Vocational Education Week is February 7 through February 13. What are you doing to promote your profession?

The U.S. Office of Education estimates that the United States needs 15,000 more vocational teachers today and by 1975 the figure could grow to 75,000. This number will be need to give instruction to the 17.2 million expected enrollment in vocational classes.

The number of individuals qualified to teach vocational agriculture increased by 70% from 1965 to 1970 but only 30% of those qualified in 1970 entered teaching. This is the smallest percent in 5 years according to Ralph Woodin, the Ohio State University, chairman of the AAATE Committee on Teacher Recruitment. There are some states which qualified an abundance, while other states failed to qualify sufficient teachers. However, only 10% of the teachers qualified in 1970 crossed state lines for employment.

Twenty-one percent of the total AVA membership is in the Agricultural Division, C.M. Lawrence, Administrator, Agricultural Education, State Department of Education, Florida continues as president of the Agricultural Education Division of AVA.

The 1970 AVA Convention, held in New Orleans, December 5-9, 1970, had the highest registration of any national convention ever held. Over 400 separate meetings were scheduled during the convention, C. L. Mouldart, supervisor in Louisiana, was convention program chairman for the Agricultural Education Division.

There is great confusion existing today as to what is agriculture. Talk to people about agriculture and some don't know what you had in mind. Some think it is only farming. A point many people miss is that farming and agriculture are not always synonymous. Agriculture is the business of putting 205 million breakfasts, 205 million lunches, 205 million dinners - 615 million meals a day on the table for 205 million Americans. Out of every 100 jobs in private industry, 33 are related to agriculture and food.

The opportunities in agriculture are so numerous that the most important criterion for the man or woman seeking a career in this area is desire. The attitude of available jobs in our industry are so great it is likely you have the necessary aptitude to fill a niche somewhere. The most important word in the last sentence is prospect.

Agriculture must convince talented young people both rural and urban, boys and girls, that we have challenging opportunities available. — Dr. M. R. McGurk, West Virginia University in Food and Agriculture in West Virginia.

The 1971 AVA Convention will be held in Portland, Oregon December 3-8.

Over $36 million of federal funds were spent for vocational education in 1969. This was 11.8% of the total federal appropriation for vocational education, or an average of $20.57 per student. Total enrollment in agriculture was 850,705, or 10% of the total number of students. Thirty-four percent of the total enrollment were in adult classes.

A mailing directory of post-high school programs in agriculture has been compiled by Maynard Ewen, Research Associate in the Department of Agricultural Education of The Ohio State University. Entitled "1970-71 Directory of Post-Secondary Educations in Agriculture and Natural Resource Occupations," the publication lists by states, the names and addresses of the institutions, the agricultural programs offered and the individual to contact for information. A copy of the publication is available from the author or through The Ohio State Agricultural Education Curriculum Materials Service, Room 201, 2100 Pyfle Road, Columbus, Ohio 43210.

Our amazing farm productivity is chief reason for our national affluence. According to Farm Journal, the farm families can spend $66 out of every dollar of personal income for things other than food allows us to support a wide range of consumer goods and services. We can pour money into education, arts, household appliances, automobiles, sports, housing, highways, airports, electrical power, hospitals and many other activities in amounts that would be any other country.

Farmers are industry's best customers using each year 7½ as much steel as the automobile industry, enough rubber to lay tires on 85% of the new cars and more petroleum than any other industry. Farming employs more people than any other industry and is the greatest customer for the products of the nation's workers. — Edited in the 1970 Farm Journal.

A survey in Alabama showed 10,100 annual employment opportunities in agribusiness in their state. Last year Alabama graduated 4,580 students in vocational agriculture at the secondary level. There must be opportunities for employment in Alabama for a total of 15,000 people with limited training. Who can there be any future in agriculture?
Our lives depend upon bridges. Daily we pass over steel and concrete structures that enable us to cross over a stream or river or avoid going down into deep chasms and up the other side. Bridges may shorten or straighten the path. They make our progress easier. But there are other bridges in our lives that are made of material things. One of the important bridges in our daily life is the bridge of COMMUNICATION. We need to talk to each other as individuals and act and interact with each other. Social and cultural barriers. We need to understand each other and work more closely and harmoniously with each other. Ecology, conservation, pollution may be new areas to some people. This issue is devoted to articles emphasizing the importance of the problem. Authors tell of the activities of individuals and groups at the local, regional, state and national level to work together on this gigantic problem. This issue of the magazine is a bridge of CONVENIENCE.

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By picture and print we may be able to speed the process, reduce the cost and increase the understanding and appreciation of many individuals. If a reader gets a suggestion for an activity which he or she may do to increase the efforts to solve the problems relating to pollution and conservation in our society today this issue may be worth the time and effort devoted to its preparation. We approach the bridge of CHALLENGE. Many individuals stop at the bridge of CUSTOM. They do not have the strength, the money or the desire to continue their journey further. For the people who continue on the road to the bridge of CHALLENGE, life often becomes fuller of meaning, of expectancy and of satisfaction in achievement. Just as architectural structures require detailed and accurate engineering design and construction, the bridges we encounter in life need the detailed investigation, experimentation and research to achieve the best design. As we develop educational programs and our action programs, we may benefit from the engineering research of others to develop sound educational programs and activities to make this a better world in which to work and play and achieve satisfaction.

ARCHITECTURE — WHAT IS IT?

Yesterday most people couldn’t even spell it. Today, it is a household word. ECOLOGY. This new awareness is a sudden thing for most people, especially since learning that they are directly involved — that there is such a thing as a web of life, that man is a part of it and that the web is in serious trouble.

Most agricultural educators have known all along that there is a delicate balance in nature that cannot be continually abused and disturbed with impunity. But until now, formal programs of instruction have dealt primarily with the conservation and use of natural resources such as soil and water. The approach has been mainly concerned with economic factors.
Nowhere is an understanding of the full role of environmental stewardship more important than with those who own and work on farms, the backbone of the city. Beginning to broaden their approach, but so far not enough, labor has been put on selling the benefits of ecologically sound farming practices.

Recently the Department of the Interior announced it will photograph American cities from aircraft flying above 30,000 feet to determine the feasibility of monitoring urban land use and to try to determine the environmental impacts. If the tests show that such remote monitoring procedures are successful, satellites may be used on a continuous basis. Such feasibility studies make it possible that equipment could also be used in rural areas to monitor farm practices and check their effects on the ecology surrounding indiscriminate draining and deepening, poor fertilization placement, unchecked chemical spillage and sewage.

The Department of Interior announced the project is simply one of "monitoring" the environment, but it is plain to see that if such a program becomes feasible, the next step is policing.

It is not true that while the Orwellian world may be closer than we think, we don't have the time to sit around and wait for a spys-in-the-sky to zep offenders. To keep this public at war with the environment from ceiling the lack of requirements, agricultural educators will have to play the most important role of all.

Writers like Leopold, Carson, Ehrlich, Steurer and Ostrom have pointed out the "three times—catastrophe to get the reaction started and to keep it going to completion. They can get us thinking about the effects of pollution, population, pesticides and predation and they can scare us into wanting to do something about it— but it is ultimately the educator who must produce the behavioral changes in people—people who, in turn, produce environmental changes for the better.

There are those who argue that proper care of the country is more important that the urban activities. In the present state of society, that is where a great deal of the battle is. But its effects are on the farms and forests and prairies and waters and waysides. Almost as much of it is being done by rural people as by urban people. While the market value of a square block of downtown Dallas is priceless compared to the market value of an acre of Kansas, when bare survival, this is the topic I'll take the wheeland over the concrete every time.

Even if we ignore the doomsday trumpet of the alarmists, it must be agreed that something is going to give sooner or later. Before that happens, we better have a positive plan to prevent it. Like what?

Recently, a group of professional people, all under 30, organized a secret group calling itself the Dog-commands. The purpose of the group is to do something positive about environmental problems. So far, they have accomplished their aims. Their first job was a nighttime raid on the Miami area sewage disposal plant where heavy yellow dye was dropped into treatment vats. Soon, yellow water showed up inornevery very peculiar places in the city.

Another case of the mystery commandos was to go in sneakers and beer bottles and drop two miles on the railroad tracks, next to the sewage effluent pipes that are supposed to allow sewage to be carried far out into the ocean.

The Gulf Stream. The message in each bottle read, "This water may soon be yours. Of the waters, they made a cestpool of the air, a sip of poison, itself, a dump where minds crushed in piles of offence."

These words could well summarize the accomplishments of the present generation of Americans if additional legislation is not given to our environmental problems. The quality of our air and water is deteriorating at an unprecedented rate. And it's responsible for this deteriorated Man, whose health is threatened, is responsible for the failing of the primary sources of environmental contamination. Man's practices and his activities contaminate the air, pollute the water, and spoil the land. These contaminating waste products consist of man's domestic wastes plus those from industry, recreation, transportation, and agriculture.

What better place to spend research money, time, talent than in the area of ecological degradation or rural America and what to do about it?

COMING ISSUES

April—Education for the Disadvantaged

May—Professional Improvement for Teachers

June—Articulation of Agriculture into the Total School Program

July—National, State and Local Leadership

August—Maintaining Programs of High Standards

September—Instructional Materials

October—Broadening the Offering in Vo-Ag

November—Support by Industry and Organizations

December—Multiple Teacher Departments

The AGRICULTURAL EDUCATION MAGAZINE

MARCH, 1971

OUR ENVIRONMENTAL DILEMMA

WILY B. LEONG

Assistant Professor of Education
Virginia Polytechnic Institute and State University
Blacksburg, Virginia

Local and Regional Action

Agricultural personnel can help local and regional citizen groups by taking an active interest in activities designed to prevent or eliminate sources of pollution and to inform the public of present conditions. Such groups could be aided by advising them on possible courses of action and helping them to identify acceptable solutions.

Teachers of vocational agriculture must take some responsibility for providing needed instruction. But while they accept this responsibility, they should also realize that many problems will be encountered. Two problems which exist at this time are the lack of a total commitment on the part of the people and their agencies to improve the environment and the general lack of arecruitment materials dealing specifically with environmental considerations.

Because of these and other factors, the environmental problem will not be easily solved. In fact, the road to a controlled and healthy environment will be long and uphill. However, we have the capacity to deal with these problems effectively. It is only necessary that we are prepared to commit its resources and energies to the task. Agricultural personnel can be some of the needed educational, research, and local and regional action to inform the people of the educational dilemma and by providing agricultural workers with the opportunity to obtain the skills and knowledge required to they aid in the enhancement of our total environment.
AN APPROACH TO MEANINGFUL EMPLOYMENT

Eames Agricultural and Technical Institute, Hadley, Massachusetts.

An Idea to Reality

Employment outlooks for the 70's appear promising for the field of natural resources. A statistical study prepared by the U.S. Department of Labor projects that the demand for natural resources workers will rise significantly in the coming decade. This trend is due to the increasing importance of natural resources in our daily lives. The demand for natural resources professionals is expected to increase by 20% between 2014 and 2024, with the most significant growth expected in the field of environmental conservation.

The importance of preserving America's natural resources in current times has become an established plan for the conservation of these resources is apparent. Presently, state, national, and local policies as well as private agencies are actively engaged in developing programs to preserve our natural environment.

The objective of these planning programs is generally the same, even though there are great differences in administration, these indications that all of these programs have a common problem in preparing secondary school, technically trained graduates.

Meaningful natural resource job placement is usually complicated by two factors: (1) breakdown of communications between the school and the agricultural community and (2) lack of professional career investigations by potential graduates.

Getting these graduates prepared for meaningful jobs in their major fields of interest is an important part of school training. Making students aware of the wide scope of careers available can be a very effective way of eliminating the uncertainties of initial employment. The initial exposure of a young adult to the real-world work world must be made interesting and challenging.

This article deals with an approach to this placement by interested school administrators, who recognized the need of its graduating student body, initiated by the Natural Resources faculty.

The The first part of the program was composed of: brief, informative presentations by selected participants representing federal, state, and local government agencies.

A career panel of professionals was invited to speak to the students about the realities of working in the field of natural resources, their education, and career opportunities. This panel included representatives from various organizations, such as the U.S. Forest Service, U.S. Fish and Wildlife Service, and environmental conservation groups.

The second part of the program consisted of a question-and-answer session where the students had the opportunity to ask questions about their future employment opportunities. This was facilitated by the school's career counselor, who coordinated the event.

Conclusion

This program was created to help high school students find meaningful and productive jobs within the field of natural resources. Frequently, natural resource jobs are not widely known, and students are not aware of these openings. Subsequently, these students accept other jobs outside their interest and training areas. The presentations included in this program are designed to be an annual event to increase students' awareness and interest in pursuing careers in the natural resources field.

A Career Day Program:

1. Assist in finding jobs for technically trained students who work under the leadership of professionally trained persons.

2. Encourage meaningful exchange between the student and the prospective employer in the atmosphere of the school.

3. Allows students to gain insight into working to work under conditions and techniques.

4. Provides an opportunity for prospective employers to hire interested and trained personnel for specific jobs.
EMPLOYMENT OPPORTUNITIES AND EDUCATIONAL REQUIREMENTS

FOR JOBS IN OUTDOOR RECREATION

W. H. Arnis
Department of Agricultural Education
University of New Hampshire, Durham

Since World War Two, one of the most rapidly expanding forms of leisure in our nation has been that of outdoor recreation. As expansion continues, the desirability of knowing what employment opportunities are offered within this field gains new prominence.

As with businesses in many other types of industries, those centered within the outdoor recreation complex are finding it increasingly difficult to operate on a seasonal basis, depending on help hired as labor needs present themselves. Investments are too large, labor requirements too varied, and the availability of qualified seasonal personnel too limited.

Recognizing the changing needs and the increasing potential for secure rewarding employment in this field, a study was initiated at the University of New Hampshire to determine exactly what employment does and will exist within the outdoor recreation complex as well as what skills are required to be eligible for these positions.

THE STUDY

Phase One of the study has been completed. An instrument was developed which would gather data pertinent to the job opportunities and related skill requirements for employment within the outdoor recreation complex. Although the major part of the field interviewing was performed in New Hampshire, data were collected also in New England, and the State of New York. This, in turn, allowed for collection and tabulation of data about the employment aspects of outdoor recreation during field testing and pretesting the instrument.

The instrument was extensive and a review of literature illustrated that, although there was much concern about how best and in what directions the outdoor recreation complex was growing, little had been completed to show what opportunities the growth offered or what demands it placed on the employees within the field.

The investigation included all aspects of the outdoor recreation complex including supportive enterprises as well as those specifically concerned with providing opportunities for participation in some form of outdoor recreation. This was necessary because of the dependence of outdoor recreation upon supportive enterprises for their existence. Data was collected from 59 employees in nine types of outdoor recreation enterprises, including present enterprises such as ski areas, resort hotels, youth programs, amusement areas, marinas, and excursion boats and public service.

Data from 50 employees in the supporting enterprises were tabulated, these supportive businesses were grouped as follows: eating and sleeping accommodations, retail sales, and supporting organizations only, eating and sleeping organizations only, private stations and sporting goods stores.

The need for this type of investigation, and its acceptance by the outdoor recreation industry, can be recognized by the fact that, of all the questions for which a refusal was entered, there was not a single refusal nor a hesitation to provide answers to the questions which were asked.

FINDINGS

With the completion of Phase One, an instrument of observation was created to record the information needed. It can be oriented toward machine tabulation and with slight revision, into a mail-out questionnaire.

With the exception of the public benches and rubbish, all of the outdoor recreation enterprises expected to expand their facilities or services for their patrons. Expected expansions within the recreation supportive enterprises was much less than in the outdoor recreation enterprises. However, family operations were more predominant in these supportive enterprises.

This expected expansion directly relates to future employment opportunities but specific jobs and skill requirements cannot be identified fully from the data of this phase of the study, although 62 existing job titles were identified.

Full-time employment was shown to be on the increase. As expected, given the capital investment and the new skills required of employers are continually creating new need for year-round personnel. This does not indicate that all full-time people are skilled or that they have on-the-job or formal training in their job titles. Only 30% of the employees in outdoor recreation enterprises were found to have prior work experience in their job titles, and this figure was only 10% in supportive enterprises. Formal education specific for the job title within which they were working was a credential held by only a few.

This does not mean that education and training is not needed. Many employers were found to have difficulty in obtaining capable help, at all levels of employment. A total of 13 different subject matter areas which would be of help if offered in organized educational programs were cited. Mechanics, Culinary Arts and Management accounted for most of these suggestions.

Lack of organized employment pools, training programs and knowledge of employment opportunities in the outdoor recreation industry, can be recognized by the fact that, of all the persons who were interviewed, having considerable bearing on careers in the entire outdoor recreation complex. Most employers relied upon personal application or word of mouth to secure their employees in both the winter and summer seasons.

The findings of the initial phase of this investigation indicate that the outdoor recreation complex does offer opportunity for employment now and in the future and that formal programs are needed to train personnel for these jobs. Thus to know much more before we can accurately estimate the number of jobs which exist, at what various levels of employment, these specific skills which are required by each, and which of these are best provided in formal education programs. Certainly many opportunities are presently overlooked because of an overall lack of information about employment within the industry.

RECOMMENDATIONS

The final instrument developed in the study should be used in a study of the outdoor recreation and its supportive enterprises in New England and New York State to determine the job opportunities and skill requirements of the recreation complex. This work will be Phase Two of the study.

From this data a teachers education program can be developed (Phase Three) which will utilize on-the-job experience for teachers of recreation.

In addition, the recreation complex, with its supportive enterprises and educational institutions, should open avenues for development because they provide programs on the secondary, post-secondary and adult education levels to teach entry level competencies and upgrade present employees. This will require educational institutions utilizing the recreation complex and educational programs to develop advisory councils to keep themselves aware of the changing needs of employment.

At the completion of Phase Three, there will exist a coordinated effort to provide relevant training for employment within the outdoor recreation complex. Programs may be offered during the summer and year around to meet the needs of youth, or adult programs, open-ended or for specific grade levels, curriculum designed to meet the specific needs of the outdoor recreation and supportive enterprises.
An arboretum is defined as a plot of land where different trees, shrubs and other woody plants are grown for study and popular interest. The plants may be arranged and labeled according to the family and the relationship to other plants of the same species. The arboretums and botanical gardens located throughout the world were started by wealthy individuals who had an interest in plants and plant materials. Generally they are open to the public and have the double interest and appreciation of plant life. They have increased the scientific methods of growing trees and shrubs. Most arboretums collect plants from many parts of the world and attempt to raise new and rare plants in an environment quite different from that of their natural habitat. The Midelton Gardens near Charlotte, South Carolina date back to 1760 and are said to be the oldest formal gardens in the United States. Other arboretums in eastern United States originated prior to or during the Revolutionary War period. The New York Botanical Garden occupies 250 acres in Bronx and has the finest greenhouses on the continent. The National Arboretum in Benning, the Missouri Botanical Garden in St. Louis, the Fairchild Tropical Garden in Southern Florida, the Morton Arboretum near Chicago, the Arnold Arboretum in Boston, the Boyce Thompson Southwest Arboretum in Superior, Arizona are well known in the United States. One of the most unusual gardens is the International Peace Garden, containing about 2,500 acres, located at the geographic center of North America on the border line between North Dakota and Manitoba. It was planned to consolidate over 100 years of peace between the United States and Canada. Antioch Park, consisting of 262 acres, is a marvel in Winnipeg, Manitoba, Canada. The Royal Gardens at Kew, near London, the Botanical Garden in Rio Janeiro, founded by King John VI of Portugal in 1808 are foreign gardens of renown as are gardens in Melbourne, Australia; Buitenzorg, Java, Singapore; Calcutta, Vienna and Rome. The Jardins des Plantes, in Paris, is one of the oldest and largest in the world, growing over 15,000 species. Climatic conditions in the central Northern Plains area of U.S. are different than where most botanical gardens are located. Summers are dry, winters are colder, winds are prevalent and often strong, temperature fluctuates more readily than the southern and coastal regions. But efforts are being made to develop gardens in these areas. All gardens do not have to be large. Read articles by Robert Gambino, Keith Gough, Ronald Hefey and W. Stump in this issue to gain suggestions about how you may work with local individuals and organizations to start a local garden in your community.

A SCHOOL ARBORETUM

Established Arboretums Provide Useful Suggestions When you Start Your Own

Robert B. Gambino
Hosanna Valley Regional High School
Fall Fills, Connecticut

Have you thought about using the school grounds as a teaching aid in Ornamental Horticulture? Many teachers have, but few have done anything about it. I am talking about the development of a school arboretum or land laboratory that can be used by the total community, not just the development of a memory or turf plot near the school for class use.

In order to learn more about the scope and potential of such a facility, I visited arboretums, botanic gardens, and parks to gain an understanding of the established institutions and apply any of their practices or methods toward the development of similar facilities within the educational goals of the Hosanna Valley Regional High School Vocational Agriculture Center.

The following institutions were studied: Cornell Plantations, Ithaca, New York; Monroe County Farm, Rochester, New York; The Harkness Arboretum, Mentor, Ohio; George W. Landis Arboretum, Exeter, New York; Planting Fields Arboretum, Oyster Bay, New York; Brandon Cattle Company Arboretum, Oakdale, New York; and Longwood Gardens, Kennett Square, Pennsylvania.

Educational programs at these institutions run from guided tours to self-guided tours of plant displays in native and exotic collections of trees, shrubs, vines, and flowers. There are programs for Golden Age groups, Retired Children, and those with disabilities. The facilities are used for studies of ecology and environmental biology. There is coursework in plant identification and culture, flower arranging, Christmas decorations, and applied botany.

The Hosanna Valley Regional High School is located in the north western part of Connecticut on the banks of the Housatonic River and consists of a 55-acre campus with adjacent farm and a 3 1-acre nursery. In addition, there is a seven acre Christmas Tree plantation, flowing streams, and an 11 acre woodland. The Appalachian Trail runs through this property. The site contains potential in terms of natural science, education, and recreation education.

Specific items of interest found in most arboretums, botanic gardens, and parks which can be applied toward the development of a meaningful outdoor educational facility are:

1. Development of a plant selling program. Students can propagate native and ornamental plants and offer them to the public free of charge or at cost. In some cases the money could be used to purchase additional plants.

2. Arbor Day offers itself as an ideal time to introduce the community, schools, and students to the developing facility. On this day, donated specimen plants could be planted.

3. Donations of specific plant materials could be solicited from garden clubs, businesses, organizations, and the community. A list of recommended plant species can be obtained from Extension Horticulturist at State Universities.

4. A labor force will be needed to develop and maintain the facility. Certain students requiring a supervised work experience program could be given the opportunity to work on the facility and receive a nominal wage and a practical and educational work experience.

5. A nature trail can be developed within the school area encompassing native woods, mountain streams, second growth, open fields, and a river bank. This facility could be open to the public and would be an ideal adjunct to the educational resources of the Regional School District.

6. The facility could be used by the biology and science teachers to complement their teaching. The athletic department might use the trails as part of the cross country course.

7. An adult program offering courses or programs in tree identification, ecology, landscaping, and wild flowers, and Christmas decorations could be established. These programs could use knowledgeable students and/or volunteers as assistants or instructors.

APPLICATIONS OF AMERICAN ORGANIZATIONS OR REGIONS could offer a program similar to "Head Start" by providing a meaningful agricultural and horticultural experience for inner city children using the Vocational Agriculture Center and Arboretum as headquarters.

The implementation and success of this idea will be the result of coordinated efforts on the part of the Hosanna Valley Regional Agricultural Center, the school staff and administration, the Board of Education, and community leaders.

From the Book Review Editor's Desk


Subtitled "Approaches to Providing Children with Educational Experiences in the Out-of-Door," this book contains an assortment of ideas, suggestions, and guides that educators may use in providing students with educational experiences outside the four walls of the classroom. The editor and his colleagues, mostly of the Department of Outdoor Teacher Education at Northern Illinois University, Linda Tell in the Field Campus, designed the book as an aid for teachers in providing students with supplemental outdoor experiences. The book presents a variety of subject matter including, conducting field experiences, animal studies, wildlife observation and capture, environmental community resources, ecological studies, ecology and wildlife, and other topics such as measurement and mapping, nature arts and crafts, plants, outdoor recreation, water and weather.

The book contains suggestions that would be valuable in ecological studies. Activities are suggested that provide the setting and inspiration for innovative approaches to teaching language arts, mathematics and possibly other courses—especially for the students who don't "get it" in the classroom.

Many of the "tips and tricks" included in this book have direct application for teaching applied biological and agricultural sciences, the development of secondary foods in rural and urban schools. A copy of this book would be a welcome contribution to the teacher's library.

David L. Williams
University of Illinois
EARLY LEADERS IN VOCATIONAL AGRICULTURE

Louis M. Saaman
Wisconsin

6. Contributed numerous articles to Agricultural Education Magazine and other national publications.

He was born and raised on a farm at Black Creek in northeastern Wisconsin and attended a one-room rural school in that area. He graduated from the Appleton High School and enrolled in the College of Agriculture, University of Wisconsin, from which he received a Bachelor's Degree in 1916 and a Master's Degree in 1926. His ambitions to farm were modified by a physical condition and he started to teaching vocational agriculture in 1918 at New Richmond, Wisconsin. Additional teaching experience was gained at Omro, Wisconsin, and Chary, New York.

Mr. Saaman has maintained high standards in all aspects of vocational agriculture. Among his most severe critics respected the quality which he built into local and state level programs. Nowhere was his more true than in the development of effective agricultural mechanics programs.

Leadership development as a part of vocational agriculture was recognized early in the program in Wisconsin. Agricultural clubs were common in most of the departments from the beginning and developed activities and programs in leadership which provided a springboard for the launching of FFA chapters in 1929. As State FFA Advisor, Mr. Saaman stimulated the development of a wide variety of activities including public speaking, quarry, band, junior fairs, camping programs and regularly scheduled radio programs.

While Mr. Saaman's deep appreciation of rural life and of the significance of farming never wavered, his total dedication to the interests of students, teachers and agriculture in general, was always evident.

Recognizing the wide variation in the interest and academic ability of students, Mr. Saaman stressed the potential of vocational agriculture to stimulate and to motivate all students toward becoming effective students in their own capacities. Relatively narrow interests of some students were diversified, and an individual's interests were expanded by his involvement in a variety of practical and academic activities which greatly broadened their occupational and educational horizons.

While specific competencies were recognized as being important in getting started in an agricultural operation, narrow specialization was not allowed to limit students to blind occupational alleys from which there were no alternatives.

The soundness of Mr. Saaman's philosophy is reflected in the careers of thousands of vocational agricultural graduates in all phases of agriculture who have successfully met the endless challenges encountered in the dynamic agricultural industry.

At the national level, Mr. Saaman served on numerous AAV and U.S. Office of Education committees, including those which developed the initial guidelines for evaluation and certification of vocational agriculture. He served as Vice President of AVA for agriculture from 1931 to 1932. He received the Honorary Wisconsin Farmer Degree in the FFA in 1947 and the Honorary American Degree in 1947. He is a 32nd Degree Mason and has been a Mason for over 50 years. He has been a member of Kiwanis for over 35 years and is active on committees on Agriculture and Conservation and International Relations.

Mr. Saaman retired in 1960 but has maintained a keen interest in the continued progress of agricultural education. He is serving as State Director of the National Retired Teachers Association with over 7,000 members in Wisconsin and organizes and coaches defensive driving courses on a volunteer basis in addition to numerous other activities. He is in good health and continues to make his home in Madison, Wisconsin.
ENVIRONMENTAL MANAGEMENT & VOCATIONAL AGRICULTURE

A FFA member leads a class of elementary students along a trail in search of wildlife identification and collection. Other topics included study bird life and wild animal habitat.

Echoing from every corner of our nation today is an increasing awareness of environmental management problems ranging in size and scope from the small indigestible fiberglass cigarette filter to the oil slicks and burning fuels of rampant offshore oil wells— from D.D.T. in the Great Lakes to salmon to stocks of decaying automobiles and —from atmospheric jet stream to the slums of overpopulated urban centers. Untold other problems, many yet unidentified, are looming ahead as we continue the rapid pace of a progressive civilization. No matter how we attempt to categorize our environmental problems of resource management— they all turn out to be people problems. Legislatures and laws may give partial answers, but for lasting solutions only education has the answer in helping people understand themselves, their problems, and their solutions.

Agricultural industries and schools offer training in this direction, but still more and better programs are needed. At Prairie Heights Community Junior and Senior High School, situated in northwestern Indiana, we attempt to incorporate this training into our Vocational Agriculture curriculum with emphasis on the vocational opportunities existing and developing in the natural resource area. Our school, built on a 196 acre farm, is located adjacent to a State Fish and Game Management Area in rolling lake country. This outdoor laboratory of crop, wood, and waste land areas coupled with our geographical setting provides ideal opportunities for natural resources education and training.

Contact begins with the Junior High students where emphasis is placed on topics of general conservation as they apply to all phases of agriculture. Junior High students assist in maintaining a bird house (see page 14 for a green shelter built for developing) Nature Trail established by the local F.F.A. Chapter when the school was built. The trail winds through an old orchard and includes a dozen stops, each emphasizing different features. Stops include information about wildlife, soils, roads, and insects. The Junior high school students have planted trees and shrubs, built foot bridges, taken wildlife study trips, and camped overnight at the half acre pond (which was constructed through F.F.A. planning and financing) as part of their extended class activities. Freshmen and sophomore students receive instruction in forestry, wildlife, and conservation as part of their two-year high school curriculum. During these years they have opportunity to learn and apply basic natural resources principles on the school acres. Students learn to use soil, weather, climate, timber, judge soils, manage wood and apply soil conservation ideas part of their study efforts.

Junior and senior high school students have the option of selecting courses in Production Agriculture, Agriculture Mechanics or Natural Resource programs or a combination of these. Four Natural Resources summer camps are offered enabling the student to complete a major. Topic titles include Wildlife and Wildlife Resource Conservation. The present sequence in Soil and Water or Resource Conservation is based on student interest, however, strong interest and participation in the Wildlife and Forestry courses ensure their probable success. Related activities carried out on the school and campus and in the surrounding community provide the link between theory and practices, reinforcing classroom work. A list of prime activites which have helped include:

1. Establishing and improving the school farm nature trail.
2. Providing exhibits for elementary and visiting adult groups on the farm and nature trail.
3. Planning, financing and stocking a one-half acre wildlife, bird and fishing pond.
4. Collecting daily weather information at our weather station for Purdue University Agricultural Weather Advisory Council.
5. Observing and maintaining phytology plantings in cooperation with Purdue University Agronomy Department.
6. Planting approximately 10,000 evergreen seedlings annually.
7. Establishing a host area for natural alfalfa weevil control by purchasing seeds from extension service of Purdue University Entomology Department.
8. Using strip cropping and contour tillage practices on the 100 tiltable school farm acres.
9. Live trapping, weighing, photographing and releasing small fur-bearing animals.
10. Building wood duck and blue bird nesting boxes.
11. Feeding wildlife corn and grain meal during the winter (from our songbirds miladises project).
13. Completing taxidermy work with fish, fur and fowl specimens.
14. Conducting a fishing derby at the school pond.
15. Visiting the Pigeon River Fish and Game Area.
16. Listening to conservation and forestry specialists concerning local problems and career opportunities.
17. Identifying trees and conducting timber surveys.
18. Building a rustic log cabin on the nature trail.
19. Taking each student on an airplane ride over his home and the school farm.
20. Cooperating and working with people of our community.

A supplementary experience in Natural Resources includes a one week chapter achievement trip each summer to the Canadian wilderness for those student members qualifying through the chapter achievement point system. Planning, traveling, cooking, playing, and just living together for a week in an area where the lake water is safe to drink and stars twinkle visibly brightener above a vespers fire at day's end develops a deeper understanding and concern for our increasing environmental problems.


Forests and Forestry is a text that will provide a better understanding of forestry. The text is well organized, the sentences are very short and simple, and at the end of each chapter the chapter summary provides a brief account of the chapter. The list of references at the end of the chapters is not extensive but is a good start.

Chapter 1 suggests a rather broad introduction to the subject of forestry and forestry education. The chapter begins with a brief history of forestry in the United States and its development and emphasizes the need for forestry education to meet the needs of the future. The chapter concludes with a discussion of the role of forestry in the United States and the world, with an emphasis on the importance of forests to the world's population.

Chapter 2 introduces the concept of forest ecology and the role of forests in the environment. The chapter discusses the structure and function of forests, their role in the environment, and the interactions between forest ecosystems and human activities.

Chapter 3 discusses forest management and the principles of sustainable forestry. The chapter outlines the main principles of forest management, including the principles of sustainability, the importance of using renewable resources, and the need to balance ecological, economic, and social objectives.

Chapter 4 examines the role of forests in the economy and the importance of forestry education. The chapter discusses the role of forests in the economy, the role of forestry in rural development, and the importance of forestry education in preparing the next generation of forest managers.

Chapter 5 addresses the role of forests in the environment and the importance of conservation. The chapter discusses the role of forests in the environment, the importance of forest conservation, and the role of forestry education in promoting forest conservation.

Chapter 6 explores the role of forests in society and the importance of education. The chapter discusses the role of forests in society, the importance of education in promoting public understanding of forestry, and the role of forestry education in promoting public support for forest policies.

Chapter 7 examines the role of forests in the future and the importance of planning. The chapter discusses the role of forests in the future, the importance of planning for forest management, and the role of forestry education in promoting long-term planning.

Chapter 8 addresses the role of forests in the future and the importance of technology. The chapter discusses the role of forests in the future, the importance of technology in forest management, and the role of forestry education in promoting technology transfer.

Chapter 9 explores the role of forests in the future and the importance of international cooperation. The chapter discusses the role of forests in the future, the importance of international cooperation in forest management, and the role of forestry education in promoting international cooperation.

Chapter 10 addresses the role of forests in the future and the importance of policy. The chapter discusses the role of forests in the future, the importance of policy in forest management, and the role of forestry education in promoting policy development.

Chapter 11 examines the role of forests in the future and the importance of public participation. The chapter discusses the role of forests in the future, the importance of public participation in forest management, and the role of forestry education in promoting public participation.

Chapter 12 explores the role of forests in the future and the importance of research. The chapter discusses the role of forests in the future, the importance of research in forest management, and the role of forestry education in promoting research.

Chapter 13 addresses the role of forests in the future and the importance of education. The chapter discusses the role of forests in the future, the importance of education in promoting public understanding of forestry, and the role of forestry education in promoting public support for forest policies.

Chapter 14 examines the role of forests in the future and the importance of technology. The chapter discusses the role of forests in the future, the importance of technology in forest management, and the role of forestry education in promoting technology transfer.

Chapter 15 explores the role of forests in the future and the importance of international cooperation. The chapter discusses the role of forests in the future, the importance of international cooperation in forest management, and the role of forestry education in promoting international cooperation.

Chapter 16 addresses the role of forests in the future and the importance of policy. The chapter discusses the role of forests in the future, the importance of policy in forest management, and the role of forestry education in promoting policy development.
ENVIRONMENTAL SCIENCE EDUCATION IN OHIO

Jack Neumarch, Vocational Horticulture Instructor
Washington Park Horticulture Center
Cleveland, Ohio

and

Welch Barnett
State Supervisor of Agricultural Education
Columbus, Ohio

Educators in vocational high school programs and two-year post-high school technical training programs in Ohio have recognized in a three-fold manner the need for training in the environmental science and protection area. A pilot program has been established in the Cleveland City School District where agricultural education students receive training relative to environmental science and protection.

A specialized reference is being developed in the Agricultural Education Division of The Ohio State University for agricultural education programs in water management.

Technician training programs in water pollution control are in operation in the Muncie Area Technical Institute (MATT) located at Zanesville, Ohio. Plans for initiating two or three additional vocational environmental science as a course of study program is being completed for the 1971-72 school year.

Vocational Environmental Science and Protection

Environmental protection is the "in" topic today in nearly all types of communication and news media. What is being done to improve our environment at the grass roots level? This Cleveland Schools is answering this question with a two-year course in Environmental Protection, designed to prepare students in grades 11 and 12 for skilled jobs in the fields of air, water, and land pollution detection and treatment problems and pest and sanitation control. Students are being prepared for jobs such as air and water samplers, pollution inspectors, testing and treatment specialists, exterminators, sanitization aides and equipment maintenance specialists.

Advocacy Assistance

An advisory committee composed of representatives from municipal government, division of Air Pollution Control, Water Pollution Control, and Health and Industry personnel from sanitation and pest control have established a joint project for students desiring to be serious in the field of environmental science. The project is designed to help students in the classroom. It is a joint project of the City of Cleveland and the Department of Environmental Science.

Curriculum

The environment involves all the surroundings, and because of this, a large scope of material is included in the course. The "in class" brings together the sciences of biology, chemistry, physics, meteorology, bacteriology, ecology and plant material science. A two-year course for students with a high school diploma can be completed in two years.

Equipment

The costs for training in the environmental protection area are high and the amount set aside for equipment is subject to inflation. The organization is designed to meet the needs of the individual for a variety of equipment.

Facilities

The Washington Park Horticulture Center, located within the heart of Cleveland's industrial and public protection problems, was established to meet the needs of the community. The center provides an opportunity for students to work with the latest equipment and techniques used in the field of environmental science.

School officials at Penta County Technical Institute and Muncie Area Technical Institute have also provided assistance. Administrative personnel in sewage and water treatment facilities have been able to provide training in the areas of water pollution and sewage treatment, especially at the water quality level in sewage and water pollution control. The need for water pollution control employees will be very serious in the future.

Resource Testing Reference

A reference titled "Water Management Reference" will be used with 11th and 12th grade vocational agriculture students. These students will be cooperatively placed as municipal sewage and water treatment plant facilities to gain practical on-the-job experience.

The 11th and 12th grade experience will be the finishing process of a high school education. Through the 12th grade program now in operation in Ohio at many locations covering the area of natural resources, the student is exposed to a variety of environmental science experiences. The World of Work Educational Program will emphasize natural resources and exposure to the world of work concerned with natural resources. The 7th and 8th grade career orientation program will involve more specific information on natural resources occupations. The World of Work Educational Program will involve more specific information on natural resources occupations. The 7th and 8th grade career orientation program will involve more specific information on natural resources occupations.

Identification of Need

Needs for the water management reference have been established by studies held with a number of people at many different levels of environmental work. Administrative stressors, the identification of local government, the identification of water, State Department of Natural Resources, the Division of Water, the Ohio River Valley Water Sanitation Commission, the Columbus City Department of Health, and the Utilities Department for the City of Cleveland provided information needed by the students.

Post Secondary Two Year Technical Training

A two-year course in water pollution control technician was initiated at Muncie Area Technical Institute in the early 1970's. The program was designed to meet the needs of the local community and was designed to meet the needs of the local community and was designed to meet the needs of the local community. The program was designed to meet the needs of the local community and was designed to meet the needs of the local community.

Mobile Laboratory

One major item is a custom-built trailer laboratory. The unit is all-metal construction, 22 feet long, 8 feet wide, with 7 feet of aisle height. It is designed for complete laboratory in one section and a small office in the other. This mobile laboratory is self-contained with its own electrical power units, water tank, heating, air conditioning, and plumbing. Trailer equipment includes the following items necessary for a water test laboratory: refrigerator, BOD incubator, muffle furnace, steam and hot air sterilizers, vacuum pump, cabinets for microscopy, balances, glassware, chemicals and supplies.

Other portable items such as pH meters, thermometers, spectrophotometers, current velocity meter and sampling equipment are carried in the trailer as necessary. The laboratory can be moved to field location by a trailer truck. The trailer laboratory is equipped with a 3400 series pickup truck chassis.

Testing programs may require checking water quality at points distant from the sampling point. In these cases, the vehicle (or boat) will range out to obtain the samples for testing. Collectors will carry equipment to ensure changeable factors such as temperature and pH at the place of sampling, returning to the equipment in the mobile laboratory.

Two students touring the types of maps in the mobile laboratory prior to going on field work.
GET INVOLVED!

Minnesota FFA’s Reply to Quality Environment

W. J. Kortemaki, State FFA Executive Secretary
Minnesota Department of Education
Vocational-Technical Education Section
St. Paul, Minnesota

A sampling of the messages included:
I would like to make one thing perfectly clear — the air.

He turned to his niece, but our girls talk in the way.

Conservation is mostly conversation.

Tell your legislature, I did.

Our water is too thick to drink and too thin to flush.

Stop pollution, the life you may save is your own.

At 8:00 — gone tomorrow.

S.T.P. — Stop This Pollution.

Don’t yell Uncle — Yell anti-pollution.

Birds of a feather die together in polluted waters.

Notions that pollute die together.

Individuals who had strong feelings about smoking — a health hazard, took advantage of the event with 2½ x 3½ card paper to record: I don’t like second-hand smoke . . . Smokers pollute your lungs . . . The family that smokes together chokes together . . . Do you smoke? Are you coming to the State Fair next year?!

The environment issue has received the attention of nearly 14,000 FFA members in Minnesota. Focusing their efforts on preventing water pollution and improving the condition of the land, the FFA members have done much to improve the environment.

As part of the Building Our American Communities program, specific provisions have been made for Environmental Clean-up and Control of Waste, Air, and Solid Waste and Community Beautification Maintenance.

BOAC projects in use are:

River and Stream clean-up campaigns.

Planting of trees, grasses and shrubbery on banks of lakes and rivers to check soil erosion.

Environmental teach-in programs involving youth and outside speakers.

During the State FFA Camp ses-

Mr. Charles Well, instructor, Natural Resources Technology, at work in the laboratory section of the mobile trailer.

Mobile laboratories designed for such purposes are recommended in the U.S. Department of Health, Education and Welfare technical education publication "Water and Wastewater Technology." The recommendation can be well supported. The trailer will provide an excellent opportunity for practical field experience to complement instruction in the classroom, laboratory and on the job.

Internship and Employment

The water pollution control technicians in training will participate in a fourth quarter internship period of work experience, supervised by Muskingum Area Technical Institute personnel. During this period, they will be on the job, training for employment in private industry, local, county, state or federal government.

Minneapolis FFA’s popular State Fair Children’s Barnyard served as an "input" center for Fair-goers to express their concern about pollution and environment. Among the over 100 messages recorded during the three-day Fair was "I throw an arrow into the sky and it stuck!" The more timid individuals were provided an opportunity to drop a letter in the chapter house mail box.

Requests for recorded tapes and blackboard messages have been received from state, federal and private agencies interested in the pollution problem.

Messages from the State FFA Children’s Barnyard Sound-Off Slate on pollution and our environment were expressed in Chinese, Danish, Finnish, German, Japanese, Swedish and Vietnamese. Fair-goers wrote on the outdoor "gripes, groans and good ideas" public slate. Minnesota Governor Harold LeVander wrote in Swedish "Good air and clean water shall belong to us in Minnesota." Former FFA advisor, Leo Keskina, Inoka State Junior College executive staff and a member of the Minnesota State Fair Board, wrote in Finnish, "Keep Minnesota Clean."
From the Research Editor’s Desk

J. David McGreger

The Journal of Vocational and Technical Education

Ohio State University, Columbus, Ohio

ENVIRONMENT-RELATED RESEARCH IN AGRICULTURAL EDUCATION, 1969-70

Climbers with ideas on pollution and its prevention that they wish to put into practice are invited to do so at the Minnesota State Fair. One of the major projects was digging into the FFA Chapter's Mink pitchers. (Photo by J. K. Comfort, FFA Executive Secretary)

Gary F. Beasley and Earl B. Russell are graduate students in agricultural education and research associates at The Center for Vocational and Technical Education, The Ohio State University, Columbus. This compilation of agricultural education studies related to environmental quality is intended to reveal current research efforts and challenge those considering topics for future studies.

The quality of our environment is vitally a concern to all Americans. Some agricultural educators are expressing their concern through research which attempts to preserve and enhance the quality of our environment. Evidence of increasing concern is apparent in the listing of research cited from the Annuals of Studies in Agricultural Education in the four regions for 1969-70. Included are six completed studies and six in progress. All studies are available for loan from university libraries, university departments of agricultural education, or various divisions of vocational education.

Completed Studies


Ray Smith, Stillwater High School FFA advisor, discussing the pollution problem he observed while camping for a FFA tour to Europe in 1970. State FFA President Jim Sibley, Dekalb, and district FFA President Bruce M. Watertown, are shown on the right.

A number of FFA officers are selecting water pollution as their topic for their standard and entrance speech contests. Perry Bolin, Redwood Falls FFA member, won the 1970 State Soil and Water Conservation speech contest on the topic “Water Wealth or Worry.” Perry’s quiz question was “The responsibility to stop water pollution is yours and mine.”

Our environment and pollution was discussed at a number of FFA leadership district meetings.

A knowledgeable speaker talked to a FFA chapter meeting on water purification as related to pure nutrition.
Presentation of a gavel to outgoing NYATA president Mildred Gandilch, Montfort, Wis., by fellow Wisconsin teacher at the New Orleans convention. Left to right: President, Mrs. Gandilch; Royce Harvel, Girls Mills; Arvy Marshall, Richmond Center; Flexed Ranch, Highland; Raymond Lott; Chancellor, Dubuque; Ed Standley, Cuba City; and Lowell Arens, Manistoc, Ill.

Convention Highlights

From all reports and comments it appears that the recent NYATA Convention in New Orleans was the best ever. The hotel facilities were excellent, programs started and closed on time, attendance was above average and a good "good feeling" was prevalent. Following are a few of the highlights—

Glen McDowell, Platteville, Kentucky was elected President. He was the Vice President for Region IV.

Sam Steiner, Colby, Kansas, was re-elected Treasurer.

New Vice Presidents elected were William Harrison, Leedey, Oklahoma, Region II and Odel Miller, Raymond, Ohio, Region IV. Mr. Harrison replaced W. T. Black of Louisiana who retired from the Executive Committee and Mr. Miller replaced Mr. McDowell.

The Region VI Alternate Vice President is Jim Shadle, Berwick, Pennsylvania. He will be occupying the final year of a three year term.

The following associations were recognized for attaining 100% membership:


- Associations receiving the Professional State Association Award were:

- Outstanding convention speakers included:
  - Dr. Arthur Lee Hardwick, Associate Commissioner for Adult, Vocational, and Technical Education, United State Office of Education.
  - Fred Stine, Publisher, SUCCESSFUL FARMING Magazine, Des Moines, Iowa.
  - Honorable Congressman Orval Hendler of Idaho.

- Jim Guliglia of Sycamore, Illinois because he was the first teacher of Vocational Agricultural to pay for a Life Membership in NYATA.

- The reception sponsored by the Louisiana Association was superb. Also, the "foot bags" full of favors were great.

- Something new was the many fine door prizes provided by the Mississippi Association. These prizes were presented at the close of each General Session.

Resolutions

The following resolutions were adopted by the NYATA Delegate Body at their final general session at the New Orleans convention.

- PROFESSIONAL LEADERSHIP—recommends that AVA consider employing specialists in each of the fields of service.

- NATIONAL PFA JUDGING CONTESTS—recommends that vocational agriculture teachers increase their suggestions to the National Contests Committee for improvement of the contests.
A former vocational agriculture student who has been established in farming for the past 15 years in the Hennessey, Oklahoma community is visited by a state vocational agriculture staff member. Earl Marshall is president of the Young Farmer Association of Oklahoma. Donald D. Brown is district vo-ag supervisor and consultant to the Young Farmer Organization in Oklahoma. (Photo by Robert Price, Oklahoma State University)

Stories in Pictures

ROBERT W. WALKER
University of Illinois

A range management tour was part of the program at the South Dakota Agriculture Teachers Annual Conference, August 3-6, 1970. (Photo above by H. W. Gadda, South Dakota State University)

Floriculture students learn disbudding andstaking of potted chrysanthemums from their high school instructor, C. C. Beam, Hesston, Virginia. (Photo left by C. C. Beam)