the task of providing a quality education to America's youth and adults.

I have chosen to write in terms of vocational education, as opposed to agriculture education, so as to serve the largest possible reading audience. In addition, such an approach encourages more individual synthesis and analysis leading to a divergency of examples and illustrations as opposed to a convergence of thought dependent largely upon the knowledge of the writer as well as time and space.—C. Nelson Grote

## Relevance Through Vocational Education

(Continued from page 137)

tional education but we would not be faced with some of the conflicts today with the Department of Labor or the issues with those representing the free enterprise system.

### THE PROBLEM

While much could be said about the characteristics of relevancy in vocational education, let us concern ourselves with only three facets of the total problem: the changing nature of the labor market; changing job requirements; and the unique groups of people to be served.

### Changing Labor Market

The impact of technology is having a dramatic effect upon the labor market and will continue to do so at an accelerating rate. Vocational education has not been sufficiently responsive to new and emerging occupations which often results in an under production or a surplus of graduates in specific fields. We may need to adapt basic managerial and inventory control systems typical of private business, in phasing out obsolete and outdated models and phasing in new models, both experimentally and in full production.

The scope and magnitude for labor forecasting will require a phenomenal effort at the National level with some concern for regional labor markets and little, if any, for local needs. Surely in a mobile society curricula can be justified on regional or national statistics, although such a development will require valid data and suggests Federal coordination as well as far-sighted leadership at all levels. While most vocational programs have made adaptations in light of the shifts taking place in the labor market, such changes have been slow and difficult and the job is not complete.

### Changing Job Requirements

While it is difficult to generalize upon the specific nature of changing job requirements, it should be safe to say that most, if not all, are becoming more technical in a relative sense. Whereas, in 1930 the bulk of the labor force (57 per cent) was in the unskilled, semi-skilled and service categories, we find that a dramatic shift has taken place and in 1970 only 26 per cent of the

labor force will fall in these same categories while middle manpower jobs will have increased from approximately 23 per cent to more than 50 per cent of the Nation's labor force. This shift has created a need for para-professional and technical programs in all fields of occupational education.

We are now living in an era where the traditional choice points in one's career are no longer restricted to the time of graduation from high school or receiving the baccalaureate degree from college. With the rapid development of post secondary vocational and technical education of less than baccalaureate level and the impact of the junior college, a new category of employment has evolved. The technician or semi-professional has not only broken into the fields of agriculture, business, and industry but has found a significant role in the more esoteric occupations such as the field of medical science. Whereas the basic argument for an education in the past years was to raise one's level of income, this position is not as tenable as once believed. Only the naive or those endowed with snobbery still believe that all college professors, lawyers, and doctors make more money than the most skillful craftsman or technician. There is little proof that the only way to the good life is through the university. While much can be said about the impact of technology on the technical abilities of tomorrow's workers, there is always a need for real concern in regard to the social and intellectual development of these individuals.

### People To Be Served

It has been said that the vocational acts prior to 1963 emphasized the service fields. The 1963 Act talked in terms of programs, and the 1968 Act is people oriented. There is little question but that Congress in designing the 1968 Amendments was talking about meeting the needs of people—all people. With all of the talk about urban centers and the innercity, we must not overlook the problems of rural America. The agriculture education leadership, with experience in working with people, must step forward in demonstrating techniques and solving the problems of out-reach and



C. Nelson Grote

Dr. C. Nelson Grote is Dean of the School of Applied Sciences and Technology, Morehead State University, Morehead, Kentucky.

in modifying curricula to meet the unique needs of this group.

Although vocational education has been involved substantially in post secondary education, while we have worked closely with vocational rehabilitation and the education of the handicapped, we are plowing new ground in meeting the unique needs of the disadvantaged at the level suggested by legislation. It is unreasonable to expect all service fields to assume an equal responsibility in meeting the needs of the disadvantaged—yet it is also unreasonable for any one field of service to pass the buck to the rest and continue in the ways of the past. It behooves all fields of service to review and re-evaluate their programs and services and to join hands with their colleagues in meeting these essential needs through a coordinated and integrated comprehensive program of vocational education.

### THE CHALLENGE

In addition to the improvement of vocational education for which we are primarily responsible, we also need to demonstrate our leadership in bringing relevance to general education. In fact, this concern in the continuing development of education in America may prove to be the most challenging part of our involvement. Much of the student unrest in colleges and universities is caused by the fact that they do not see sufficient relevance in their education. Therefore, the question of relevance permeates the whole spectrum of education, beginning early in elementary education and continuing through higher education. We must do much more, earlier, in developing such basic concepts as the dignity of labor, capitalism, and the free enterprise system.

We must put life into basic education through application and realism. Potential dropouts must be identified early and given an individualized ed-

ucation that includes the development of saleable skills and knowledge.

All students, regardless of their environment, need to be exposed to the life style of the many basic career choices. The leadership for these and many other developments can and should come from vocational and practical arts education. If so, we in vocational education may suddenly find ourselves serving as the hub of the

educational system as opposed to our role as a spoke attached to a general education "wheel" in a "rut" moving us toward irrelevancy.

The alternatives are taking shape in the form of remedial programs which are expensive and which attempt to build success on a history of failure from the standpoint of the individual. One such alternative could lead to a dual system of education—one "inside"

education and the other "without"—where education for life and occupational mobility may be minimized by training for a job and where instructional effectiveness is measured by the profit motive. It is time we take the offensive without being "offensive" and set our shoulder to the task of shaping a program that arrests obsolescence and promotes relevancy as a measure of quality in education.



C. B. Slempp

## REVITALIZING AGRICULTURAL EDUCATION

W. S. SHELBURNE and C. B. SLEMP  
Teachers of Agriculture  
Pennington Gap, Virginia



W. S. Shelburne

Do you, a teacher of agriculture, get discouraged about your program? Do you feel that agriculture in your community does not have the public image it deserves? Is your program of vocational agriculture less an asset to your community than formerly? Cheer up! You can revitalize agricultural education if you are willing to exert the necessary effort. As teachers of agriculture, we cannot rest on our laurels. We must justify our employment and the program we conduct.

### Changes in Agriculture

Many teachers of vocational agriculture have recognized changes that have taken place in the agricultural industry. But some teachers have been slow in helping others understand these changes and in revising programs to successfully cope with the changes. In some cases a department of agriculture has been renovated, new equipment purchased, and the teachers re-trained and provided with up-to-date subject matter, but at the same time agricultural education lost prestige in the community. Why? Could it be that we do not know how to communicate or that we have failed to communicate?

### Changes in Students

It is the responsibility of a teacher to learn the abilities of each student and guide each in such a way that the

student's abilities will be developed to the fullest extent possible. The instructional program in vocational agriculture should include activities which will aid each student in developing his leadership abilities as well as vocational skills. In other words, a teacher should provide training designed to develop desirable character as well as vocational proficiency.

Prior to 1950, practically all students who enrolled in vocational agriculture lived on farms. Today, students possess all the backgrounds in the local community. This is both a challenge and an opportunity for the teacher. It is a challenge to help each student become qualified for employment in the phase of agriculture in which he desires to work. It is an opportunity to show each student that he is needed to promote or carry on some part of the vital work of producing, processing, and distributing food and fiber to sustain the entire population and improve standards of living.

### Helpful Practices

Each teacher should, in his own way, accomplish these things. In the community served by our school, we find these practices helpful.

• We arrange with the principal of each elementary school in the community to explain the content of the vocational agriculture courses to students in

the seventh grade. We do this during the latter part of each school-year to enable students to decide whether to enroll in vocational agriculture prior to entering high school.

• We explain the content of vocational agriculture courses at a meeting of each of the civic clubs in the community. We consider this very important because these meetings afford us an opportunity to contact most of the influential adults in the community. The members of these clubs include members of the local school board, the county board of supervisors, lawyers, physicians, and merchants as well as farmers. We distribute to each person present a copy of the vocational agriculture curriculum and discuss it. We note carefully any comments made by those in the audience, especially if suggestions are made for improvement. So far these adults have mixed compliments with valuable suggestions for improving our program and seem most appreciative for having up-to-date information on the agricultural education courses.

Following these two practices has resulted in an increase in the number of students enrolled in vocational agriculture and there is a wide range in the abilities possessed by those enrolled. Our way of informing the people in the community of the importance of agricultural education is paying dividends.

# Post-Secondary Education in Conservation Technology

KINGSLEY L. GREENE  
Agricultural and Technical College  
Morrisville, New York

Man has misused his natural environment for so long that thoughtful and proper use may appear to cause hardship to some individuals. An awareness of the problems facing us today and in the future seems, however, to be spreading rapidly. Conservation has become a magic word. Unfortunately, we are not fully comprehending the magnitude nor complexities of the problems involved. We are unable to establish priorities for appropriate action, and frankly, we cannot even agree upon what is meant by conservation. To some it implies wise use of resources; to others it means varying degrees of preservation.

We must begin by training persons capable of meeting the challenges that lie ahead. This can be done through education pertaining to the wise use and careful management of environment resources. Time is working against us. No one knows exactly when critical levels of pollution or acute shortages of resources will completely alter life on earth. Man has created the problems and only man can solve them. The solutions will come through a combination of awareness, true concern, and adequate education.

## New Curricula

In an effort to meet these challenges, the State University of New York Agricultural and Technical College (Morrisville, New York) initiated a



Kingsley L. Greene

*Kingsley L. Greene is Associate Professor of Natural Resources Conservation, State University of New York, Agricultural and Technical College, Morrisville, New York.*

new, two-year curriculum in Natural Resources Conservation aimed at preparing a broadly-trained, semi-professional conservationist. Planning for the new curriculum began in 1964. The curriculum was initiated in the fall of 1966.

In three years the enrollment in Natural Resources Conservation has grown from 45 to 140 with the number of faculty increasing from one to three and more projected as facilities are made available. Student interest runs high and many applicants are turned away due to staff and physical plant limitation. It is hoped that many more students can be accommodated in the near future.

The curriculum provides a challenging and stimulating experience for most students. As the accompanying list of courses indicates, considerable emphasis is placed on the basic physical and biological sciences along with a variety of professional courses in conservation subjects and related manual skills. There is also ample opportunity to improve communicative skills and a sequence in the social sciences to acquaint students with some of the cultural and social problems involved.

No attempt has been made to prepare specialists because a two-year curriculum can accommodate only so many credit hours and proliferation of courses might tend to dilute the program as to render it ineffective. Actually the curriculum produces a very knowledgeable and concerned individual with a variety of skills and the capacity to bring all of this to bear upon environmental problems. For many students doors to further education are opened. Forty to 50 percent of each graduating class transfer to four-year institutions.

## Activities

The entire program is laboratory oriented. In courses such as forestry,

park and recreation management, wildlife management, and soil and water conservation, students spend 50 to 90 percent of their laboratory time in outdoor situations. These experiences provide opportunities for students to come to grips with actual environmental problems, use professional methods and equipment, and to gain field experience under a variety of conditions. Field work is carried out regardless of the weather and the group has developed an esprit de corps based upon their common interests, knowhow, dedication and rugged experiences together.

Another dimension of the curriculum is provided through the Conservationist Club which is involved in local conservation activities and campus social life. Some of the club members provide volunteer services to the local elementary schools as resource persons in environmental and natural history type presentations. The club often



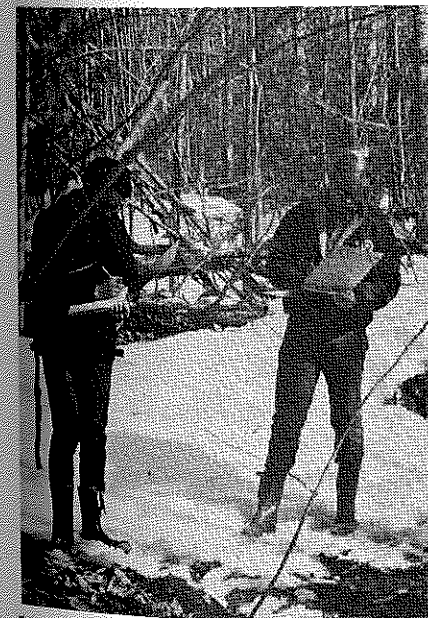
Students in a conservation course display study skins prepared as a part of the course work.

sponsors overnight camping trips at various seasons of the year or weekend field trips to areas of specialized conservation interest. The need to become involved is thus, hopefully, inculcated as well as the importance of technical skill and scientific information.

## Some Problems

There are some problems, of course. Some difficulty arises when students enroll expecting to become wildlife management specialists because they like to hunt and fish. Such specialization is beyond the scope of a two-year curriculum and an interest in hunting and fishing does not necessarily fit an individual to become a wildlife specialist. These students sometimes find themselves bogging down in the rigorous scientific study required unless they can see the need for related academic work. For those of us who have spent a good many years in field-biological and conservation type work the necessity for a sound background in the physical and biological sciences seems quite obvious. Sometimes it is no simple matter to convince the student, who dreams of a life in the wilds carrying a gun and fishing rod, that this is actually so.

A more serious problem exists in the area of student placement. For those students who do not plan to transfer to four-year colleges there is considerable difficulty in finding positions commensurate with their train-



Students studying wildlife management make detailed habitat evaluations.

## List of Courses Natural Resources Conservation Curriculum

### FIRST YEAR

Fall Semester  
Language and Composition  
Botany  
General Chemistry  
Soil and Water Conservation Structures

Spring Semester  
Critical Reading and Composition  
Mathematics  
Small Power Equipment  
Basic Electricity  
Introductory Forestry  
Microbiology or Botany

### OPTIONAL SUMMER SESSION

During the summer students may elect to attend a six-week summer session to include Surveying and Dendrology. Registration in these courses is restricted to those having a satisfactory first-year academic average and necessary mathematics background.

### SECOND YEAR

Fall Semester  
Introduction to the Social Sciences  
Public Speaking  
Technical Writing  
Forest Zoology  
Park and Recreation Management  
Physical Education  
Entomology

Spring Semester  
American Government  
Economics or Agricultural Economics  
Wildlife Management  
Fish Management  
Physical Education  
Water Supply and Sanitation

ing and ability. To put it simply, job opportunities in conversation work have not kept pace with the needs as dictated by the plight of our natural environment. This is particularly true at the technical, sub-professional levels. Many persons in executive or supervisory positions have indicated that such persons are needed desperately but that civil service machinery and funds are lagging far behind present and future needs.

Students have been placed in state parks and stream bank improvement work; some are working as surveying aides with engineering firms; a few find work cruising timber for lumber companies; three have taken positions in city zoos; and some have worked at semi-professional levels in fisheries and wildlife work. Some have worked as soil conservation technicians. A few take jobs not directly allied with conservation work which are frequently related to the manual and general skills acquired during their college training. Many are drafted by the military soon after graduation but have hopes of finding appropriate work later on.

## The Future

As the work of the wildlife and fisheries biologist continues to become more complex and research oriented, the responsibility for interpreting and implementing the results of this work

also becomes more sophisticated and involved. This is where the two-year graduate should find his niche. For example, there is considerable impetus to make two years of college requisite for positions as conservation officers. The era of the untrained game warden is, rightfully, passing from the scene. The conservation officer of the future must be capable of understanding and interpreting research work leading to the regulations he enforces if he is to provide adequate public relations services to the ever-growing number of sportsmen. It is difficult to maintain interest and cooperation in wildlife management projects unless those involved are knowledgeable and well-informed. The same philosophy should be equally valid in all areas of conservation work. There is hope, then, of greater demand for the two-year trained conservationist.

The potential for job opportunities is perhaps the brightest side of the picture. As the population explodes to staggering proportions, as leisure time increases, as people become more affluent and extremely mobile, the need for recreational facilities and staffing will become tremendous. At the same time the demands upon our natural environment are reaching undreamed of heights while its ability to "deliver" is being crippled through either inadequate or improper management. Never has the harvest been so ripe and the workers so few.

## A Specialized Program in Natural Resources

DAVID DuBOSE, Shasta College  
Redding, California



David DuBose

After fifteen years of operation, it became apparent that Shasta Junior College was not providing training for students at the technician level in the field of natural resources. Some inquiries pointed out

that only about 6 to 10 percent of the students in the transfer programs in natural resources were actually transferring to a four-year college. A majority of the students were going to work without more than two years of schooling, and most were quitting without completing two years.

From discussion with teachers, counselors, and students, it seemed that the courses required for transfer were too difficult. It was also found that the students dropping out were still going to work for resource agencies but at a low pay rate.

### Systematic Study

Shasta College has two compelling reasons for instituting a vocational program in natural resources. First, we had become aware of a growing, if unspecified, job market for students with the kind of training provided in the natural resources program. And second, we had a large number of students with interests in the field of natural resources whose educational needs we were not meeting.

Several organizations were invited to the College to discuss the program. School officials were aware that the information gained from the discussion was insufficient and that a more systematic study would have to be made. One of the major purposes of the study was to examine the relationship

between the natural resources curriculum and the training needs of specific jobs. A second and related purpose of the study was to estimate the job placement potential in the College's service area for graduates of the program.

A list of potential employers was compiled and they were interviewed along with one employee in each level of job entry.

### The Program

As a result of the six-months study the College developed a Natural Resource Program to meet the demands of both the students and employers. Courses in range management, surveying, forest practices, soils, conservation, outdoor recreation, fish and wildlife management, wood processing, mechanics, log scaling, and water resources were developed.

Most of the courses have a three-hour laboratory to provide the necessary skills and techniques required by employers. The entire program is planned for students who do not desire to transfer but want the necessary skills to secure and keep a job. Also, the English Department developed special classes in English, report writing, and group dynamics for students in the Natural Resources program.

The courses developed are not designed for transfer to a four-year college. A distinction must be made between vocational and transfer courses. The two types of programs should not be confused. They each have separate goals and objectives.

### Facilities

Shasta College is situated among 310 acres of pine and oak which includes a 75 acre irrigated farm and a 10 acre recreation area with picnic facilities. A two-mile nature trail is



Students in the natural resources program at Shasta College construct a device for measuring soil erosion.

being constructed around the entire campus. A one-acre Christmas tree planting has been established and will be maintained by students. Soil conservation practices are carried out in a deep creek channel surrounding the campus. One area is being developed for upland game habitat with crops and hardwood trees being planted.

The college also owns 320 acres of range land seven miles from campus which is being developed for livestock grazing and wildlife habitat. A spring has been developed, a gallinaceous guzzler has been constructed, and a reservoir is being built. About twenty acres have been converted from brush to grass, and seeding and fertilizer experimental plots have been established.

### The Outlook

All of the work is done with either work experience students getting on-job training or with students in regular classes. The program must be practical to succeed. Laboratory experiences are necessary for students to learn the fundamental skills.

Even though there is some competition with graduates of four-year programs, this competition is lessening in most jobs. There seems to be no problem with employment at the present time. Some special courses such as log scaling actually prepare students to go to work immediately if they so desire. Many students do not stay the full two years, but find jobs and quit school at the end of two or three semesters. We are not overly concerned because when students can get a job and hold it we have accomplished our main goal.

## Essentials for Planning Instructional Programs in Agricultural Resources

JOHN A BECKER, University of Missouri  
and

THOMAS R. STITT, Southern Illinois University

Instruction in agricultural resources should play a more important role in agricultural education curricula in regions where extensive conservation and recreation efforts are carried on. Yet, the proper role for this area of instruction can only be determined through an investigation of students' interests and the manpower needs in agricultural resources.

It was for that purpose that an intensive study was made of the conservation and recreation potential of the seventeen southern-most counties in Illinois. Within this area there are forty-one secondary schools with agricultural occupations programs and three junior college districts, one with a program of agricultural occupations in progress and two with programs under consideration.

An instrument for determining interests of high school students in occupations pertaining to agricultural resources was administered to 226 students in fourteen randomly chosen schools. Manpower needs in agricultural resources were projected for the region by identifying all private businesses and governmental agencies associated with conservation and recreation. Agricultural resources job titles in these businesses and agencies that met specific criteria were examined by interviewing management personnel.

### Student Interest

Only 23 per cent of the students indicated an interest in occupations in agricultural resources. Approximately one-third of the students indicating an interest in agricultural resources were interested in agricultural resources only, one-third were interested in agricultural mechanics only, while one-third were interested in agricultural resources and agricultural mechaniza-

tion. Students interested in agricultural resources were usually found in small numbers in all schools rather than in large numbers in a few schools.

The number of students who could be expected to attend a two-year post-secondary program in agricultural resources was also estimated. Using test results, it was projected that each year only eight students from the seventeen-county region could be expected to enroll in a post-secondary program in agricultural resources.

### Employment Opportunities

The survey of businesses revealed three types of firms related to agricultural resources—governmental agencies, quasi-public agencies, and private businesses. The governmental agencies were represented on the local, state and national levels by over fifty parks and conservation agencies. The quasi-public agencies included eleven camps and twelve planning organizations. The private businesses were made up of numerous small recreational farms and camping sites.

Many businesses and agencies associated with conservation and recreation either did not employ workers or the workers employed fell into job classifications outside the agricultural resources category. The largest employers of agricultural resources workers were

at the national and state governmental levels. Smaller employers tended to rely on one full-time employee and several summer employees. The private sector businesses, the smallest group of businesses, were basically owner-operated and employed very few agricultural resources workers. It was estimated that in Southern Illinois there were three part-time jobs in agricultural resources for every two full-time agricultural resource jobs.

An increase of seventeen jobs in agricultural resources during the next five years which require a high school certificate was expected. Using businesses and agencies surveyed in this study, the following considerations in relation to full-time employment needs were made.

—An estimated 19 per cent of the agricultural resources jobs required a bachelor's degree.

—Forty-one per cent of the jobs involved political considerations for job entry.

—There was a reliance on youth groups to accomplish much of the seasonal maintenance work in agricultural resources which offset many jobs.

### Employment Requirements

The job titles were clustered into four main categories: managerial, su-

(Continued on page 145)



John A. Becker

This article is based on John A. Becker's M. S. thesis, "The Measurement of the Agricultural Resources Role with Respect to Southern Illinois Agricultural Education," which was completed at Southern Illinois University in 1968. Currently Mr. Becker is a graduate student in agricultural economics at the University of Missouri. Dr. Stitt is Assistant Professor of Agricultural Education at Southern Illinois University.



Thomas R. Stitt

# Developing a Course of Instruction in Agricultural Resources

HOWARD I. DOWNER, Teacher Education  
University of Tennessee at Martin

The population of the United States is predicted to double by the year 2000. This increase in population will be reflected by at least a proportional increase in the demand for food and fiber, but it will result in a three-fold increase in the demand on agricultural resources for outdoor recreational activities. So we are faced, on the one hand, with a need to expand agricultural production and on the other with a need to divert acreage now in production to other demanding uses.

As the pattern of land use changes it will be imperative that the conservation, protection and regulation, and recreational utilization of natural resources be coordinated and expanded so that the natural resources needed for agricultural production, recreation, and aesthetic appreciation will not be depleted by one or more of these uses to the detriment of the others. Proper utilization of natural resources will require the employment of increasing numbers of persons who possess certain agricultural competencies and understandings.

## Need for Instruction

Through the efforts of leaders in outdoor education and conservation, there has been a dramatic increase in

the number of schools offering outdoor education in the elementary grades. Many students have developed a vocational interest in the activities of conservation, protection and regulation, and recreational utilization of natural resources. There is, however, little instruction in conservation and outdoor education at the secondary level.

Agricultural resources has been established as one of eight instructional areas in vocational-technical education in agriculture by the U. S. Office of Education. Courses of study in agricultural resources at the secondary and post-secondary levels must be developed to meet the needs of students whose occupational objectives are concerned with conservation, protection and regulation, and recreational use of natural resources. These courses will enable interested students to gain the knowledge, skills, attitudes, and appreciations necessary for entry and advancement in occupations pertaining to agricultural resources.

## Curriculum Guide

The findings of research conducted at The Pennsylvania State University were used to develop a guide for use by teachers in developing vocational-technical programs of occupational in-

struction in agricultural resources. Items pertaining to program establishment and instructional units were rated by persons employed in agricultural resources and education as to their importance in occupational education in agricultural resources. The guide was based on items rated to be of significant importance for inclusion in an instructional program.

The guide includes recommendations for planning a course of study, a selected list of occupational titles in each of the three major activity areas of agricultural resources, and a teaching calendar for a two-year instructional program that includes 62 units of instruction.

There are terms used in the guide that may not be familiar. The following definitions are given to describe the nature of instruction in agricultural resources.

*Agricultural resource instruction* is a combination of subject matter and planned learning experiences concerned with the principles and procedures involved in the preservation and importance of natural resources such as air, forests, soil, water, fish, and wildlife for economic and recreational purpose. Instruction emphasizes the competencies needed to enter and advance in occupations in conservation, protection and regulation, and recreational utilization of the resources.

*Conservation* includes activities associated with the development, management, and maintenance of soil, water, air, wildlife, fisheries, forested and other natural areas, aesthetic and historical sites and structures, and land for agricultural production and multiple purpose use by the public.

*Protection and regulation* includes activities for which the main function is to protect the resources by control of fire, disease, insects and pollution

and to regulate the natural population of plants and animals by harvest or propagation.

*Recreational utilization* includes activities associated with the development, operation, and management of agricultural resources by public and private agencies for outdoor recreation and aesthetic and historical appreciation.

## Recommendations

The following recommendations for planning a course of study are included in the guide.

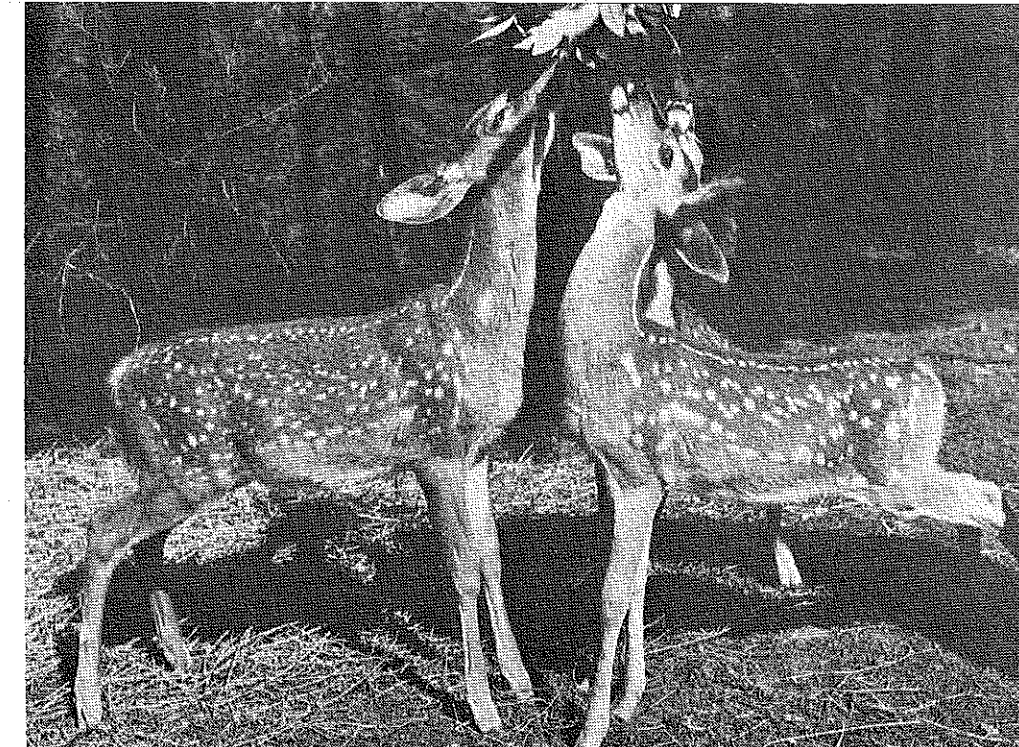
—The objective of occupational education in agricultural resources should be to develop competencies needed by students to enter and advance in occupations in this area. The competencies can best be developed by learning experiences that will bring the student in contact with the resource activities connected with his chosen occupation. A well coordinated program of occupational experience supervised by both the teacher of agriculture and the cooperating employer is of vital importance to the student's acquisition of the competencies required for successful employment after completion of the program.

—In order to give students a comprehensive background in agricultural resources, they should be encouraged to schedule agriculture in grades 9 and 10 and biology, chemistry, and appropriate mathematics courses. Specialized instruction in agricultural resources should be offered students in grades 11 and 12.

—Due to the small number of students in some high schools who may be interested in agricultural resources, it seems logical to include instruction in agricultural resources as a part of the area vocational-technical school program. Out-of-school youth and adults can also be served by the program.

—At least 30 per cent of the instructional time should be devoted to mechanics related to agricultural resources.

—Occupational experience programs should be carried out during the summer between the eleventh- and twelfth-grades and on out-of-school time and weekends during the twelfth grade. At least 400 hours of occupational experience activities should be accumulated by each student prior to high school graduation.



Instruction in agricultural resources includes the importance and preservation of wildlife.

## Essentials in Planning Instructional Programs in Agricultural Resources

(Continued from page 143)

pervisory, technical, and skilled and semi-skilled. Employers reported a desirable job entry age of 21 years, but age requirements varied three years according to job responsibility. Wages were both salaried and hourly and were competitive to other jobs in Southern Illinois with equivalent training requirements. All jobs, except skilled and semi-skilled, required a high school certificate for entry. Experience was the key factor for advancement in employment. Job titles usually required skills and abilities in mechanics. Generally, employees reported no great difficulty in finding qualified personnel.

## Implications

Agricultural occupations teachers in high schools should identify students interested in agricultural resources and provide supervised agricultural experience programs in agricultural resources. A combination agricultural resources

and agricultural mechanization program should be taught to provide necessary knowledge and skills for job entry.

An insufficient number of students and an insufficient employment base do not warrant a two year post-secondary agricultural resources program in and for Southern Illinois only. Junior colleges must look beyond their districts to justify adequately an agricultural resources program.

The results and implications of the study are somewhat surprising in light of what appeared to be a very apparent need for occupational education in agricultural resources. This by no means reduces the enormous potential in Southern Illinois to serve as a conservation and recreation region, but it implies that large numbers of highly skilled, vocationally trained agricultural resources personnel will not be needed.



Howard I. Downer

This article is based on Dr. Downer's dissertation, "Attitudes of Selected Groups Concerning the Role of Vocational-Technical Education Programs for Occupations in Agricultural Resources," which was completed at The Pennsylvania State University in 1968. A copy of the curriculum guide described in the article may be obtained from Dr. Downer at the Department of Agriculture, University of Tennessee, Martin, Tennessee 38237.





# Inservice Education in Recreational Planning and Campground Development

AUSTIN F. HAMER  
State University College of Forestry  
Syracuse University



Austin F. Hamer

Camp Oswegatchie, the FFA camp for New York State located in the western Adirondack Mountains of New York, was the site of an inservice workshop on Private and Public Campgrounds in New York held last summer for occupational education teachers of high school courses in conservation. The one-week session was sponsored by the New York State Education Department's Bureau of Agricultural Education in cooperation with the State University College of Forestry at Syracuse University.

The workshop was designed to provide vocational agriculture and occupational education teachers with knowledge and skills in the field of recreational land-use planning and campground development, operation and maintenance. The need for this kind of training has been expressed by teachers of conservation courses which include instructional units on outdoor recreation in addition to the usual units on forestry, soil and water conservation, and wildlife management.

## Personnel

The workshop was proposed by Dr. Harold L. Noakes, Chief of the Bureau of Agricultural Education of the New York State Education Department. The tremendous increase in demand for recreation in the northeastern states which influences private land owners to develop recreational opportunities of many kinds was one factor justifying the need for the workshop. Also, public agencies are enlarging

older facilities and constructing new facilities to handle the influx of families seeking fun and relaxation. These developments substantiate the need for inservice education for teachers who help prepare young men and women to satisfy the increasing demand for skilled workers and recreational land planning technicians.

Professor Floyd E. Carlson of the State University College of Forestry was the principal instructor for the workshop. He was assisted by Professor Austin F. Hamer, Coordinator of Continuing Education of the College of Forestry. Assistance in conducting the workshop was obtained from professional landscape architects, a senior architect in the State Conservation Department, a forester of the Conservation Department's Division of Lands and Forests, a biologist of the U. S. Soil Conservation Service, a state park superintendent, and a park management assistant from the State Park Commission.

## The Workshop Program

Topics studied and discussed during the workshop include the following:

- selection of an area for a campground
- recreational appraisal surveys including a discussion of recreation enterprises on private lands and the potential development of recreational enterprises
- planning campground areas including roads and trails, water supply and sanitation facilities, utilities, campsite location and spacing, and play areas
- operating procedures, staffing, leasing or rental policies, advertising, maintenance, and program development

## Activities

Several teams of teachers investigated field problems on the 1,200-acre Camp Oswegatchie property. Each team developed preliminary plans for specific areas. One problem was the development of a relatively small family-type campground and recreation area near the larger lake on the property. All plans were developed to provide students attending the camp with opportunities to learn about recreational land development and management. The big challenge for recreational land developers is to maintain unchanged natural areas and still provide for the intensive use that will be made of the land.

Plans developed by teams of teachers were presented to the entire group for critique. Land clearing, fill, drainage, surface treatment, roads, entrances and signs were thoroughly discussed as well as the location and construction of service buildings.

One day was devoted to a field trip to visit selected private and public campgrounds. Visits were made to small privately owned areas and to state parks with facilities to accommodate large crowds. The group evaluated each on the basis of established criteria.

## The Outcome

By the end of the workshop, most of the teachers had formed some definite ideas about what was desirable in terms of site, facilities, operating procedures and staffing. They had begun to think in terms of the knowledge and skills needed by any private developer of recreational land, and they recognized some of the opportunities for employment in state and federal agencies. What may be even more important, they began to see how high school students could be prepared for employment in occupational courses in conservation.

Teachers' responses indicated that the goal of the workshop had been achieved. Another summer workshop is planned for 1970 to deal with basic surveying, road and ditch layout, leveling, and contouring. The State University College of Forestry at Syracuse University will again provide the instructional staff and administer the program.

# A New Program in Recreation and Wildlife Technology

WILLIAM B. PRICE  
Tri-County Technical Institute  
Nelsonville, Ohio

In September 1968, the new Tri-County Technical Institute at Nelsonville, Ohio, became the first technical institute in Ohio to offer a two-year program in Recreation and Wildlife Technology. This came about through the combined efforts of many individuals who saw the need for well prepared technicians in these fields.

Tri-County Technical Institute is ideally located for the program. Few, if any, locations in the state offer such a wealth of nearby public facilities. There are several state parks, state forests, and state wildlife areas within a half-hour drive of the school. Parts of Wayne National Forest, including three recreation sites, and the Margaret Creek Conservancy District are also near. Students can observe first hand the facilities and objectives of these agencies. Also available for field trips and study purposes are thousands of acres of land owned by a coal company.

## Curriculum

The instructional program in recreation and wildlife technology is designed to prepare students to be park managers, wildlife area managers, game protectors, and technicians in other related positions. All of these jobs involve outdoor work and require knowledge of ecology and field biology as well as basic labor, maintenance, and management skills.

The curriculum is divided into six quarters that span a two year period. Each student has twenty-five hours of classroom study and laboratory work per week. Upon successful completion of the program the student receives an Associate Degree.

Students receive one year of maintenance and management courses which include on-the-job training. They learn

the complete operation of a state park including cleaning latrines, painting, operation of equipment, maintenance of tools and equipment, maintenance of water and sewage systems, office procedures, preparation of budgets and work schedules, and rules and regulations.

Three wildlife courses include practical experience in game management at nearby state wildlife areas. Students learn to operate machinery used in game management. The techniques of game management are studied and practiced while in the classroom life histories and habitat requirements of game animals are studied and discussed.

Nature interpretation is an important part of the curriculum. The recreation and wildlife technician is in almost constant contact with people who ask questions about birds, trees, rocks, flowers, and the like. Students learn to identify and to interpret the scheme of nature. They learn how to conduct field trips with students, teachers, and the general public.

To provide the necessary background for the wildlife and interpretation courses each student receives three quarters of field biology in which identification and ecology are stressed. Plant and animal communities are discussed in the classroom and studied in the field. Aquatic communities are studied and the identification of fish and other organisms is accomplished in the laboratory and in the field.

## Related Courses

The curriculum has been designed to provide students with a variety of basic and general courses to reinforce the technical skills. Two quarters of mathematics including algebra and trigonometry provide the necessary

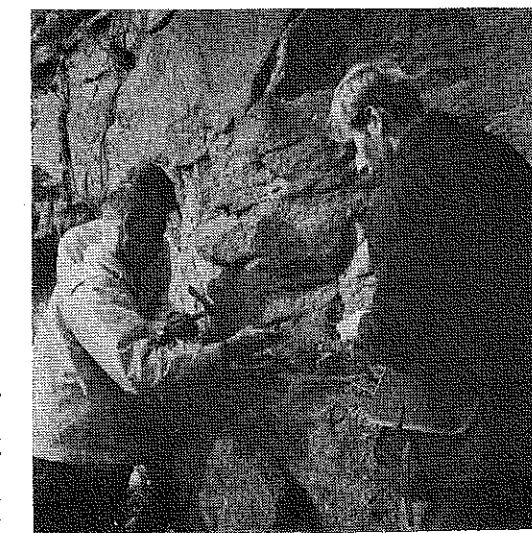
background for a surveying course. Three quarters of communications are an integral part of the program and consist almost exclusively of writing and speaking. Writing projects include research reports, technical reports, letters, and memos. Communications is especially important to a recreation and wildlife technician.

A variety of other courses complete the two-year program. A course in recreation covers the public and private agencies that deal with recreation resources. Science courses are botany, geology, and soil management. Archaeology and history, as they pertain to Ohio, will make the final location of graduates more meaningful. Economics and personnel management relate to recreation problems where applicable.

Several courses that students in recreation and wildlife take are also taken

(Continued on page 151)

Field trips are an important part of the instructional program in Recreation and Wildlife Technology at Tri-County Technical Institute. William B. Price (left) assists students in examining a rock outcrop on a geology field trip.



# AGRICULTURAL RECREATION: A New Challenge for Vocational Agriculture

THOMAS L. BOWLES, Director of Agriculture  
Round Valley High School  
Covelo, California

There is a need for persons who have understandings and skills dealing with the broad field of natural resources. To help meet this need, a program in Natural Resources Management and Agriculture Recreation has been established at Round Valley High School, Covelo, California. The program leads both to profitable enterprises for students and to full-time employment.

## The Trend

The trend toward agriculture recreation started as a result of the leisure stampede back to the land. This new influence on agriculture has several dimensions. It began with a few city friends of the farmer spending a quiet week in the country helping with the chores and picking fresh fruits and vegetables. There are also private gun clubs, duck and pheasant clubs, and campsites and the large corporation-type recreation subdivisions such as one 32,000 acre cattle ranch in California that is divided into 18,000 lots for vacation homes.



There are many opportunities for horse enterprises in agriculture recreation programs.

Why the growing interest in recreation areas? There is an increasing recognition of the economic value of natural resources due to a growing population, gradual increase of leisure time, improved highway systems, overcrowded state and national forests and parks, and the congestion and air pollution in metropolitan areas.

The result is a demand for outdoor recreation facilities and proper management of recreation areas. This, in turn, results in the urgent need for educational programs to prepare persons who can evaluate, develop, and put rural areas to practical and economical use for recreational purposes.

## Opportunities for Students

What does all this mean for high school agriculture students? Many farms and ranches are already marginal with increased production costs, taxes, and inflated land prices which discourage expansion. So the question of developing recreation enterprises on a farm should be considered. What, then, are the opportunities?

For students who have a family operation, recreation enterprises offer opportunities for additional income. One vocational agriculture student at Round Valley High School charges gun club members \$6.00 to dress a deer on the 30,000 acre ranch his father manages. He also guides jeep rides, packs hunters, saddles horses, and leads trail rides. He does this in addition to feeding steers, helping with the haying and grain operation, and assisting with a 300-head commercial cow herd. Another student breaks and trains horses, cuts fire wood for campers, and uses his tractor which is normally used in custom farming and on garden plots to grade out campsites.

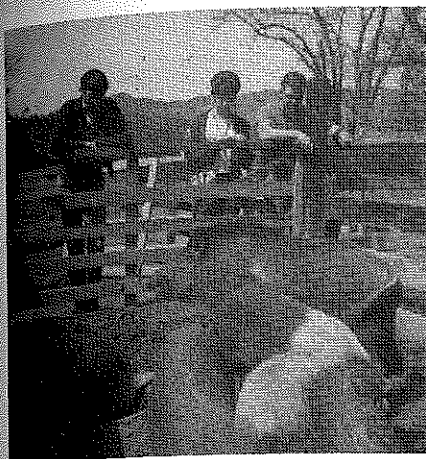
Another vocational agriculture stu-

dent spent part of the summer trapping some 600 feral hogs in the mountains. Many of the gilts will be bred to European boars to produce hunters. The feral boars were hunted this fall by hunters from as far away as Los Angeles with the student employed as their guide. A kill of 300 pigs per season at \$125 each is an income which parallels a large cattle or grain operation. Another enterprise for ranchers is hunting wild goats. As many as 400 have been imported from Texas for hunters who will pay \$125 for each goat killed.

## Instruction

What about classroom instruction and projects in vocational agriculture programs pertaining to agriculture recreation? Vocational agriculture programs provide for career preparation in resource management through already existing courses in forestry, water development, wildlife management, soil conservation and home beautification. Courses can be expanded to include pleasure horse production, guest ranch management, campsite development, analyzing local resources, state and national park systems, environmental control, and rustic landscape design.

The agriculture mechanics program which provides instruction in carpentry, plumbing, rope work, welding, fencing, and operation and maintenance of tractors and trucks could be expanded to include other mechanical skills appropriate to agriculture recreation. Supervised occupational experience programs could include wildlife projects such as raising pheasants, quail, and wild hogs and even projects such as duck barley grown just for Duck Clubs in California's Sacramento Valley.



Vocational agriculture students at Round Valley High School observe a European boar which will be used to produce wild hunting pigs on a 30,000 acre ranch.

The FFA program offers many activities helpful in an agriculture recreation program. For example, the Round Valley High School FFA Chapter stages a field day as a part of the agriculture recreation program that attracts people from throughout northern California.

## Establishing Recreation Enterprises

What is involved in establishing an enterprise in recreational and resource management? First, most farms and ranches have the necessary resources which include open space, free from

neon signs and telephone wires, and views of open meadows with grazing stock. Water is most important whether it be an open running spring, a small duck pond, or a lake. Trees and brush ground are important; wildlife and a variety of livestock are essential. Accessible roads are a necessity as well as sanitation and shower facilities. One cattle ranch in California charges \$6.00 a day for trailers and \$4.00 a day to pitch a tent. Recreationalists are willing to pay for quality if it can be delivered.

Next you need to ask whether you have the right attitude. You are going to have to tell a person from the city to keep the gate closed more than once. You need a basic understanding of human behavior. You should know if a ready market is available which includes research on population and competition from other recreational resources. The basic skills for repairing facilities are quite important. Financing for recreational facilities is becoming more and more available; however, it still is a high risk business. Very necessary is information on liability insurance and state and county ordinances. Also, the effect of the recreation enterprise on the farm or ranch operation must be considered—Will they get in the way during the rush season?

When investigating the feasibility of establishing a recreational enterprise, a tour of successful operations should be made. A small scale operation should perhaps be tried first.

A big share of the expansion of recreational facilities will take place on privately owned lands due to the fact that public lands cannot meet the foreseeable demand for outdoor recreation. This situation can promote a two-fold advantage to farmers. It offers a supplemental or full-time income for services on rural lands at a reasonable cost to the user, and it provides opportunities for farmers and city folk to learn more about each other.

## A Contribution

Vocational agriculture students have an important contribution to make to agriculture recreation. They possess an understanding of plant life, animals, trees, soil, wildlife, and the value of conserving natural resources.

People need to learn of their relationship to the total environment. There is no better place than a farm or ranch to develop an appreciation of open space and growing things and to learn the need for the wise use and conservation of natural resources.

## A New Program in Recreation and Wildlife Technology

(Continued from page 149)

by students in the Forestry Technology curriculum also offered at Tri-County Technical Institute. These courses include fire control, introduction to forestry, and dendrology.

## Students and Staff

Since this is only the second year of operation for the program, there have not been any graduates. The first year, 1968-69, forty-two students enrolled in recreation and wildlife technology. Twenty-seven students returned for the second year. Of those who did not return, several went into the military service, some took jobs, and a few

found the program not to their liking. Several students left because they would not or could not do the required homework.

In the fall of 1969-70, fifty-one students enrolled in the recreation and wildlife program. They are divided into three sections to keep the class size small. The background of students is varied. The great majority are from small cities and towns or rural areas. All areas of Ohio are represented. Their high school grades average between C and C-plus.

There are four staff members teaching recreation and wildlife technology. Our backgrounds include considerable work experience in recreation and wildlife. We have all had prior teaching experience.

## The Outlook

The Ohio Division of Wildlife and the Ohio Division of Parks and Recreation are enthused over the program. Each of these state divisions is interested in hiring graduates. Personnel in these divisions have been very helpful in suggesting courses and course content. During the 1969 summer ten students were employed in park and wildlife work, and several more could have had summer jobs.

We think that this technical program will prove to be successful and will improve the quality of the technicians employed in recreation and wildlife work. It is not a static program but will change with the times. We are always seeking improvements to graduate a better prepared technician.

# Diversified Experience Programs in Vocational Agriculture

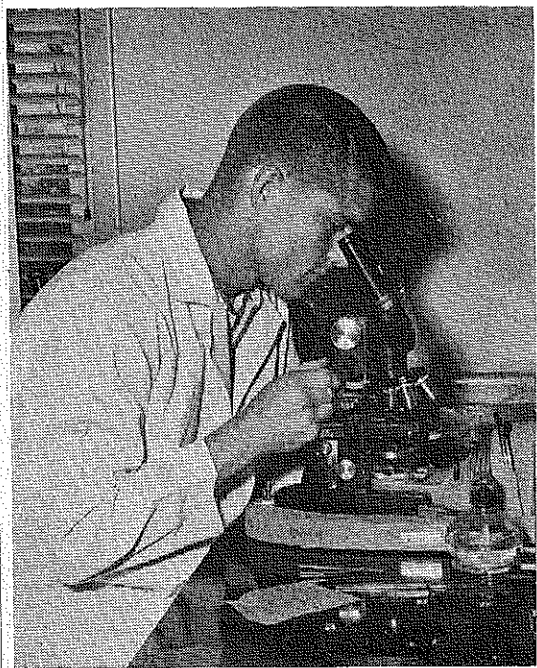
HAROLD BINKLEY, Teacher Education  
University of Kentucky



Harold Binkley

Experience programs are the foundation stones of the instructional program in vocational agriculture. Experience programs are at the center of the battle; not a skirmish on the fringe. The test of the 70's is wrapped up in how deeply those in the profession believe in experience programs for students.

For years agricultural students have had diversified farming programs—diversified experience programs in production agriculture. In each department, there has been a range from students having one project to students



A veterinary clinic serves as the experience program training station for this student. (Miller—Ohio)

having farming programs consisting of cash crops, livestock, and feed crops. In a sense, diversified experience programs in production agriculture have been on the scene for a long time.

## A Possibility

Are diversified experience programs in off-farm agricultural occupations a reasonable possibility? For several years now teachers of agriculture have provided programs in off-farm agricultural occupations in specialized areas such as horticulture, agricultural mechanics, and sales and service. Many teachers experience difficulty in developing enough training stations for all students to have experience programs in one of these special areas.

The question is: Can an instructional program be developed in which the experience programs of students are diversified, that is, programs which provide training in agriculture (class instruction and supervised experience) for students placed in several types and kinds of agricultural businesses, industries, and agencies? The answer is "yes" but with qualifications and limitations. Because labor laws limit the age for working students, the placement for experience programs will be limited for the most part to junior and senior students. In most cases, perhaps, they should be seniors. There are possibilities for starting experience programs with second-semester juniors that are continued in the senior year. This set-up provides an excellent opportunity to place students for a large part of their experience programs during the summer months between the junior and senior year.

Teachers are aware of the difficulties in providing group instruction in the classroom when students' experi-

ence programs are diversified. Teachers cannot deal in depth with a number of diversified experience programs. Teachers know better than to "drag before the class" the individual problems of the students related to many different experience programs. So the question: What can be done? The theory is easy; the practice more difficult.

## An Approach

The first step is to determine the common competencies needed by all students regardless of the diversity of experience programs. From this the teacher can determine the units of instruction common to the group and the objectives for each unit. A core of units of instruction might look something like this:

- Opportunities in Agricultural Occupations
- Orientation to the Training Program
- Organization of Agricultural Businesses
- Agricultural Mathematics
- Human Relations and Personality Traits
- Store Skills
- Salesmanship and Selling

These units seasonally scheduled throughout the school year might make up 60 to 70 percent of the class instruction time for group work.

But how can teachers plan for and make effective use of the other 30 to 40 percent of the total class time for individual study to meet the needs of students unique to their experience programs. This depends on how well the teacher can develop individual student-study guides based on the individual experience programs.

## Diversified Experience Programs

Suppose a teacher has 16 students in a senior class with one or more students with experience programs in the following areas: farming, garden center employee, agricultural machinery business, agricultural sales and service, veterinary aide, forestry aide, and meat cutter.

Students cannot be expected to make effective use of individual-study days unless the teacher provides guidance, motivation, and appropriate study materials related to their individual experience programs. If teachers had an individual student-study guide and training plan illustrated below for students interested in forestry and similar study guides and training plans for all the other students, how helpful would this be to students and teachers in providing a diversified program in off-farm agricultural occupations?

### INDIVIDUAL STUDENT-STUDY GUIDE

Area: Forestry Aide

Major Learning Objective:

To develop the knowledge and understanding needed by a forestry aide.

Suggested Learnings (knowledges and understandings):

1. Understand the importance of forestry in the local, state and national economy
2. Identify common trees
3. Identify lumber obtained from the common trees
4. Select planting sites for different trees
5. Select and order seedlings to plant
6. Care of seedlings
7. Plant trees
8. Thin trees
9. Understand weed control in tree production
10. Control underbrush
11. Use forest measuring instruments
12. Cruise and mark lumber
13. Scale standing timber
14. Scale logs
15. Scale sawed lumber
16. Prune trees properly
17. Understand fire control in forestry
18. Control harmful insects of forest trees
19. Control harmful diseases of forest trees
20. Collect data from range gauge
21. Serve on a road-survey crew
22. Serve as a smoke chaser
23. Select trees for harvest

### Understanding the Unit:

The occupation of a forestry aide involves a number of jobs dealing with timber production and marketing practices. Certain knowledge in Christmas tree production will also be of value to a forestry aide. Jobs may be with the State Forest Service, the National Forest Service, or with private timber companies. Much of the work will be outdoors and will require good physical health. A strong background in math will be of value in this occupation. The employee should have a love for outdoor living, as well as understandings and skills in basic forestry listed on page one.

### Instructions for Studying the Unit:

This is an individual student-study guide constructed to make learning easy and enjoyable. The learnings (knowledges and understandings) listed on the first page are needed to prepare you for the jobs you are to perform and the responsibilities you are to have when placed for an occupational experience program as a forestry aide. How well you learn the lessons in this unit will determine to a marked degree your success with your experience program.

These learnings can be accomplished in class by solving problems in the situations contained in this study guide. Each learning (lesson) in the study guide starts on a separate page. The following suggestions are made to help you in working through each lesson: (1) Read the *situation* carefully, (2) State the *problem-question*, (3) Use the *content* material to help you analyze the problem, (4) Check with the teacher your problem statement and analysis; after approval by the teacher, copy in the Vocational Agriculture Notebook, (5) Study the suggested and other *references*, (6) Arrive at a conclusion, (7) Evaluate the conclusion (can I take the conclusion and do the job, if it deals with a skill?), and (8) Write the conclusion in the Notebook. Remember, you will learn much from this study guide by working through each lesson carefully and thoroughly.

Learning No. 1: Understand the Importance of Forestry in the Local, State, and National Economy.

### Situation:

Since man first appeared on earth, he has been dependent to a large degree upon the forest for food and shelter. Just imagine what the room you are in would look like if suddenly all wood products vanished. In today's society more than six thousand products are made from wood. Almost all virgin timber has been cut or destroyed. Timber lands have been used for agriculture, towns, cities, factories, roads, dams, and numerous other purposes. Forests have been and are being destroyed by fires, diseases, insects, and man. If you were trying to get your friend to understand the importance of forestry in local, state, and national economy, what question would you like him to ask, so that you could discuss the matter with him?

### Problem:

### Content:

- Jobs in our local community which are related to forestry.
- Forestry as a major source of income to various groups of people.
- Dependance of industry on forests and forest products.
- Importance of forestry to our national prosperity, security, and happiness.

### References:

- An Introduction to Forestry.* Hilterbrand, (Balt Publishers, Lafayette, Indiana, 1967.)
  - Buyers of Forest Products.* Stewart and Winkworth, (State Department Conservation and Development, Raleigh, North Carolina, 1968.)
  - "Our Forest Bounty". American Forest Products Inc., Washington, D. C., 1962.
- A similar individual student-lesson guide would be provided students for each of the 23 learnings.

### Training Plan

The following jobs are appropriate to include in a training plan for a student placed for an experience program as a forestry aide.

- Select planting sites for different kinds of trees
- Select and order seedlings to plant
- Care for seedlings
- Plant seedlings
- Thin trees
- Prune trees
- Eradicate bushes
- Care for trees until started
- Use chemicals to control brambles
- Estimate timber
- Cruise and mark timber
- Scale logs
- Measure plots
- Identify forest insects and diseases
- Select chemicals to use to control insects and diseases
- Apply chemicals
- Clean and adjust sprayers
- Select trees for harvest
- Harvest trees
- Use fire-prevention measures
- Fight fires, dig ditches, construct fire-lanes, and use chemicals
- Collect data from range gauges
- Serve on road survey crew as chairman, rodman, note-keeper, instrument man
- Serve as smoke chaser, smoke jumper, recreation guard, and timber stand improvement crew

The challenge of the decade ahead is wrapped up in how deeply people in agricultural education believe in experience programs for students and to the extent the profession will meet the need for diversification both in the classroom and through experience programs. If twenty to thirty high quality individual student-study guides in the area of off-farm agricultural occupations can be developed, the challenge will be met.



This student's experience program as a forestry aide includes a study of pollination of pine trees. (U. S. Forest Service)

# Initiating an Agricultural Resources Program

DEAN McNEILLY  
San Joaquin Delta College  
Stockton, California

California junior colleges serve three major functions: preparing students for vocational-technical jobs after two years of formal training; offering lower division courses for students who plan to transfer to four-year colleges; and providing general education courses for adults and others who are interested.

San Joaquin County is the fifth leading agricultural county in the United States. It has a large agribusiness industry and serves an area with 1,000 miles of Delta waterways on the west to the high Sierras on the east. Job opportunities abound in agriculture, recreation, and natural resource development and management. In addition, there is need for well structured courses in conservation and related problems for the general public.

## Program Development

An advisory committee with members from all fields of farming, agribusiness, lumbering, and recreational interests has been used to guide the development of new courses and programs. The advisory committee is supplemented by ad hoc committees of individuals directly involved in the specific fields to help develop specialized courses. In addition to making the courses more meaningful and relevant,



Dean McNeilly

Dean McNeilly is Head of the Division of Agriculture and Natural Resources, San Joaquin Delta College, Stockton, California.

these advisers often serve as guest lecturers or provide resources for laboratory experiences.

Since San Joaquin Delta College is located in an area rich in natural and recreational resources, the College embarked on a program of expansion in this field. A strong agricultural program developed when the College was formed in 1963. In 1966, we started working with the Bureau of Land Management to acquire a parcel of land in the Sierras. We have since acquired patent to over 80 acres of timber land in Calaveras County, located approximately 60 miles from the College but in the service area of our district.

## Program Expansion

In the fall of 1967, we requested the services of Howard Sidney, a consultant for the National Academy of Science's Commission on Education in Agriculture and Natural Resources. Mr. Sidney recommended that the College's Agricultural Department should be made into a Division of Agriculture and Natural Resources and that the College should expand the curriculum in natural resources. We started a forestry course in 1966 and a course in conservation of natural resources in 1967.

Curriculum expansion, development of courses, hiring of additional staff, and development of our forest property have been based on need as seen by our staff, the advisory committee, and recommendation of staff members of the State Division of Beaches and Parks, State Department of Forestry, State Fish and Game Department and the U. S. Forest Service. Additional data and specific suggestions have come from publications of the U. S. Office of Education and studies con-

ducted at Shasta College in Redding, California and Modesto Junior College, Modesto, California.

## New Courses

We have added a full-time staff member in natural resources to the Division of Agriculture and Natural Resources. We now have nine full- and part-time instructors in the Division, plus one counselor who devotes his efforts to the Division. In 1969-70 we have courses in Introduction to Forestry, Conservation of Natural Resources (over 100 students are currently enrolled in two sections), Natural Resources Development and Maintenance, and a course in Park Systems and Management.

A Natural Resource Field Course has been approved in which students will travel to study the recreational and natural resources in California during Easter vacation. At the present time, the natural resource instructor is working with the State Department of Fish and Game and with various local game farms in the development of a Wildlife Production and Management course.

In developing new courses and programs we consider the objectives of the College, the needs of students, and job opportunities in the area. Next courses are developed using the professional knowledge of the staff and the help of professionals, technicians, and field workers to find out what the courses should contain and what information and skills students will need in industry. An instructional program developed along these lines, supplemented with as much practical laboratory experience as possible and guided by a knowledgeable, enthusiastic instructor, should prepare students for entry into jobs in the resources field.

# Use Local Facilities in Teaching Conservation

HARRY KARPIAK  
Teacher of Agriculture  
Salem, New York

During the past year vocational agriculture students at Washington Academy, Salem, New York, indicated an interest in learning more about the conservation of natural resources. They requested that the traditional courses of study in agriculture in grades 7, 8, 9, and 10 and the Farm Production and Management courses in grades 11 and 12 be modified to include additional units of instruction in conservation.

## Planning

A series of meetings was held with the Agricultural Advisory Board, school administrators and guidance counselors, and other resource people who could help develop and implement the objectives of our modified courses of study. The following objectives were developed for the revised courses of study.

—To allow students in grades 7 through 12 to develop a greater appreciation of our natural resources.

—To give students the opportunity to develop some of the skills needed for employment in the various areas of conservation.

—To expose students to the various career opportunities in the broad field of conservation.

—To meet the varied needs of students including students with special needs and the handicapped.

—To motivate students so that they could continue high school and meet graduation requirements.

—To introduce non-traditional methods of instruction for students with behavioral problems.

Courses of study were developed to include units of instruction in the following areas: wood lot management; timber stand management; pulping operations; safety in the woodlot; operation, maintenance, and safety of

chain saws; wildlife studies; soil and water management; forestry equipment and tools; heavy equipment; and surveying.

## Implementing

Local resources were used to implement the new courses of study. The Merck Forest Foundation consists of 2,600 acres of land in Rupert, Vermont, which is located twelve miles from the school. The Foundation allows us to use this facility as a land laboratory. The Foundation provided a forestry consultant from the New England Forestry Foundation and a key advisor from the Merck Forest Foundation. These two men work closely with our students in the field. The Foundation supplied all of the small tools and heavy equipment needed for effective instruction. A variety of equipment including chain saws, pruning equipment, transits, and bulldozers were provided. Using these facilities and equipment, students conducted a complete pulping operation during the spring and summer months.

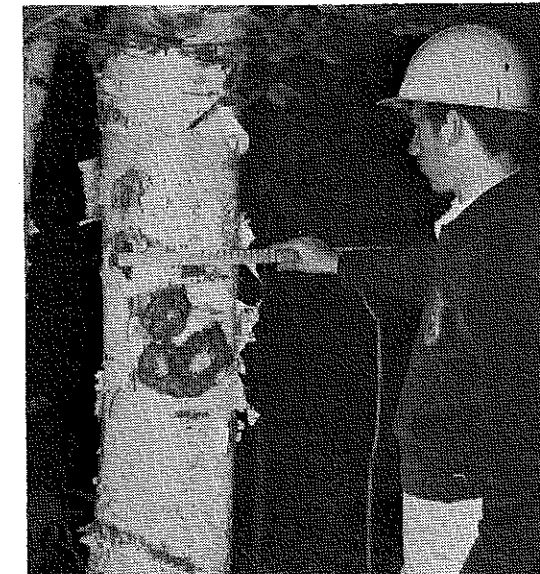
A private landowner offered the use of land adjacent to the school for a land laboratory. We are able to borrow equipment from our area occupational center and conduct units of study in this area which is within walking distance of the school. We have been contacted by several individuals in the school district regarding additional land that is available. We are making a list of offers from these people to keep on file for future use.

## Resources Are Available

There are many resources available that can be utilized to teach effective units of instruction in conservation education in and around local school districts. Students like working in the field and indicate a desire to continue to study conservation using land lab-

oratory facilities.

We have been fortunate in receiving excellent cooperation from the Board of Education, administrators, and faculty members in arranging schedules and transportation so that students could spend a double 45-minute period in the field. A special summer program allowed us to take a group of interested students for several days to work



A vocational agriculture student at Salem, New York, learns to use a cruising scale in a timber stand improvement project.

with heavy equipment at the Merck Foundation land laboratory.

It has been our experience that facilities are available locally to teach new courses that require land laboratory facilities. Teachers of agriculture should explore local resources to help implement new courses of study that enrich present curriculums in vocational agriculture to meet better the needs of students.

# BOOK REVIEWS

GERALD R. FULLER, Special Editor  
University of Vermont

**MIDWEST FARM PLANNING MANUAL** by Sydney C. James. Ames, Iowa: The Iowa State University Press, 1968 (Second Edition), 345 pp. \$5.95.

Successful farm management requires the use of data obtained from a broader frame of reference than one farm. Farming, as a true business operation, necessitates the application of technical data from a broad spectrum of production agriculture.

The *Midwest Farm Planning Manual*, extensively revised, contains current data, mainly in table form, regarding cropping systems, livestock program planning, labor requirements, machinery and equipment operating costs, farm structures, costs and prices received, credit, insurance, tax rates, cost and return data for production enterprises, management tips, and budgets. Most of the data presented are based on Iowa agriculture; however, substantial portions are from other midwestern states. The emphasis in this manual is toward presenting results of laboratory research and on-farm research which provide useful input-output coefficients as guides for farm planning.

Multi-colored index cards separate the ten sections of the manual, which is punched for a conventional three-ring notebook. The author an Associate Professor of Economics, is a member of the Farm Management teaching staff at Iowa State University.

Much of the content would be highly usable by vocational agriculture teachers in working with high school, young farmer and adult farmer students. Although the manual was prepared primarily for use by college students in farm budgeting and programming assignments, its potential use is much broader, having application for anyone involved in the management of production agriculture. Perhaps its greatest use, next to that for college

students, would be as a supplementary source for use by adult farm management instructors.

Hilding W. Gadda  
South Dakota State University

★ ★ ★

**SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION 1963-1965.** Compiled and Edited by Research Committee, Agricultural Education Division, American Vocational Association. Danville, Illinois: The Interstate Printers and Publishers, 1968, 138 pp. \$3.00.

From 1917 through the 1962-63 academic year, 3,248 abstracts of studies in agricultural education have been reported in a vocational education bulletin and sixteen supplements. After the U. S. Office of Education discontinued publication of the supplements, the American Association of Teacher Educators in Agriculture approved a project to continue the series. The publication contains 151 abstracts contributed by researchers and institutions in 32 states. More than 40 percent of the abstracts originated in New York, Ohio, Pennsylvania and Iowa.

The abstracts are indexed under four main categories: administration, guidance, instruction, and teacher education. The largest sub-category is "Occupational Requirements," which contains 29 abstracts.

The number of studies completed annually by agricultural education personnel has increased significantly since World War II. Only those studies that met the following criteria were selected for publication: contributed significantly to the solution of problems in agricultural education; employed an adequate design, used appropriate procedures, and involved significant data which were effectively summarized and resulted in justifiable conclusions; pub-

lished in a professional journal, available for loan from a university library, or available from a state department of education; and reported staff research or research submitted as a thesis or dissertation for a graduate degree. Only those studies were included in which references drawn were applicable to areas or regions broader than local communities. The number of studies focusing on the various aspects of off-farm or nonfarm agricultural occupations and on the competencies needed in carrying out work in agricultural occupations indicates a concern of agricultural education leaders for expanding the scope of agricultural education programs as well as improving the quality of instructional programs.

*Summaries of Studies* is of value to teachers, supervisors, administrators, teacher educators, graduate students, librarians and others concerned with research and development of agricultural education in schools from the elementary level through higher education.

George W. Wieggers, Jr.  
University of Tennessee

★ ★ ★

**YOUR ATTITUDE IS CHANGING** by E. N. Chapman. Chicago, Illinois: Science Research Associates, 1966, 217 pp. \$4.20. Teacher's guide \$5.55.

This book is tailored to the slow learner. It is written at the sixth grade level and is illustrated profusely. It reaches the student where he is. What happens to the student's attitude is more important than the knowledge he receives. For this reason the book is guidance centered. It focuses upon the student, not the subject.

*Your Attitude is Changing* supports the essential training in the basic subject areas. But it concentrates on motivating students to abandon indifference and begin to participate in order to develop self-confidence. Experts agree that there is an educational gap between the slow learner and the world of work. With the support of dedicated teachers, this book can contribute to closing the gap.

The book is organized into three separate parts. Part I. *Your Attitude*—The initial ten chapters acquaint the student with the concept of positive attitude and rapidly transfers him to a participation situation designed to develop a more positive attitude toward

himself, school, and work.

Part II. *The Job World*—The second part of this book, consisting of nine chapters, focuses on what the student will do with his life. Where can he find a job that will make him happy? What kind of a job should he get to earn the money he needs? Where is the right job? How can he find it? The author skillfully uses the interest the student has in getting a job to help the student prepare himself to be ready to assume the job which has been chosen. Competency in reading, writing, and computational skills is stressed. One chapter deals with the job interview.

Part III. *Job Success*—The last eleven chapters in the book show the student how to keep a job and how to move from a starting job to a better one.

Teachers of agriculture should not hesitate to order a copy of this book for the school library. An examination of the book will convince every teacher who teaches disadvantaged students that the book should be in the hands of each class member. A teacher's guide has been prepared for the book that suggests teachings techniques that may be used by teachers.

Robert W. Walker  
University of Illinois

★ ★ ★

**PLANT SCIENCE** by Jules Janick, Robert W. Schery, Frank W. Woods and Vernon W. Ruttan. San Francisco, California: W. H. Freeman and Company, 1969, 629 pp. \$12.00.

A worldly view of the scientific, technological, and economic relations of crops to man is presented in this book. A total picture of the crops of man encompassing the traditional agricultural disciplines of agronomy, horticulture and forestry, the interrelationship with man's history, his cultures, political science and economics gives the complete picture as viewed by contemporary agricultural scientists.

The book, designed as a text for introductory university level courses in plant science, would be appropriate for junior college programs. It is recommended reading to all teachers of agriculture as a source of understanding modern plant agriculture. The text would make good reading for peace corp trainees and persons training in almost any discipline in agriculture. It

provides a good background before specialization in any area of plant science.

Part I entitled "Plants and Men" sets the stage by interrelating historical patterns with modern thoughts on agriculture development. Sub headings include crop plants and world affairs, energy and crop production, food and human needs, and world population.

Part II entitled "Nature of Crop Plants" has chapters on origin and classification, structure and function, growth and development, and reproduction and propagation.

Part III discusses the plant environment of light, heat, soil, water and climate as they relate to crop development. "Strategy of Crop Production," the title of Part IV, considers the procedures of plant agriculture. Economics, trends, markets and trade policies are discussed in Part VI.

This publication has placed plant agriculture in a modern perspective integrating the plant, as a scientific phenomenon, with its role in agriculture.

Norman E. Pellett  
University of Vermont

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POD Form 3526 May 1968

# Technical Education in Ornamental Horticulture

JAMES E. FITTS  
James Connally Technical Institute  
Waco, Texas

The changing social structure has shown the necessity for a change in agricultural education in high schools and colleges. The increasing importance of ornamental horticulture and the need for skilled workers in ornamental horticulture illustrate a major change occurring in agricultural education today.

The nursery industry is an ever-increasing agricultural business. As the nursery industry continues to grow, there will be an increasing need for properly prepared personnel for the industry. The floral industry is faced with a decline in employees trained in floral skills.

## Technical Education

Due to the increasing needs for specialized persons in the nursery and floral industries, the newly formed James Connally Technical Institute was asked to develop a program in floriculture and ornamental horticulture technology. James Connally Technical Institute was created by act of the Texas Legislature in 1965. The act authorized the Board of Directors of Texas A&M University to establish an institution which offers courses of study in vocational and technical education for which there is a demand within the state.

The deactivation of James Connally Air Force Base near Waco, Texas, provided excellent facilities for developing a variety of technical education programs. The results to date provide convincing evidence to support legislative action to appropriate funds to purchase the entire air base, including housing, buildings, runways, hangers, and auxiliary facilities. This action established James Connally Technical Institute as an educational institution within the state's educational system with a distinctive and unique role.

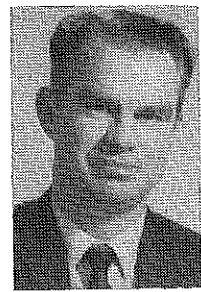
## The Program

The two-year course in floriculture and ornamental horticulture began in September 1968. These courses were established on the recommendations of nurserymen, florists, and landscape men. The demand for workers in these fields far exceeded the number available for employment. A state advisory committee was formed to assist in determining the content and objectives of the curriculum.

The program in ornamental horticulture includes a two-year curriculum covering both nursery and floral courses. Courses are offered in plant propagation and identification, floral and landscape design, indoor landscaping, greenhouse management, nursery and garden center management, flower shop management, nursery plant production, plant insects and diseases, floral crop production, landscape plants and materials, and horticultural and floricultural equipment.

Placement training is a required part of the program. Greenhouse operators and nursery and garden center managers cooperate in providing this training. Students are paid during this phase of their training by employers.

Students in the ornamental horticulture curriculum at James Connally Technical Institute work in modern greenhouse facilities.



James E. Fitts

James E. Fitts is Head of the Department of Floriculture and Horticulture at James Connally Technical Institute, Waco, Texas.

The instructor works with the students and employers in supervising the training.

## Facilities

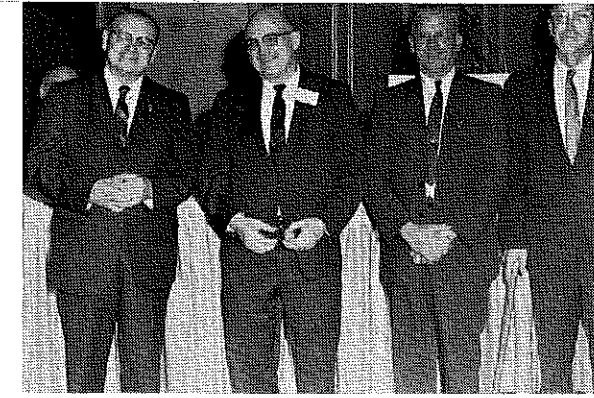
The 2,200 acre campus contains over 100 buildings for instructional purposes which house air-conditioned classrooms, laboratories, shops, and a library. There are dining facilities, health services, and dormitories for both men and women. Housing for married students is available on the campus and in the area.

Recreation facilities include two swimming pools, tennis courts, a golf course, a movie theater, baseball diamond, and gymnasium. There are also a student center and a chapel on the campus.

In the fall of 1969, James Connally Technical Institute became the Connally Campus of Texas State Technical Institute. Previously, the Institute had been part of Texas A&M University. The recent session of the Texas Legislature enacted legislation which separated the Technical Institute from Texas A&M University and established a technical institute system with campuses in Waco, Harlingen, and Amarillo.

(Right)

Honored by the Iowa Vocational Agriculture Teachers Association during their 1969 Annual Conference for more than 30 years of service were (left to right): A. Edwin Thoreson, Vocational Agriculture Teacher, Estherville; Everett L. Clover, Community College Director of Agriculture, Muscatine; Marshall F. Grosscup, Vocational Agriculture Teacher, Jesup; and Clarence E. Bundy, Professor of Agricultural Education, Iowa State University. (Photo by John A. Scott, Sumner, Iowa)



# News and Views of NVATA

JAMES WALL  
Executive Secretary



## Alpha Gamma Rho Scholarship

The Educational Foundation of Alpha Gamma Rho offers annually a cash scholarship of \$300 toward a full term course at any suitably accredited college of agriculture for one vocational agriculture student. Each State Supervisor of Agricultural Education has the privilege of nominating one student annually for the scholarship.

The official entry form is available from the NVATA, Box 4498, Lincoln, Nebraska 68504 or The Educational

Foundation of Alpha Gamma Rho, 323 Cornell Avenue, Des Plaines, Illinois 60016. Entries are due at the NVATA office no later than July 1 of each year.

The winner of the 1969 scholarship is Billy C. Bellamy of Moro, Oregon. David Rodibaugh of Rensselaer, Indiana was the first alternate and Donald Breece of Delaware, Ohio was the second alternate. Applications were received from the following additional states: Arizona, Nevada, Utah, Washington, Kansas, New Mexico, Oklahoma, Minnesota, South Carolina, New Hampshire, New York, Vermont and West Virginia.

## NVATA-USOE Committee Reports No Progress

"It appears that all efforts have fallen upon deaf ears in the Office of Education," states Dr. James Durkee, Chairman of the NVATA-USOE Committee. The latest of several meetings in Washington during the past year was held on September 15. Dr. James Allen, U. S. Commissioner of Education, had asked Dr. Grant Venn to invite the Committee to meet with officials of the Bureau of Vocational Education. Dr. Allen did not attend the meeting.

In addition to Dr. Durkee the Committee members present were Bill Smith, President of NVATA; T. L. Faulkner, President of NASAE; Alfred Krebs, Past President of AATEA; and

Don McDowell, Executive Director, National FFA Foundation Sponsoring Committee. The U. S. Office was represented by Dr. Venn, Associate Commissioner for Vocational Education; Dr. Leon Minear, Director of Vocational and Technical Education; Neville Hunsicker, FFA National Advisor; and William Paul Gray, FFA National Executive Secretary.

According to Dr. Venn, his hands seem to be tied by shortages of personnel, the business analyst, the Bureau of the Budget, and the hierarchy within the Department of Health, Education and Welfare. The solution that he suggested to the committee, that of legislation to provide funds for the staffing and operation of the Bureau of Vocational Education, does not appear to be a logical answer to an administrative problem. Dr. Venn has evidently forgotten that he intimated at a meeting with the committee on June 30 that organizational changes would not be made even though an increase in staff occurred. Granting that the present staff is inadequate, is it good common sense that two men who are devoting half-time to agricultural education should report to separate heads within the Division?

The Committee is presently giving thoughtful consideration to new avenues of approach including the possibility of asking Congress for special legislation for vocational agricultural education.

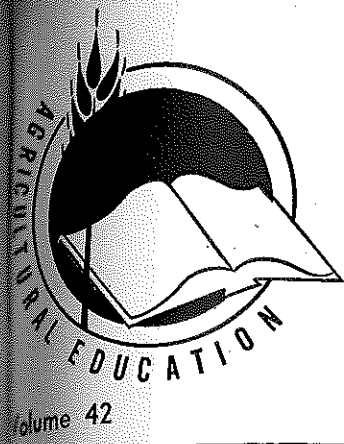


L. Schettler (left), Past President of the Association of Vocational Agriculture Teachers presents a gavel to 1968-69 retiring President E. Witt during the Association's 1969 Convention. (Photo by Charles Harn, Fairview, Illinois)

# Agricultural Education

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Four individuals from Minnesota were among the Honorary American Farmer Degree recipients at the 1968 National FFA Convention. From left to right are: Phillip R. Toste, U. S. Office of Education, Washington, D. C.; C. A. Anderson, retired state staff member of Littlefork, Minnesota; Emery Kerch, Vocational Agriculture Teacher at St. James, Minnesota; and Leo L. Knuti, a former vocational agriculture teacher and state staff member in Minnesota and retired Head of Agriculture Education at Montana State University, who now resides in Seal Beach, California.

## Stories in Pictures

ROBERT W. WALKER  
University of Illinois



Prairie Heights vocational agriculture students prepare for an airplane ride and aerial view of their home and school farm as a part of their study of soil and water conservation. (Photo by Ned Stump)



Vocational agriculture students in Stone County, Mississippi, have placed safety signs at strategic locations in the community. This sign on tractor safety is located on the school grounds near a public highway.



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