AGRICULTURAL EDUCATION

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Theme — Horticultural Occupations — Learning to Beautify

Supervision of the student’s Occupational Experience Program gives Mr. Paul Holley (front), District Supervisor and Mr. Joe Scarborough (left center), Vo-Ag teacher, an opportunity to discuss the same program as well as career goals with a student and his father. (Photograph courtesy of Jim Jahnke, Auburn University.)

NOON LUNCHEONS POPULAR WITH MSU GRADUATE STUDENTS — William L. Bost, Director of the Mississippi Cooperative Extension Service, is shown speaking to graduate students and faculty members during a boxed lunch. The catered box-lunch seminars have been well received by students and faculty in the Department of Agricultural and Extension Education, Mississippi State University. (Photograph by Jasper S. Lee, Mississippi State University)

This Hi-Boy was recently purchased to facilitate spraying soybeans and peanuts. Albert Lampley keeps his equipment in good operating condition, according to principles taught in Adult Education classes in Cooke County, Georgia. (Photograph courtesy of Dr. Ina Hicks, The Fort Valley State College, Fort Valley, Georgia.)

AGRI-BUSINESS SIMULATION IN GRADUATE EDUCATION — Graduate students in the Department of Agricultural and Extension Education, Mississippi State University, practice using the agri-business mini-laboratory established in the Department. The mini-laboratory is used to develop technical competencies in agri-business and to study appropriate techniques and methods of teaching agri-business. The students are (from left to right): Reville Miller, Larry Martin, and William Patterson. (Photograph by Jasper S. Lee, Mississippi State University.)

Dr. Edgar Persons, University of Minnesota, gets an idea across by utilizing a field trip to a farm. Vo-Ag teachers enrolled in his Adult Farm Mgt. course can readily adapt to Dr. Persons’ technique. (Photo by Mr. Sung Soo Kim, University of Minnesota.)

FEATURING
NEW EDITOR
INTERIOR PLANTSCAPING
HORTITHERAPY
INTERNATIONAL EMPLOYMENT?
FFA SALUTES LEGISLATURE
TRACTOR SELECTION
GRANDFATHER’S COLLECTION
THANKS!
Horticulture occupations are becoming more numerous every day in our economy. We become especially aware of them in December as we see poinsettias and other Christmas floral arrangements. More and more ag programs include horticulture as a part of the program, whether it be just a small undertaking with a student-made greenhouse, or an entire program with a full-time horticulturist in a multiple teacher sit- uation, or some other variation. Horticulture, with its many facets, such as landscape design, greenhouse operation, floral design and many others, has become a multimillion dollar business and there is great demand for graduates from our horticulture programs. The articles in this issue will give you an idea of the diversity of programs there are around and perhaps will give you some ideas for your programs.

THANKS FOR ALL THE SUPPORT
I want to personally thank each of you contributors and readers of the Agricultural Education Magazine for your fine support during the past three years. You have made my job easier. I must say, however, that there are so many good ideas in fact, that it was extremely difficult to decide which articles I would publish and which I would have to reject or hold. I wish I could have published all of them.

I requested ideas from you at different meetings, from the NVATA Convention to state conferences. You gave me good ones which resulted in the "Center-pag e feature," the "This Worked for Me" section, the "Grand Rounds" column, and other special features. These ideas, along with the good pictures you supplied, helped spice up the Magazine and make it more attractive.

(Continued on Page 124)

INTRODUCING - THE NEW EDITOR

Jasper S. Lee will become editor of the Agricultural Education Magazine, beginning with the January 1, 1980, issue.

Lee, a native of Mississippi, is currently Head of the Department of Agricultural and Extension Education at Mississippi State University. His background includes bachelor's, master's and doctorate degrees from Mississippi State University and the doctorate from the University of Illinois. He has previously taught vocational agriculture in Mississippi and has been a member of the faculty in Agricultural Education at Virginia Polytechnic Institute and State University.

The new editor has been an author and editor of numerous publications. These include authoring books published by the Gregg Devi- sion, McGraw-Hill Book Company, and the Interstate Printers and Pub- lishers, serving as consulting editor of agribusiness for the Gregg Divi- sion of McGraw-Hill; and editing The Journal of the American Association of Teacher Educators in Agriculture for a three-year term.

According to Lee, the format and editorial management of the Maga- zine will remain essentially the same. One change will be the ap- pointment of a theme editor for each issue. The purpose of this change is to ensure adequate and systematic treatment of each theme.

Suggestions about the Magazine and articles should be sent to:
Jasper S. Lee
P.O. Drawer AV
Mississippi State, MS 38762

Jasper S. Lee
CONTINUED

THANKS!

We had a few problems along the way, such as reduced numbers of subscribers and costs exceeding income. The first problem was fixed as the new president and CEO, a business manager with the help of many state supervisors and state teacher associations. The trend in subscriptions is not upward, but we will need continued support in this area. Encouragement of new subscribers from post-secondary ag programs can give us a boost in this area.

M & D Printing Company helped us meet the cost increase by the Magazine for almost half the former printing cost and giving us an excellent quality publication too. Many thanks to Mary and Dick Fingfeld and all their people for their help in this area.

One highlight of my term as editor was the production of the January, 1979, 50th Anniversary Issue. The tremendous support from former editors was evidenced by a contribution by every single living former editor. Looking back, I realize that I have been publishing down through the years impressed me with our rich heritage in Agricultural Education as reflected by the Magazine.

BOOK REVIEWS


This book provides an excellent overview of the major aspects of American forestry and serves as an important source of information concerning the industry. An examination is made of career opportunities in forestry, requirements for a forestry career, and training opportunities for acquiring the technical skills. That and a synopsis of the author's perspective of forestry - yesterday, today, and tomorrow - set the stage for the more technical aspects of the book. Help is given on characteristics and grow requirements of forest trees and on the composition and distribution of forests. The importance of applying silvicultural systems to create the desired kinds of forests in shortage areas farther to the point of the practice of forestry - is stressed.

Many of the chapters in the book are helpful in giving specific directions in the conduct of the forestry measures in the field. Illustrations of these chapters dealing with the National Forest "Forest Management and timber Production Finance," "Logging and Measuring Forest Products," "Forest Protection from Fire, Insects, and Disease," and "Processing and Marketing Forest Products". The book is well illustrated with pictures, tables, charts, figures, and sketches.

Mr. Stoddard, the author, is a Natural Resources Consultant and Tree Farmer. He previously served as Director of the School of Forestry at the University of Michigan and is a graduate of the University of Michigan, where he served as a research associate for Resources for the Future. He is also a long time member of the Society of American Foresters.

The book is recommended for use in forestry courses at the technical institute or college level. It would also be useful for forestry book for the vocational agriculture student and teachers at the high school level. It is also a valuable resource for forest owners and individuals interested in forestry.

Joseph E. Olds
North Carolina State University
Raleigh, North Carolina

SEND ALL ARTICLES TO THE NEW EDITOR — DR. JASPER S. LEE
Head, Agricultural and Extension Education Department
P.O. Drawer A, Mississippi State, MS 39762

COMING ISSUES COMING ISSUES COMING ISSUES

(JUST SUBMIT 2 COPIES OF YOUR ARTICLE)

2½ months in advance of Theme to allow publication time.

JANUARY — The New Decade
FEBRUARY — Funding the Local Program
MARCH — Making Yo-Ag Relevant to the Needs of Agriculture
APRIL — Agricultural Competency Programs
MAY — Experiential Programs
JUNE — Summer Programs

JULY — Technology in Agricultural Industry
AUGUST — Using Realia in Instruction
SEPTEMBER — Safety Education
OCTOBER — Programs in Agriculture
NOVEMBER — Programs for Exceptional Students
DECEMBER — Facilities

THE AGRICULTURAL EDUCATION MAGAZINE

BEAUTIFYING THE COMMUNITY THROUGH PLANTSCAPING

Professional plant care and plant leasing is a profitable service in many ways. The easiest way is to sell or rent plants to customers, and in addition, may provide routine maintenance. Some customers want to have house plants or low maintenance, perhaps for special shows, seasonal displays, or social events is also a common practice.

The sale of plants indoors is not only fashionable; it is a psychological necessity. In a barren and unspiring business environment, the decorative plants serve many purposes. Lush green plants function as decorative elements which make the interiors more pleasant. They add an air of warmth and hospitality to even the dullest of rooms. Many business organizations have discovered that indoor gardens are effective for public relations.

STUDENTS IN PLANT LEASES

Students in the sophomore horticulture program of Westland High School gained first-hand experience in the lucrative interior plant leasing business by furnishing the community's post office, library, nursing home, etc., with a wide range of plants and individual forest owners would find it useful.

Joseph E. Olds
North Carolina State University
Raleigh, North Carolina

Horticulture student, Daryl Stark, grows overgrown interior plants at the community post office.

Some larger materials were donated by local horticulture firms. Students managed this project from beginning to end, starting with the initial contact with an individual or business to arrange for the placement of plants. Students selected and placed plants, and cared for them on a regular basis. Periodically throughout the term, students were evaluated on how well the plant care was provided. The teacher visited each site at various times to discuss problems and inspect plants. Students were placed rated for their class norm, reliability, and attitude.

PROJECT BENEFITS

Planned benefits from the project were abundant. Students learned how to select plants for a given interior situation. They learned that certain plants require particular environments to thrive, and that others will survive even in the least favorable of conditions. They discovered that in addition to light, the growing medium, temperature, and type of container all played a part in the frequency of watering and amount of fertilizer needed. They acquired a skill at recognizing the early symptoms of cultural problems or insect infestations. In addition, they became more knowledgeable of the aesthetic qualities of plants, of the ways plants can be used to add richness and vitality to the indoor environment.

Unexplored benefits of the project extended beyond the scope of the project. The community became a teaching laboratory. Students developed an increased awareness and pride in their community and the environment. They were meticulous in removing trash and litter from around their plants. The community certainly became more aware of the horticulture program.
Developing A Horticulture Program in the Metropolitan Area

by Everett T. Titusworth
Horticulture Instructor
Occupational Education Center
Dawson, Georgia

When the Occupational Education Center opened in the fall of 1973, horticulture was one of fifteen programs offered to students in DeKalb County, one of several school systems in the metropolitan area of Atlanta, Georgia. There were basically three areas that had to be considered in planning the program: curriculum, supervised occupational experience programs, and the FFA.

First, a description of the facility is in order. The Occupational Center is an area vocational school serving thirteen DeKalb County high schools. Students are provided transportation to the center for two and one-half hours of classes either in the morning or afternoon. The other portion of their school day is spent taking courses required for graduation from high school. Six quarters are required to complete the horticulture courses offered. Students may elect to attend O.E.C. in the tenth, eleventh, and twelfth grades.

CURRICULUM

The curriculum was basically outlined for the program by the Georgia Horticulture Curriculum Guide. However, some changes were made so that a course taught in a metropolitan area is different than one taught in a rural area. To help decide these changes, a survey of the local horticulture business community was conducted to determine horticulture related employment, and an advisory committee was established. As a result of the survey, certain subjects were dropped and new subjects added. For example, the curriculum now includes a class called "Greenhouse Production and Management." By the end of the fall quarter, the students usually have their summer plans mapped out. Some use their time to get additional work experience and earn money, and others continue their home projects.

The supervised experience programs are necessarily different in the metropolitan area. Many of the students have been employed in the field, and were able to use their new skills to help them succeed. A number of students also worked in greenhouses, nurseries, or retail stores. One student even worked for a landscape architect. Students were able to use their new skills to help them succeed in the field.

As the weather changes around Thanksgiving, we move into greenhouse production and floral design for the winter quarter. Many small projects are completed before the winter months. Each student uses a terrarium, wreath, centerpiece, and a potted plant for their project. These students are not only learning about horticulture, but they also get a chance to work in the field.

CONTINUED METROPOLITAN AREA

by Everett R. Titusworth
Horticulture Instructor
Occupational Education Center
Dawson, Georgia

employment. The advisory committee was able to help determine future trends and suggest certain areas to emphasize. In the final analysis, the following areas were included:

I. Landscape Establishment and Maintenance
II. Turf Establishment and Management
III. Nursery Production and Management
IV. Greenhouse Production and Management
V. Floral Design
VI. Vegetable Gardening

The survey indicated that the landscape businesses would provide more jobs than the other areas. Therefore, when the plans for the program were complete, landscaping was a part of the four areas of specialization.

In the fall when school opens, landscape establishment is taught, and one major project is conducted on an area of the school grounds. The students learn to use the equipment as they propagating and grow an area of the lawn. In addition to growing, the lawn, they plant several varieties of shrubs and trees in the area.

The FFA

In 1973, when the program started, very few if any of the students had heard of the FFA. The club was simply called "The Horticulture Club," however, FFA activities were mentioned. By the end of the school year, an interest had developed since they were not able to participate in events such as the State Horticulture Contest. The chapter was organized the next year and 1976 membership has been maintained for the last two years.

Muck has been used in the past few years about FFA membership, especially horticulture student membership. It may be more difficult to have good membership in an urban area than in a rural area. On the other hand, the potential for involvement may be greater. Many urban students do have the time and leadership ability.

Our chapter's efforts are centered around our FFA club's goals. Every contest and event does not fit into our program; so we select activities that are in our curriculum. To quote a supervisor, "It's like a menu -- you select those items that satisfy your needs." Below are several activities that have worked well in our program:

1. State Horticulture Contest
2. Building Our American Communities
3. Home Improvement Proficiency
4. Landscape and Turf Proficiency
5. Nursery Proficiency
6. Floriculture Proficiency
7. Soil Judging Contest
8. FFA Quiz Contest
9. Tractor Driving Contest
10. National Chapter Award Program

SUMMARY

The horticulture program at the Occupational Education Center is constantly changing to keep the program up-to-date. The curriculum, supervised experience program, and the FFA are three essential parts to any vocational program.

INTERIOR PLANTSCAPING

Because many of the plants were placed in the offices or businesses of students' parents, FFA membership also benefited. Students acquired skills in human relations by working with the public who were, in some cases, quite fussy about the plants; and they learned the necessity of providing reliable and regular service. In the initial stages of the program, more than one plant was lost simply because the students forgot to water it. Students began to see why we were learning in the classroom, because they could actually put their newly developed skill and knowledge into immediate use. Several students acquire full-time positions in interior plantscaping after graduation.

Mark Dilley, former horticulture student at Westland High School, is now an assistant store manager involved with both interior and exterior landscaping.

December 1979

The AGRICULTURAL EDUCATION Magazine

126

127
Horticulture Therapy: An Occupation Which Teaches the Art of Living

by Jim Ethridge and Paul Hemp
Teacher Educators
University of Illinois
Urbana, Illinois

Horticultural therapy helps people achieve a better understanding of themselves and the world around them through the media of horticultural activities. Gratification, a feeling of accomplishment, and release of tensions are some of the end products. Horticultural activities help people in psychological, educational, social and physical adjustment by offering a needed relationship with living plants and nature. Through horticulture, people find relaxation and enjoyment, and this publishing of this curriculum would be accepting with confidence a job at any institution to develop a horticultural therapy program.

Horticultural therapists are professionals who work as part of a treatment team within institutions or on planning boards for community-based programs. They are registered nurses, occupational therapists, psychologists, social workers, artists, educators, horticulturists, and other professionals. Therapists make use of greenhouses, nurseries, gardens, greenhouses, decorations, and plants to enhance the quality of life for patients. Horticulture therapy programs can operate in four basic ways: group therapy, individual therapy, programs based on horticultural activity, and work adjustment.

WHAT ARE THE QUALIFICATIONS? FOR BECOMING A HORTICULTURAL THERAPIST?

Some of the qualifications that a horticultural therapist should have are:
- Compassion and a desire to work with special populations of people.
- Patience with others. (Concluded on Page 142)

Conducted on Page 131

THE AGRICULTURAL EDUCATION MAGAZINE

VOCATIONAL AGRICULTURE STUDENTS DEVELOP A NATURAL TRAIL

by John D. Todd
Chairman, Agricultural Education
University of Tennessee, Knoxville

John H. Hardin
Vocational Agriculture Teacher
Unaka High School, Elizabethton

Unaka High School in Carter County, Tennessee, is in an unusual location in the foothills of East Tennessee. Included in the school property is an eighteen-acre wooded area. The school was built twelve years ago, and the surrounding wooded section was not altered by construction or mechanization. An ideal situation existed in which to design and develop a natural trail that would preserve the ecological features of the land in its natural state.

The vocational agriculture students in the school undertook the building of a natural trail as a project. The trail is intended to be an outdoor museum for teaching ecological features to forestry, ornamental horticulture, wildlife conservation, and biology classes. It is to serve as a teaching laboratory for vocational and academic students, and for amateur enthusiasts. It is intended for use by other groups such as garden clubs, Boy Scouts, Girl Scouts, 4H clubs, church groups, and other community organizations in addition to its use by high school students. The Unaka Future Farmers of America Chapter assisted with the undertaking as a community service project which had much educational value for high school students.

Two person resources were used in developing the natural trail, the State Forester’s Office, and the Soil Conservation Forester for the State of Tennessee. The project was directed by the vocational agriculture teacher.

FEATURES OF THE TRAIL

The following features were included in the project:
1. A loop-type trail was constructed which passed by many points of interest as possible. The length of the trail permitted a class to move leisurely through it during a one-hour period. A gate was also constructed at the entrance to deter the riders.
2. The trail was cleared of obstacles and debris to an average width of about four feet. A layer of wood chips or crushed stone was used as surfacing material to cover the trail.
3. To prevent "dirt trail" bike riders from using the trail, a few small trees were felled across the path. Persons walking the trail can step over the felled logs, but motorized equipment cannot cross them. A gate was also constructed at the entrance to deter the riders.
4. An outdoor amphitheater was constructed about midway on the trail. It is a rustic facility, built of natural rock found in the area, and will seat about 80 persons. The amphitheater is used for group meetings on tours, or for outdoor community activities such as a natural environment.
5. Secondary trails were constructed leading from the main trail to points of interest.
6. A main entrance sign, stating the name of the trail and points of interest along the route, was constructed.
7. Trees to be studied were numbered using fluorescent paint. The numbering facilitates the use of a notebook developed for studying the trees. Also, it was cheaper than making signs for each tree.
8. The trail was not limited to the biological aspects of the environment, but special geological features were also noted.
9. Bird houses, bird feeders, and squirrel nesting boxes were placed at suitable locations within the area to increase animal population and to add interest to the area.

STUDENT INVOLVEMENT

The project was carried out primarily by vocational agriculture students at Unaka High School. They cleared the brush by using the tractor and brush cutter and used their hands along the route. In some cases, trees were removed, cut, and delivered to lumber and used in the project. Rocks and other obstructions were removed from the trail, but as many as possible of the natural obstructions were saved to preserve the original setting and topography.

The students built the amphitheater with little outside assistance. The cement and sand were furnished by the Carter County Board of Education. The next step in the project was to identify the trees along the trail. This became an undertaking for the following year. Most of the trees that had been numbered for study along the trail. With the assistance of... (Concluded on Page 131)
Horticulture is a relatively new area of agriculture. The Future Farmers of America (FFA) is designed for students in all areas of agriculture. They provide instruction in agricultural production, agricultural mechanics, agricultural supplies and services, agricultural products, horticulture, forestry, agricultural resources, and other types of agriculture. It is common for students to classify FFA as an organization only for farmers. Horticulture students often feel FFA has nothing to offer them.

**IMPACT**

Vocational youth groups are an important part of the vocational curriculum. "Student vocational organization activities are designed to be part of the vocational curriculum and will assist with the personal growth of the student." (Establishing a Student Vocational Organizational Module H-2, 1977, p. 7) "Vocational youth organizations are tools of instruction which encourage through activities what the student learns in the classroom and on the job. Integrated chapter can improve the effectiveness of every vocational program and help students become more employable." (Illinois Vocational Youth Organizations Handbook, p. 1). Since vocational youth organizations are a necessary part of the vocational curriculum, horticulture students need to be given the opportunity to participate in an effective youth organization.

Following is a list of three alternative strategies which horticulture instructors have used in response to the question, "Is FFA the appropriate youth group for horticulture students?"

1. Develop a horticulture youth group for your own class. This youth group would be responsive to the needs of the individual student; however, it would be time consuming and difficult to plan for a non-vocational curriculum. The leader would need to be someone who has the time and interest to work with students.

2. Evaluate the FFA in your horticulture classroom. FFA has activities and competition at the local, state, and national level. FFA activities are well established and the organization is recognized throughout the United States. However, the FFA has a "farmer" image, and therefore may not be responsive enough to the needs of the individual horticulture student.

3. Omit youth groups from the horticulture curriculum. Students will not have the opportunity to participate in a youth group, but the teacher will save money and the instructor will save time.

**CONSIDERATIONS OF FFA AS THE HORTICULTURE CLUB**

There are several advantages to the teacher who integrates FFA into the horticulture classroom. Horticulture students can become involved in an existing youth group. FFA is well established and organized. It develops members' leadership and meets criteria which facilitate their personal growth. However, the FFA may be lacking in the number and kind of horticulture activities. Also, horticulture students may not realize what FFA has to offer them and other students may not ask the question why horticulture students are members.

**EVALUATING FFA AS POSSIBLE HORTICULTURE YOUTH GROUP**

"When integrating student organization activities into the instructional plan, attention should be given to the areas of personal growth. Eight common goals are as follows:

- Leadership and Followthrough
- Citizens' Responsibilities
- Character Development
- Social Development
- Occupational Knowledge Recognition
- Communication Skills
- Cooperation (Harris, p. 67)

FFA provides opportunities to develop leadership through participation in its projects and activities. FFA uses many offices and committees in order to achieve maximum participation from its members. There are four degrees of membership which allow for varying degrees of leadership and recognition.

Building Our American Communities (BOAC) is a program which can aid in the development of citizen leadership. It is also a program which provides opportunities for horticulture students to exhibit their skills and knowledge.

FFA helps develop character through its opening and closing ceremonies. Members also learn partisipation.

**CONTINUED...**
FEATURING:

LANDSCAPE PROGRAMS AT POSTSECONDARY LEVELS

Postsecondary programs in landscaping are highly diversified throughout the nation and thus reflect the broad spectrum of skills and interests that collectively comprise the landscape profession. The landscape industry can employ individuals highly trained and specialized as landscape architects and landscape contractors, while still offering opportunities to the man or woman with a pick-up truck, a few hand tools and a desire to work with plants. While one end of the employment spectrum offers the other end some professionally, each believing himself to personify what landscaping is about, educators must strive to serve both extremes as well as the complex industry within which they work.

Aside from the professional schools of landscape architecture, most landscaping programs in America are offered at two-year colleges and four-year universities, often as part of a larger program in horticulture and/or agriculture. My experiences have been at the two-year college level where my freshman course in landscape design has grown from 27 students in 1969 to 120 students in 1976.

For a successful postsecondary landscaping program to succeed, there must be several factors at work:
1. good facilities and an adequate budget to allow for the provision of a program that simulates industry reality.
2. highly motivated students
3. experienced faculty
4. a working partnership with the industry
5. successful placement

The campus is a laboratory facility. Students design and actually landscape the campus.

After landscaping the campus, students find maintenance is very necessary.

STUDENT MOTIVATION

Student motivation is a key factor in the success of any academic program and landscaping is no different. At Cobleskill we supplement the hands-on training with field trips to private and public gardens, offices of landscape architects, and landscape nursery operations. We also invite professionals to visit with our students at the campus and later to interview potential job applicants. Another program that has been well received by our students is to invite back to the campus Cobleskill alumni who have been out of school from 2 to 10 years. By relating their experiences to our present seniors, the students develop some believable impressions of what they may anticipate in a comparable number of years after graduation. Student questions usually range from, “Can I hope to start my own business as soon as I finish school?” to “Should I get married as soon as I’m out or wait a few years?” During their dialogue, I generally just sit back and listen. I learn as much as the students.

The budget cannot be overlooked as it directly controls what the faculty can do. At Cobleskill, we are always under financed compared to what we would like, yet I suspect we are more fortunate than many. Our campus nursery provides the plants we need and our floriculture program furnishes large quantities of bedding plants to fill the campus flower beds. We have also enjoyed good support for the purchase of modern grounds equipment and tools. It is my belief that the trend among some colleges to offer landscaping programs before they have facilities, budget and curriculums diversity adequate to the task is an unfortunate one that can only hurt the national postsecondary effort. A lawn mower and six pairs of hand pruners do not mean that a school should promote itself as a training center for landscape professionals.

Facilities are important and sometimes the most obvious are overlooked by educators who equate facilities with buildings. The best landscaping projects are those that fire the students’ imaginations and gain their acceptance. As such, whenever possible landscaping projects should utilize areas on or near the school grounds. At Cobleskill we use our 350-acre campus as a working laboratory facility. The students design the land around the classroom and dormitory buildings in their landscape design courses. The design problem may include planting plans, elevations, perspective views and/or cost estimates. Through courses in plant installation, landscape construction and agriculture, the students are provided the opportunity to learn their chosen profession while having a positive impact on the appearance of their campus. The landscape program at Cobleskill has been given responsibility for the campus grounds and the resulting opportunities are endless. Such an arrangement also helps reduce student vandalism to the campus landscape that often results when a grounds crew detached from the students are the caretakers. Most schools have grounds of some type, even if the acreage is small. Those grounds can become your most valuable facility.

FACILITIES

Motivation also results from projects that the students find believable. In the advanced landscape design courses, senior students are assigned an actual residential client, selected from a list of volunteers who live in the town. The project is the most important one of the semester for them and they must satisfy the client, not necessarily the instructor, to attain a good grade. From the site analysis through the working drawing and finally to the in-home presentation of their plans and cost estimates, the students are expected to behave and perform professionally. When it is over, they are usually very excited about it, especially if the client was favorably impressed.

At Cobleskill, we also believe that students must be pressured if they are to get a true picture of the landscape industry. The time allowed them to accomplish a project is never as much as they want. While the first semester begins at a comparatively slow pace while they are learning the basic techniques, each semester thereafter accelerates the pace. The result is usually a student capable of both qualitative and quantitative work.

THE AGRICULTURAL EDUCATION MAGAZINE

DECEMBER 1979

(Concluded on Page 137)
ASSESSMENT OF YOUR POTENTIAL FOR INTERNATIONAL EMPLOYMENT

As a teacher of agriculture or teacher educator, have you ever made an assessment of your potential for part-time or full-time employment in an international agricultural education program?

SCOPe AND TRENDS IN INTERNATIONAL AGRICULTURAL EDUCATION PROGRAMS

In 1976, twenty major bilateral, private, and bilateral organizations provided $6.97 billion dollars of financial, technical assistance, or training in agriculture for one hundred forty-four developing nations. Recommendations are that assistance will continually increase to assist the more than one hundred less developed countries (LDC’s). The LDC’s contain seventy-five per cent of the world’s population and are identified as countries with a per capita gross national product of less than $400.

In recent years increased emphasis has been placed on technical assistance and training related to improved and appropriate methodologies for the transfer of technology. Training emphasis has also shifted to more people-oriented programs. With these changes in emphasis, agricultural education must assume a key responsibility for training extensions and teachers of agriculture for roles in international programs.

Further education in agriculture must provide leadership to develop and implement programs to train personnel for international agricultural programs. These new programs should more effectively provide leadership in an acceptable and amicable manner.

Employment opportunities for agricultural education personnel with projects funded by the major agricultural assistance organizations such as Peace Corps, Agricultural Organization (FAO), World Bank, Ford Foundation and Rockefeller Foundation, and the United States Agency for International Development (AID). These organizations employ personnel engaged in consultant and administrative roles.

EMPLOYMENT AND BEAUTY

Combine skills learned in two career courses at Clover Park Vocational-Technical Institute and "The world is a place of beauty!" Students in the Landscape Construction/Equipment Operator program and the Greenhouse & Nursery Operator course deal in beauty...the beauty of growing things and the beauty of arrangement and display.

These two agricultral programs are designed to train students to accept entry-level positions. Both courses are among the seven career options offered at Clover Park V-TI, Washington State’s largest vocational institute, located eight miles south west of Tacoma in suburban Pierce county.

LANDSCAPE CONSTRUCTION/EQUIPMENT OPERATOR

Landscape Construction/Equipment Operator is a 11-month course with students in training from 8 a.m. to 3:30 p.m. Monday through Friday.

In addition to learning how to operate and maintain heavy construction equipment, students learn: landscape plant material, plant culture, soils, fertilizers, pest and weed control, landscape design, sprinkler system design and construction techniques.

Realistic training is a basic part of the course as students gain practical experience by designing and installing landscapes on the school campus and in the community by special arrangement.

Employment opportunities are extensive in variety, including: opportunity for self-employment or continuing in large commercial business, private contractors, public institutions, cemeteries, golf courses, industrial and business firms, public parks, urban renewal projects, real estate developers or others.

GREENHOUSE AND NURSERY OPERATOR

Students in the Greenhouse & Nursery Operator career course receive training in how to grow, propagate and sell plants, flowers, shrubs, trees, bulbs, fertilizers, and chemicals.

CONTINUED

assignments require extended absence from family members of up to two months or more.

In summary, success in international employment is necessary to be:

- interested in international travel
- people oriented
- empathetic toward rural poor people

DECEMBER 1979

THE AGRICULTURE EDUCATION MAGAZINE

134

135

THE BEAUTY OF GROWING THINGS, ARRANGEMENT, AND DISPLAY IN LANDSCAPE

Subjects taught include botany, plant identification, soils, fertilizers, greenhouse and nursery structures and environmental controls, plant propagation, nursery and greenhouse production, pest control, business management for greenhouse and nursery, public relations, employment seeking, fundamentals and introduction to landscape design.

Upon graduation, students are qualified for entry-level positions in greenhouse or nursery sales, growing and crop propagation, garden store, purchasing, pricing and pesticide application.

Training at Clover Park V-TI also includes practical experience in the student-operated retail nursery and greenhouse which is open to the general public from 10 a.m. to 3 p.m. Monday through Friday during the school term.

The Greenhouse & Nursery Operator course is 10 months in length with students in training from 8 a.m. to 3:30 p.m. Monday through Friday.

As all career training courses at Clover Park V-TI, the goal for each student is employment. But, with these two courses, the added ingredient is "beauty."
FFA SALUTES
THE OHIO LEGISLATURE

by
James E. Dougan
Assistant Director
Vocational Education
Ohio Department of Education

and
Kirby Barrick, Jr.
Area Supervisor
Agricultural Education Service
Ohio Department of Education

Reservations for the breakfast are submitted by the chapters in January. Cost includes breakfast for the member, advisor, and legislator, plus three pictures of the group which are returned for use in local newspapers. Information is distributed to the chapters to make the students aware of the legislative process, suggest topics for discussion during breakfast, and explain the day’s activities.

The PROGRAM
State FFA officers conduct the breakfast program. Ohio high school presentation entitled – “Agriculture – A Large and Vital Industry in Ohio,” followed by a 10-minute slide/sound presentation, “The Agricultural Education Story.” Legislators are given reservations concerning the importance of agriculture, and how the vocational agriculture programs are training young people and adults for employment in Ohio’s largest industry.

During the 1979 breakfast, Lt. Governor George V. Voinovich, State Superintendent of Public Instruction Dr. Franklin B. Walter, Executive Director of Vocational Education Dr. Byrl R. Schoenaker, and Agricultural Education Director Mr. James E. Dougan appeared on the program. Special recognition was given to the Honorable Oliver Ocasio, President of the Ohio Senate, and the Honorable Vernal G. Riffe, Jr., Speaker of the Ohio House of Representatives. A citation, presented on behalf of the Ohio Agricultural Education Service, Ohio FFA, Ohio FFA, and OVAS, was given to each of them by the State FFA Officers. Both Riffe and Ocasio wore official FFA jackets presented to them at the 1977 banquet.

To commemorate the occasion each of the 133 legislators and 86 special guests was given a red carnation buttonhole or corsage (the state flower) and every person in attendance wore blue and gold buttons proclaiming “FFA Salutes the Ohio Legislature.”

The FFA members and advisors spent the remainder of the day touring the Capitol and attending hearings and sessions in both houses. The FFA was

(Concluded on Page 141)

THE AGRICULTURAL EDUCATION MAGAZINE

COMMUNITY SERVICE SPRAYING

by
James M. Garrison
Horticulture Instructor
Scottsboro, Alabama

This program not only will help build community support, but will serve as a good teaching aid as well. In order for a student to be able to go out and spray a customer’s shrubbery, he has first to know what that insect or disease problem looks like. Therefore, as a part of our spray program, I can use “hands-on” experience in teaching identification and control of various insects and diseases.

CONTINUED

POSTSECONDARY LANDSCAPE PROGRAMS

FACTOR EXPERIENCES

The experiences that faculty bring to their classes are vital to their acceptance by the students. Projects must be perceived as job-like and relevant if the teacher is to be believable to the students. Each project should be explained in terms of why it is being done, what the student can expect to do with the knowledge gained and how it fits into the total industry picture. Needless to say, it is important that the teacher have more than the hobbyist’s familiarity with the subject. The use of vacation periods and sabbatical leaves to work in the industry is a major means of staying up-to-date in the field.

INDUSTRY ACCEPTANCE

The acceptance of the academic effort by local industry professionals is critical to the long range success of the program. Industry members refer students to the program, advise in curriculum development, serve as guest speakers and field trip hosts, and ultimately employ the graduates. Any landscape program would be well advised to court the good will and participation of local and statewide industry people.

DECEMBER 1979

BUILDING OUR AMERICAN COMMUNITIES

This endeavor is also our BOAC project in our FFA chapter this year. It remains to be seen how well we achieve in the competition, but we are optimistic that it will help us to be a Gold Emblem FFA Chapter.

Safely. This again is an excellent teaching tool.

PLACEMENT RECORD

Finally, the placement record of a program is perhaps the greatest testimonial to its success or failure. At Cobleskill, the faculty works hard at placing the graduates and even advises alumni who wish to relocate. Attendance at selected trade shows and conferences is expected of each faculty member in the program and they willingly comply. Many job offerings result from those contacts, directed to students both during the shows and in the months after. Also, the department solicits jobs by means of a mailing that goes out to nearly 500 potential employers each January. In addition, the reputation of the program generates dozens of new and unsolicited employment offerings each year. Contrary to what some teachers may believe, placement does not take care of itself and cannot be delegated to a placement office somewhere else on the campus. It necessitates a strong faculty effort and commitment.

The landscape industry is a growth industry throughout the nation. It seems to have avoided the economic pitfalls that have affected other small businesses. Thus the future of the profession and postsecondary programs that service it seems secure.
A Comparison of Use of Time By First Year Teachers and Experienced Teachers of Vocational Agriculture

In a recent study of time utilization by teachers of vocational agriculture with two or more years of experience in Nebraska, it was found that they recorded an average of 2552 hours of work per year. When compared to a group of eight first-year teachers who recorded their time in the same duty categories, the first year teachers worked an average of 1656 hours per year, or 65.2 hours less than the experienced teachers. The range for the experienced teachers was from 1650 to 2400 hours, while for the beginning teachers it was from 1763 hours to 2379 hours. Table 1 shows the average hours in each duty category for the two groups of teachers.

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<thead>
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<th>Average Hours Per Year 8 First Year Teachers</th>
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<tbody>
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<td>Plan &amp; teach agriculture classes</td>
<td>10.05</td>
<td>10.11</td>
</tr>
<tr>
<td>Plan &amp; teach non-agriculture classes</td>
<td>58.55</td>
<td>58.78</td>
</tr>
<tr>
<td>Plan &amp; conduct farm tours</td>
<td>7.22</td>
<td>5.22</td>
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<tr>
<td>Plan &amp; conduct adult classes</td>
<td>19.75</td>
<td>4.75</td>
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<tr>
<td>Conferences with students</td>
<td>55.51</td>
<td>51.91</td>
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<td>Supervision study halls</td>
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**IMPLICATIONS FOR TEACHER EDUCATION**

Undergraduate professional preparation programs should adequately prepare new teachers to work effectively in one-on-one conferences with students.

Further research needs to be conducted to determine whether the causes for more hours of time used for scheduling and upkeep of facilities by first year teachers is due to insufficient use of time, compared to experienced teachers, or to more activities undertaken. In addition, more information is needed on the specific type of activities related to teaching and supervision in post-high school programs. As a result of this study, the Nebraska Education Association has been formed for graduate school and a nearby technical college community, for teachers.

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**Leader In Agricultural Education**

**NORMAN K. QUARLES**

by Thomas A. Quarles

Upon his graduation, he attended Texas A&M University where he received his Bachelor of Science and Master of Education degrees. In 1944, he received his Doctor of Education degree from the University of Houston and has done additional work at Sam Houston State University, Stephen F. Austin University, Texas Tech University, and Texas State University.

Dr. Quarles began his career in agricultural education as a vocational agriculture teacher at Nor- wood High School in San Augustine County, Texas, in 1935. In 1941, he moved to Brookfield, Kansas, taught vocational agriculture until he entered the armed forces in 1943. During World War II, he served with both the Seabees and the Hospital Corps of the Navy.

After being discharged from the Navy in 1945, Dr. Quarles moved to Nacogdoches, Texas, where he taught vocational agriculture for sixteen years. During his tenure at Nacogdoches High School, the students under his leadership consistently received state and national honors. Eleven of his FFA members were awarded the coveted American Farmer Degree, while sixty-one received the State Farmer Degree. Also, during the same period of time, the Nacogdoches FFA Chapter received numerous Gold and Silver Emblem Awards, and two state FFA leadership records were set that were never broken or equalled during his tenure there.

In 1961, Dr. Quarles joined the faculty of the Department of Agriculture at Texas State University. He began his tenure as an instructor in agricultural education, but was quickly promoted to assistant professor in 1962, associate professor in 1964, and full professor in 1972. During his eight years at Texas State, he placed extreme emphasis on teaching and educational research. Dr. Quarles has had several articles published in various magazines and journals, and he supervised the writing of seven handbooks on cooperative training in vocational education, which have received national distribution.

At Texas State, Dr. Quarles firmly believed that his most important responsibility as a teacher educator was to expand every ounce of energy he had in teaching and preparing vocational agriculture teachers to their utmost ability. He recognized that providing a thorough pre-service education program was essential if young teachers were to be adequately trained and ultimately successful in their teaching careers.

During his career, Dr. Quarles has received many awards and honors. Among the most prestigious awards

(Coined on Page 141)

THE AGRICULTURAL EDUCATION MAGAZINE
TEACHING TRACTOR SELECTION

An Easy Practical Approach

 Much of the instruction related to agricultural tractors is basic at the high school level. Units in tractor driving, maintenance, adjustments and related skills are tilled operation. This instruction is basic and important to students preparing for farming or employment in the farm machinery industry. With tractor prices often exceeding $200 per horsepower, the initial cost of a modern farm tractor becomes a sizable investment. There is little basis for debating that these basic skills are needed for a role in agriculture or the agricultural machinery industry could benefit from a unit of instruction in tractor selection at the high school level.

The approach does not need to be as complex as in some University of Nebraska management courses, or as costly to implement. It makes the problem with the aid of a computer. A logical common sense approach should be used at the secondary level that is accurate enough to make the problem to the tractor or tractor that is available on the market. Some local farm conditions and requirements. In addition to high school students, young farmers and eligible young farmers may find this to be a very interesting and profitable topic.

There is little doubt that too many tractors are bought by the farmer on a personal preference basis. As farms and management skills become more critical to success in farming, personal preference should become only a minor factor in the decision-making process. An accurate analysis should be made of the farm in question, the facts defined, and a logical approach should be used in the selection process. Consider the following approaches that use nine selection factors that need to be clearly defined followed by procedures that determine the power requirements for a given farm:

SELECTION FACTORS TO DEFINE

1. Acreage of Primary Tillage
   - The largest consumer of power in most crop farming operations is the primary tillage operation, which involves the breaking of the soil, field cultivating, and/or disk. The aeration and type of primary tillage operations performed are an important basis for tractor selection.

2. Soil Type
   - The type of soil influences the power requirements rather significantly. Generally, heavy clay type soils have large draft requirements than do lighter sandy soils. The draft characteristics of various types of soil can be found in most crop farming books and may be available from your local extension service.

3. Tillage Practices
   - Every farmer has a strategy in the types of tillage operation and when they are to be performed. For example, a farmer may be designing a certain acreage plan in the fall after harvest. Moldboard plowing may be done in the fall or spring, if necessary. The farmer is, however, involved in the process of disking all land before planting. Whether procedures or plans to be followed must be clearly defined.

4. Days Available to Perform Tillage Operations
   - Local weather data is essential in determining the number of days which can be used for primary tillage. Days the farmer doesn’t want to work and/or days used for completing farming requirements which have higher priority than the tillage operation must be subtracted from the total days available in the full-spring to establish a reasonably accurate time to perform the primary tillage operation.

5. Speed of Tillage Operation
   - Tillage operations are normally performed at 4 to 5 mph. Slower speeds result in greater fuel efficiency, but often result in overload. It is not unusual to change the speed of 4 to 5 mph. Speeds normally overshadow the savings realized at lower speeds.

6. Number of People Who Can or Are Considered to Operate a Tractor
   - The number of people that will or can operate a tractor must be considered. If only one operator is available, the power unit selected should be large enough to complete the tillage job before planning. With more than one operator available, it gives the farmer the opportunity for more flexibility. One may start the tillage operation while the other is still preparing the seed bed. It should be remembered that a 50-h.p. tractor will probably be able to perform more work with less operators if the added flexibility on time overlap of seed bed preparation and planting. With two operators, the capability to obtain a two-hour advantage before and after planting. Whatever procedures or plans to be followed must be clearly defined.

CONTINUED

DECEMBER 1979

140

THE AGRICULTURAL EDUCATION MAGAZINE

COMPARISON OF TIME USE

The local teacher to conduct a class for adults at the local school site. Six of the eight first year teachers were involved in this type of instruction to some extent, while only two actually conducted young farmer or adult classes in agriculture sponsored by their local school. Teachers in the study indicated a desire for a formal workshop on time management, and the opportunity to discuss ways of conducting a more efficient and effective local program. Vocational agriculture teachers who are conducting a full-day school program, complemented with FFA and supervising recreational phases, must be efficient managers of time in order to serve all students.

CONTINUED

FAA SALUTES... formally recognized by a proclamation in both the Senate and the House. The President of the Senate and the Speaker of the House wore their official blue and gold jackets as they conducted their respective sessions.

THE STORY

The entire event requires hours of careful planning
HORTICULTURE THERAPY

- Knowledge of the skills and practices of modern horticulture.
- Ability to transmit knowledge and teach skills.
- Resourcefulness in developing new approaches and innovative projects involving horticultural plants and people.
- Self-knowledge and confidence.
- The ability to maintain a professional and objective attitude toward another's problems.
- The ability to work closely with other staff members toward a common goal of the recovery for the patient.

Students in horticultural therapy need a broad background in horticulture and vocational education techniques, supported by a good background in psychology, sociology, and special education. In order to use horticulture as a tool in establishing a therapeutic relationship, the horticulture therapist should be comfortable in working with plants and the objectives which the volunteer programs is desirable to orient the horticulture therapy student to hospital or institutional programs. Proactive horticultural therapists must be willing to develop their own programs, and to be innovative and determined to pursue their goals.

A student completing such a program may select to work as a horticultural therapist with specialization in activity therapy, occupational therapy, physical therapy, or special education.

WHERE ARE HORTICULTURE THERAPISTS NEEDED?

A horticulture therapist generally works with physically or mentally handicapped individuals, patients in nursing homes and mental institutions, or with individuals having varying educational needs. When a horticulture therapist works with children or senior citizens, the continuing challenge is to move persons into a process that allows them to enter society or overcome a mental, emotional or physical illness.

WHAT IS THE NCTRTH?

NCTRTH is the National Council for Therapy and Rehabilitation Through Horticulture. It was founded in 1973 and has established a registration procedure based on the educational background and/or experience of the horticulture therapist. It is recognized by other professional groups. Three levels of registration exist, including: (1) Horticultural Therapy Technician for graduates of Associate of Arts (2 year) programs or volunteers; (2) Registered Horticultural Therapists for graduates of approved 4-year programs and completion of a 6-month internship; and (3) Master Horticultural Therapists for those professionals with advanced degrees and at least six years of experience.

CONCLUSION

Horticulture and horticulture can be seen as very valuable aids to the treatment program for special needs individuals. Individuals can learn new skills and gain confidence in their educational, motor, physical, or social skills. Horticulture may also lead to a full-time occupation or have carry-over value from the institution to the home and to resumption of leisure activities.

The horticulture therapist is a professional, non-traditional educator, trained at least a degree with expertise in horticulture, special education and vocational education. Horticulturists should share in the development and conduct of horticultural programs since these programs usually include a professional education component.

AGRICULTURAL LEADER

that he received was the Southern Region Distinguished Service Award in 1971. He was also named to Who's Who in American Education in 1987 and has received the Honorary American Farmer Degree, the Honorary State Farmer Degree, the Texas Forestry Association Award, and the Certificate of Merit from the Thor Research Center for Better Farm Livelihood.

Throughout his life, Dr. Quailes has been active in many professional and civic organizations, including: a member of Phi Delta Kappa, the American Vocational Association, the Vocational Education Teachers' Association of Texas, the Texas Vocational Association, and the American Association of Teacher Educators in Agriculture. He is also a member of the East Texas State University on December 31, 1976. He is currently teaching one graduate and plans to remain at his home in Commerce, Texas.

As a vocational agriculture teacher and a teacher educator in agriculture, Dr. Quailes has influenced the lives of many young people. He has been active in various key roles, including maintaining a positive attitude and striving to be the best at whatever one does. Dr. Quailes has indeed devoted his life to the betterment of agricultural education, and yes, he has earned the reputation of being a leader in the field.

GRANDFATHER'S COLLECTION

By Lee Pitts

In the early years of his life, Grandpa took whatever jobs came along wherever he could find them. He was recalling the other day a problem that popped up at one place he was staying during a three month stint in the hay fields. It seems old now, but he remembered getting into his rented room. One day he asked the family he was staying with, "Do you think he has taken a fancy to me?" Everyone shrugged in an innocent manner. A day or two later Little Billie answered a lot of questions when he whispered to Grandpa, "That's her room during the winter."
Tree climbing is an important skill in the gardening program at Sandhills Community College, N.C. (Photo courtesy of Leone H. Koster)

Instructor Alvin Patterson (left) poses with a group of proud floriculture and ornamental horticulture students in front of a newly constructed greenhouse. (Photo courtesy of Carla Everett, TSTI-Waco, TX)

Routine watering is essential to many ornamental horticulture occupations. This student is watering the bedding plants in the Amelle Street School Greenhouse, a special education school in the city of Richmond, VA. (Photo courtesy of Judy Yoffy, Instructor, Amelle Street School, Richmond, VA)

Mr. Malters, Head of Grounds Maintenance is demonstrating to John Oehring how to apply iron to a pin oak. (Photo courtesy of James R. Anderson of the Nichols Career Center, Jefferson City, MO)

Beautiful flower beds are a part of the Landscaping Gardening course at Sandhills Community College, Southern Pines, N.C. (Photo courtesy of Leone H. Koster)