MSU Professor Donald O. Matthey, secondary education, presents Dr. H. Paul Sweeney with one of several awards given him at his retirement party during the Michigan MATVA seminar held the latter part of July. Shown next to Dr. Sweeney is his wife.

Fabian Smart, left, executive director of the Minnesota Association of Cooperatives, visiting with Jack London, executive director, presenting two volumes of RIDE OF AMERICAN COOPERATIVE ENTERPRISE to the Center.

Stories in Pictures
by McMillian

Participants in the Feed Technician Workshop, University of Arizona are Mr. Carl Davis, Tempe, and Mr. Fred Alteme, Auma for Urban Avondale. In the background is Mt. Jim Brown. Photos are teachers of vocational agriculture at Arizona. (Photo by Canon Jacobs)

Agricultural mechanics and crops highlighted recent Swiss tour for Charles Seehle of Wayville, Ill., who won the National Vocational Agricultural Teachers' Association winner of a Gilbe-Gregey Agriculural Recognition Award. Seehle worked machinery at the Cantonal School of Agriculture in Morges, Switzerland.

Dr. W. C. Butts (left) is dedicated to producing the best possible radiographs. Here he paints out the deformation of detail in a radiograph to students gaining first-hand experience in radiology prior to their DVM degree at Texas A&M University's College of Veterinary Medicine. (Photo by Forrest Rokicki)

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The AGRICULTURAL EDUCATION MAGAZINE

1975 SCHOOL FARM PROGRAMS

EDWARD Shipley, The Pennsylvania State University, University Park, Pennsylvania

School owned animals, plants, and facilities are necessary to provide the opportunity for city students to obtain practical experiences which they otherwise could not obtain. The nature of the background of the agriculture student population has increased the dependence upon school-owned educational facilities. The school shop, greenhouse, farm, orchards, forest, lake, nature trail, game preserve, grounds, golf greens, etc. are more important now that a smaller percentage of the students can have access to facilities away from the school. Rest Simson, the father of the home project idea, said she and the school dairy herd of Smith's Agricultural School at Northampton, Massachusetts if the year had been 1973 instead of 1967. Agricultural schools of that time were not boarding (dormitory) schools in which students did the farm work. Undoubtedly, much practical learning took place as well as work, nevertheless, the term "occupational student labor" was used by Simson and others to describe the situation.

High schools were becoming more numerous and annually more farms as well as newer in travel time because of improved roads and the increase in automobiles. Young Simson argued that "boys were coming in from farms bordering on dairy farming problems, and returning to those farms in the afternoon, and that he did not want them or their instructor thinking for a moment about school-owned cows." Unquestionably, supervised occupational experience programs in an actual business setting, whether ownership of the facility or a lease, is a key to many programs. However, the reality of experience programs in actual business settings is greatly limited by the numbers of students enrolled in high school agricultural programs. In many locations and situations, experience in an actual business setting must be considered a "sinequiva" for the final year of agricultural study. We know what is best, but there is not enough room to go around.

The school farm or other operation has been made over the years in the use of school-owned facilities as a result of such actions as in the school budgeting school of the early 1950's in this country and the great proliferation in boarding schools of the developing country must be avoided. To avoid it, first, a school's facilities must not be expected to self-support. Making a profit and good teaching of agriculture on a school farm and most other laboratory facilities cannot easily happen simultaneously. Unable and inexperienced individuals, being neither proficient or efficient, cannot make a profit for the school. To do so, the school must achieve the same task long after they become proficient, not education. The funding of a school laboratory facility—farm, greenhouse, school grounds or forest—should be such that free labor is discouraged.

One of individual or group student ownership projects in one or school laboratory facilities is the alternative that will increase student morale, interest and learning. Another useful procedure for school- or ffa-owned enterprises is to have a project of some type become student proficient through use of work-study money or money made from the enterprises. The profit sharing idea of giving student workers a bonus based on the productivity of the enterprise is also a good practice.

With extensive school laboratory facilities, a manager or teacher aide can be well justified, but it is a good practice for every teacher to be a part-time laboratory manager. The teacher should be involved exclusively with the laboratory facilities rather than teaching. I say this because I once visited some dormitory schools in Brazil where students were in the classrooms with their teachers in the morning and with the lab manager in the afternoon. The teacher hardly ever saw the farm manager or the farm. The obvious lack of coordination in this situation could occur in some high school situations in this country, the possibility in two- and four-year colleges is more likely.

Another practice that will assist in giving students a good understanding in school facilities is the use of a checklist of experience which are to be gauged. This checklist could take the nearly identical form of a cooperative education program or the form of a short program chart on which skills are graded and checked off. Regardless of the pattern followed, individualization of the activities should be allowed.

In summary, the school farm or other laboratory which is best second to home farm or other agricultural settings is not the best alternative we have for many of the students we serve. Some suggestions for using laboratory facilities follow. School laboratory facilities should not be expected to be profit making. With such projects in school laboratory facilities, the teacher of the related subject matter should be the manager of the facility. Individual or group ownership projects in or on school laboratory facilities should be encouraged as a way to improve interest, morale and learning. Once students have repeated activities sufficiently to become proficient, they or somebody else shall be paid to do the work. An individually prescribed plan of experiences to be gained in the school laboratory situation similar to a good cooperative education training plan should be used.

- MRM
New Special Editors

Dr. Gordon I. Swanson is a Professor of Agricultural Education and Director of Graduate Studies in the Department of Vocational Education at the University of Minnesota. Service as a vocational agriculture teacher preceded his university faculty appointment. Since joining the faculty he has taken leave on two occasions, once in 1959-60 to accept an appointment with the UNESCO Secretariat in Paris, France, and again in 1972 to accept a Fulbright Fellowship for study in the Federal Republic of Germany. Maintaining a continuous interest in an international perspective, he continues to serve on the Joint FAO/UNESCO/ILO Advisory Committee on Agricultural Education and Training. As Chairman of the Committee, Professor Swanson has made it a point of personal contact with leaders in agricultural education in the developing world. Among the many of his numerous travels, he visited many countries in Asia, Africa, and Latin America.

New Historical Editor is CLARENCE BUNDY

The new historical editor for the Magazine is Clarence Bundy, Professor Emeritus and former chairman of the Department of Vocational Education at Iowa State University. Bundy became an agricultural education teacher in 1929 and active as an agricultural education teacher until his retirement last year. He now maintains a consulting service for agricultural and educational clients. Dr. Bundy has written numerous articles and a number of books which are revised regularly, and he is co-author of a book on Methods in Adult Education which has been revised. 

The new feature editor for the Magazine is JASPER LEE. Lee has M.S. and M.E. degrees in agricultural education from the University of Georgia and the University of Florida. He has served as a teacher of agricultural education, and currently Associate Professor of Agriculture Education at the University of Georgia. His research interests include the development of curricula and instructional materials for agriculture, education, career education, and vocational education. He has authored a number of articles and publications, including a book on the history of agriculture education in Georgia and the Southeast.

Themes for Future Issues

February — Programs in Natural Resources
March — Utilizing Resources in Teaching
April — Informing the Public
May — Teaching the Disadvantaged and Handicapped
June — Women in Agricultural Education
July — The FFA
August — Servicing Out-of-School Groups
September — Guidance, Counseling and Placement
October — International Agricultural Education

Agricultural Career Education in the City of New York

George Chotin, Coordinator
Agricultural Career Education
Office of Career Education
Board of Education
City of New York

George Chotin, the author of this article, (right) confers with teacher and students of ornamental horticulture in Prospect Park.

Varied Programs and Opportunities

The only facility offering a program of farm and agricultural management is at John Bowne High School. The school boasts a 3.9-acre land laboratory, a well-equipped agricultural mechanics shop and classrooms for vocational programs. The laboratory is organized to provide opportunities for the students to land laboratory or agricultural mechanics shop. Thus, the students have the opportunity to work in the fields, in the shop, and in the classroom.

The three-year program is not limited to the experiences afforded to the students on the land laboratory or agricultural mechanics shop. Thus, the students have the opportunity to work in the fields, in the shop, and in the classroom.

In the past year, the program has been expanded to include a three-year program of study in agricultural education. The program provides for a two-year course of study in agricultural education, and a one-year course in practical agriculture. The program is designed to prepare students for a career in agricultural education or for further study in agricultural education at the college level.
Vocational Agriculture Brightens Future of Big-City Students

William E. Drabham

The Walter Bishop Saul High School of Agricultural Science is a Pennsylvania public school located in the heart of Philadelphia, just outside of downtown.

As more and more students enroll in the agricultural science program, the school has had to expand its facilities to accommodate the growing number of students.

The program is designed to provide students with the opportunity to learn about agriculture and to prepare them for careers in the field.

In addition to the traditional classroom instruction, the school offers hands-on experience through partnerships with local farms and organizations.

Students are able to apply the knowledge they gain in the classroom to real-world situations through internships and work-study opportunities.

The school also offers a variety of extracurricular activities, including a gardening club, a horse-riding team, and a forensics club.

Overall, the Walter Bishop Saul High School of Agricultural Science is an excellent resource for students interested in pursuing a career in agriculture.
Once students enroll, they stick with it. The dropout rate is the lowest in the di- 

delphia.

three years — the lowest rate in the city's secondary school system.

Bartholden believes dropouts are few because students have set goals for themselves and are determined to reach those goals. The exceptionally low

class-cutting rate, fewer than six a year, also reflects high goal-mindedness on the part of the students, he says.

Other statistics also indicate that W. B. Saul students take their education very seri-

ously. About one-half of the graduates enroll in two-year or four-year colleges; 80 per cent of the stu-

dents in the most cutting curriculum enroll in cooperative programs where they work on the job during the year in businesses or institutions to gain on-the-job experience, with pay.

"Our school records show that most of the cooperative education enrollment came to school early and graduated full-time upon graduation," often at the same place where they received on-the-job experience. In gen-

eral, our graduates have little trouble finding jobs after graduation. The dropout rate, he says, is "not high but very workable."

"But most crucial to the success of the school is the attitude of the student. With hours varying between 7:15 to 20 hours from home to school each day, we know the school is meaningful to them and to their parents."

Conservation

An exciting and most recent offer is our conservation program. More than $250,000 has been appropriated for restoration projects in Alley Park located in the Borough of Quakertown, and near the high school. The funds are available through the full cooperation of the Parks, Recreation, and Cultural Affairs Commis-

sions and the Borough of Quakertown. The program is supervised by Parks Department personnel in establishing a wildlife refuge, nature

trails, developing stream banks, constructing ponds, and controlling soil erosion. The instructional

program includes classes in wildlife management, soil science, water management, and

the history of human influence on the traditional wildlife of the area. The students

are active in the conservation activities of the area. They are also active in the conserva-

tion effort at Alley Park.

Some Future Plans

We are still in the planning stages of the cooperative program with the city's

public schools and the city. Plans are now being made to offer cooperative programs to our adult population. For example, the

program for high school graduates is to see if they can upgrade their skills and

move into the adult education program.

A pilot program in Vocational Horticul-

ture is in operation at the high school. Students have been selected to participate in this program.

Agricultural education

Agricultural education is a key factor in preparing students for voca-

tional careers. It provides an opportunity for students to develop knowledge and skills in the areas of agriculture and horticulture. By participating in agricultural education programs, students can gain valuable experience and skills that will be beneficial in their future careers.

In addition to developing career skills, agricultural education also helps students develop leadership, teamwork, and problem-solving skills. These skills are valuable in any career path and can be applied to a wide range of industries.

One of the primary goals of agricultural education is to prepare students for successful careers in agriculture-related fields. By participating in programs such as the one described, students can gain a better understanding of the industry and its various roles. This knowledge can help them make informed decisions about their future careers.

In conclusion, agricultural education is an important component of a well-rounded education. It offers students the opportunity to develop valuable skills and knowledge that can be applied in a variety of industries. By participating in these programs, students can gain a competitive edge in today's job market.

The Agricultural Education Association

The Agricultural Education Association (AEA) is an organization that promotes and supports agricultural education. The AEA works to improve the quality of agricultural education programs and to increase public awareness of the importance of agriculture to society.

One way the AEA supports agricultural education is by providing resources and tools for educators. The AEA's website offers a range of materials, including lesson plans, factsheets, and research reports. These resources can be used to help educators create engaging and effective agricultural education programs.

In addition to providing resources, the AEA also works to collaborate with other organizations and agencies to promote agricultural education. For example, the AEA partners with the National FFA Organization to support FFA (Future Farmers of America) chapters throughout the United States.

The AEA is committed to improving agricultural education and to preparing students for successful careers in agriculture-related fields. By working together with educators, students, and industry partners, the AEA is making a difference in the lives of young people and in the future of agriculture.
Agriculture Comes to the City

Boyle Miller
Ve. Ag. Teacher, Baton Rouge, Louisiana

The program of instruction in Ornamental Horticulture in the Vocational Agriculture Department of Baton Rouge High School, Louisiana, was established at the beginning of the 1946-47 school term. It marked the first venture into an institutional educational program in agriculture in a Baton Rouge high school and one of the very first such programs in any city high school in the State of Louisiana.

Another first was recorded as far as regional integration was concerned. Baton Rouge, a large black ghetto area of Baton Rouge, was consolidated, as applied to East Baton Rouge Parish Schools, was still in the future. The ideals that were, at one time, decided to begin the process of integrating its schools by employing a teacher of the opposite race from one of its all-black or all-white schools—elementary, junior high, and senior high schools. The principal of Baton Rouge High School had been putting for several years to put a program of ornamental horticulture into his school.

During the summer of 1947, Federal vocational and R.E.A. funds became available for instituting new programs of instruction in the parish school system. A white teacher of vocational agriculture with 28 years' experience was assigned to this task. Shortly thereafter, a teacher of the opposite race from one of its all-black or all-white schools—elementary, junior high, and senior high schools. The principal of Baton Rouge High School had been putting for several years to put a program of ornamental horticulture into his school.

Thus, fell into place a beginning in the city high school system. A white teacher of vocational agriculture with 28 years' experience was assigned to this task. Shortly thereafter, a teacher of the opposite race from one of its all-black or all-white schools—elementary, junior high, and senior high schools. The principal of Baton Rouge High School had been putting for several years to put a program of ornamental horticulture into his school.

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Horticulture and the FFA

Clifford L. Nelson
Teacher Education
University of Maryland

2. Select proficiency awards suitable for students of horticulture interest.
   a. Proficiency Awards closely related to all horticultural programs are: Ornamental Horticulture, Plant and Soil Science, and Agro-Environmental Improvement. These should be possible in the horticulture program.
   b. Proficiency Awards that are possible in the schools for horticulture students are: Floriculture, Ornamental Horticulture, Agronomy, Agro-Environmental Improvement.
   c. Recipients of horticulture programs should be allowed to participate in the state contest. Students from rural areas should be able to participate in the state contest.
   d. Select leadership activities suitable for horticulture students.
      a. Public Speaking and Parliamentary Procedure contests are excellent for all horticulture students.
      b. A state FFA Knowledge Quiz Contest should be of interest to horticulture students.
      c. Leadership training sessions held in state FFA parks, on a statewide basis and on the regional level should be attended by all horticulture students.
   e. Select state-wide contests suitable for horticulture students.
      a. FFA Horticulture programs should compete at state Ornamental Horticulture and Vocational Judging Contests.
      b. Many horticulture students would be capable of competing in the land judging and tractor driving contests. An occasional student may also be interested in those events and should be able to compete in the agriculture mechanics contest.
      c. Participate in National Contests that would be of interest to the horticulture student.
         a. Every horticulture chapter should participate in the National Chapter Award Program. This includes preparing for the contest and budgeting to submit the contest. No well-run organization can effectively operate without these.
         b. The Building Our American Communities Program fits in with many of the current horticultural program activities in the state which have included landscaping and beautification of public and private areas. BOAC is a program that could be very interesting and rewarding to horticulture FFA chapters.

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Virginia Beach is a rather unique city in that there are major farming areas within this city of approximately 200,000 people. Agriculture, with all of its related businesses, ranks with the tourist industry as the major source of income in the city. The major agricultural incomes are derived from dairy and swine, truck farming, agro-ecological crops, and horticulture. Within the last few years, there has been a tremendous upsurge of horticulturally related businesses appearing in the city. This, coupled with the constantly increasing urbanization of the area, has made horticultural opportunities even more numerous and inviting.

Students in the horticulture and agriculture classes offered by the Virginia Beach Vocational-Tech Educational Center are afforded numerous opportunities to prepare for their expected career tasks while at the same time developing expertise, confidence, ability, and responsibility in their role as a student and as a fellow horticulture-agriculture worker.

One of the main differences in rural and urban programs, however, is the opportunity for the teacher to work with the student in his out-of-school projects. Further, since many students come from homes with no acreage, the student has little opportunity to participate in certain activities that are considered a normal, everyday part of a rural vo-ag program. The urban program focuses on the needs of the local area, just as the rural program does. But the needs are different, and thus, there are different varied opportunities to prepare students for their expected career tasks while at the same time preparing them for the responsibilities they will face in their future careers.

(Congraded on page 158)
Include Adult Education in the Annual Program

J. C. Alberton
Teacher Education, Louisiana

World events in Vietnam and the Philippines have had a tremendous impact upon American society, and indeed, upon the entire universe. Who would have thought that almost overnight the Middle East, the center of world capital, or that our increase in food and fiber would be of such moment? The two events have led to the removal of a great number of human beings from their homes and a migration to other parts of the world, which has had an impact on the world's economy. The increase in food and fiber production has led to a decrease in the price of food and fiber, which has had an impact on the world's economy. The increase in food and fiber production has led to a decrease in the price of food and fiber, which has had an impact on the world's economy.

In the conduct of a comprehensive program of education in agriculture, there is a need for work with adults of all ages who should occupy a place of significance. This fact is even more obvious during this period of shortages, uncertainty and continuing inflation. The late Dr. H. S. Landis pointed out the need for adults who need education as much in periods of prosperity as they do in times of adversity. Currently, we are in a period of prosperity, but in many other times—such as times of war—wars of properity and definitely some adversity.

In the field of agriculture, adults are significant. Their role in the American economy is such that it is wise to expand time and energy in their behalf.

Many problems relating to the various aspects of agriculture need attention now. What is done about them is a matter primarily in the hands of the adult who is currently on the “front line.” He is the one who will determine the destiny of agriculture in this country, and he is the one who will determine the destiny of agriculture in this country. The solution and disparity of our problems will be decided or alleviated in one way or another, by the adults. In fact, the very survival of our way of life is in the hands of adults.

One should hasten to say that youth is important, and that youth and education should not be separated. On the other hand, education of future generations depends upon policy. This aspect of the agricultural education program has historically provoked the spirit of the future, and for many, the entire effort has been expended upon youth.

The central theme of this discourse is that a viable farm-management program for adult-oriented education in agriculture should be a central focus of adult education. This phase should be conducted in an organized way and on a systematic basis. Agriculture is a complex system, and it is impossible to thrive in such a system without adult education.
TEACHING AGRICULTURAL OUTDOOR PROGRAMS IN AN URBAN SETTING

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Teachers of vocational agriculture need to promote outdoor agricultural programs by using the outdoors as a teaching aid for adult classes, young farmers, and day classes. With these classes, a good foundation can be laid on which to build and provide each community the opportunity to participate in setting up its own outdoor area. Interest in using outdoor areas for educational purposes is increasing. Changes in patterns of work are resulting from shorter work weeks, earlier retirement, and longer life spans. These changes are bringing about increased leisure time for many people. How leisure time is used can contribute substantially to the quality of life of an individual. Leisure activities conducted in appropriate settings can make substantial contributions to personal satisfaction and result in renewed energy to cope with the realities of a technical society. Agricultural education can make a substantial contribution to quality of the facilities and activities available for outdoor recreation.

Agricultural activities in the outdoors can be rewarding for the aged as well as for the young. Teachers should be creative in planning activities for children, couples, with children, older people, and others. Teenage boys want to participate in activities that will impress girls. Teenage girls want to be near where there are teenage boys. Mothers and fathers want safety for their children to play, and they receive pleasure from watching their children enjoy various activities. Older people may prefer to relax in a quiet place, fish, take nature walks, bird watch, or just enjoy the beauty nature has created. Education is enhanced in an outdoor setting. Students become more involved with nature or natural resources and learn through observation, association and participation. People learn to use the resources of our natural resources. Concepts are best taught where involvement takes place. However, teaching outdoors cannot replace classroom instruction, but it enriches the learning and prepares the students for making good decisions regarding outdoor activities. The effective utilization of the natural resources as a teaching aid will help promote the educational growth of the student. Outdoor activities worked for me as a teacher of outdoor classes at the Deep River Outdoor Education Center in Gary, Indiana. Specifically, I taught the soil portion of the curriculum in the nature center by relating the conservation skills of an outdoor laboratory setting through the following:

A. Post project for soil problems
   A. Vocabulary-Building—Definitions of Words
   1. Soil
   2. Weathering
   3. Leaching
   4. Capillary action
   B. Problems in soil
   1. Does the depth of soil vary from area to area?
   2. Does the rate of water intake determine the amount that runs off?
   3. Is the physical formation of ice one of the physical processes that weathers rock?
   4. Is the variation in temperature one of the physical processes that wears away rock?
   5. Does frozen soil contain a detectable amount of water?
   6. Are there many kinds of deep-root plant life existing in the soil?

D. Recording trail observations
   1. Textures of soil
   2. Size of soil particles
   3. Soil profile
   E. Identification and study sheet of soil
   F. Observation of soil and water erosion

Objectives for Outdoor Laboratory Phase

The objectives for the outdoor laboratory phase of the course follow in an order. I present them for your use in the outdoor laboratory teaching situation.

1. To provide the student the opportunity to participate in outdoor activities in their natural setting and to get the students' experiences to their classroom learning experiences.
2. To provide motivation to classroom learning.
3. To provide the student the opportunity to develop interest and appreciation for outdoor life.
4. To enhance the existing instructional program.

Several important part of our natural resources not used wisely to sustain plant and animal life for generations to come.

Student Learning Activities
The following soil activities were selected to involve students concerning what could be done in an urban outdoor setting.

A. In the classroom
   1. Look at filmsstrips, movies, slides, etc. on soils.
   2. Look up words concerning soils in the dictionary.
Agriculture in Elementary School: A Challenge

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If we accept the premise that agricultural education should be taught in the elementary school as it was argued in the January 1973 issue of *Ag Ed Magazine*, and if such thought is to be given to the manner in which the agricultural topics should be included within the curriculum. Realizing that no simple approach may prove to be a panacea for all local educational programs, several concepts have been explored for consideration for the offering of agricultural instruction at the elementary level.

One possibility is a full-time agricultural teacher hired specifically for the elementary grades. This particular approach would permit an agriculture teacher to become trained and to implement an innovative and comprehensive education program for agriculture at the elementary grades. This particular teacher could then rotate from grade to grade throughout the year, teaching topics relating to agriculture. At full-time, the teacher could also conduct field trips for individual classes, supplement classroom instruction in the form of team teaching, and assist guidance personnel and those responsible for career education by providing up-to-date information.

Theoretically, and ideally, the concept of having a full-time teacher has many merits. But realistically, as long as a shortage of agriculture teachers exists and local finances are limited, the feasibility of this approach does not appear practical. This implies that some practical approaches must be considered if teaching agriculture in elementary grades is to become a reality.

A major thrust could be launched by the extensive development of materials, lesson guides, and teaching aids which elementary teachers could use in their instructional programs. This approach would permit the elementary teachers to plan and to carry out most of the instructional activities and the local agriculture teachers could serve as consultants to assist and to guide the elementary teachers when appropriate. Additional help delineate how this approach could be successfully implemented, several elements have been singled out for detailed discussion.

Curriculum guides — An effort to develop a well detailed curriculum guide to assist elementary teachers in planning agricultural instructional topics would provide valuable direction. This proposed curriculum guide should include all specialty areas of agriculture and also serve for direction for the instruction of careers available in agriculture.

Materials. These lesson materials should be based upon the proposed units of instruction identified in the curriculum guide. The format special project could also lead to different aspects of food production and processing. Mini-projects could be developed in the areas of conservation, animals, and many other topics and could take place in the classroom or be taken outside the walls of the classroom.

The outline of the mini-project would be as follows: topics related to materials needed; steps to follow; and a summary statement. This outline would provide a means for the instruction of the above topics and would contribute to the development of effective teaching-learning situations in the elementary grades. Filmstrips, slide sets with a caption narrated to teachers of all age groups, and other aids that supplement the instruction on agricultural topics would tend to encourage teachers to teach agricultural topics.

References — From page 161

1. Explore soil problems and concepts in groups. Tape replay for more discussion.
2. On the site:
   a. Take soil samples from several areas.
   b. Select the horizons on site.
3. Discuss soil and water erosion, including ways to control and prevent it.
4. Demonstrate and discuss how soil is made from rocks.
5. Study soil particles.
6. Discuss the possible movement of water on the soil.
7. Discuss the use of soil and water conservation.
8. Discuss the importance of minerals and moisture in soils.
9. Test pH of soil samples.
10. Compare soil samples to moisture content.

Additional suggestions to enrich the above outdoor activities, teacher the students how to convert eroded waterways into lakes, ponds, and small swimming areas. Teach the students how to develop nature farms into golf courses, nature trails, a bird sanctuary, campground, or even an animal farm.

The continual success of the program is up to you. You have to be willing to invest time and energy. Effective communication and instructional materials must be given to the advisory council, the students, and the administration. This is a crucial area where we are very much concerned and it is very important that you are there to help us. The environment in which you are working will have an effect on the development of the school. Teachers must be provided with the right training and support to develop new curriculum and materials.

To integrate community development with innovative teaching the instructor has to have the support of the school board, the community, and the administration. The school community and the administration are inseparable. If this is the philosophy of the school, the instructor can proceed by forming an advisory council based on the needs of the students in the course.

The objectives and goals should be developed through the joint effort of the council and the instructor. If the objectives and goals are feasible and agreeable to the council, then success is assured. The program can be considered on its way. An interested and enthusiastic advisory council will provide ideas and suggestions that may be considered. The students may have supervised work experience programs in the school and the community. School and community are inseparable. If this is the philosophy of the school, the instructor can proceed by forming an advisory council based on the needs of the students in the course.
ENVIRONMENTAL FACTORS
INFLUENCE INSTRUCTION

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"I can't hear" is frequently screamed when the teacher and student try to achieve verbal communication. Is it true that the student can't hear? Or is he using that as an excuse? Other forms of communication, such as pointing, touching, and reading are frequently utilized to increase the total communication process.

Noise levels experienced in the instructional environment of shops prompted Winfrey B. Clarke to conduct a research topic on the radial arm saw for his dissertation at the University of Minnesota.

Clarke selected the radial arm saw because it is a frequently used power tool in both the agricultural and industrial education shops.

The environmental factors of noise, temperature, and visibility greatly influence our instructional programs.

These factors are a part of each instructional program and lesson whether the student can't hear, can't see, or can't hear and the temperature is a distraction.

Architects and engineers have addressed themselves to the temperature and lighting problems in our school buildings but frequently NOISE problems are ignored. Failing the problem is being ignored may be an erroneous statement because of the present Occupational Safety and Health Act (OSHA) emphasis on noise in our environment. Frequently the teacher is told, "It has always been that way," or "You've got to live with the situation."

The test saw used in this study was a Delta Rockwell, 12-inch to 16-inch radial arm saw with an 8 horsepower, 3,450 RPM motor. The Brutel and Kjörer sound level meter (type 2204) with type 1613 octave band filter) was used to take sound pressure level readings and center frequency readings at four positions around the radial arm saw. See Figure 1. The different types of saw blades that were used in this study included a 14-, 15-, and 16-inch combination blade, a 16-inch rip blade, and a 12-inch crosscut blade. Initial readings of the 14-inch combination blade can be observed in Table 1.

The major contributors of the noise generated by the radial arm saw found to be:
1. Overall diameter of the saw blade number of teeth per blade, and the condition of the blade.
2. Impact of the blade on the work surface.
3. Possible acoustic dynamics resulting from cutting tooth configuration.

The 12-inch crosscut saw blade that with the 14-inch combination one his generated more noise at the center measuring positions than the other blades tested, and the 16-inch combination blade generated the least amount of noise. The major octave band frequency of the radial arm saw noise found to be at the center frequency of 4000 Hz, see Figure 2.

The data in Table 1 indicate that the 14-inch combination blade generated more noise overall than the other blades tested. The 16-inch combination blade generated the least amount of noise. The major octave band frequency of the radial arm saw noise found to be at the center frequency of 4000 Hz, see Figure 2.

The data in Table 1 indicate that the 14-inch combination blade generated more noise overall than the other blades tested. The 16-inch combination blade generated the least amount of noise. The major octave band frequency of the radial arm saw noise found to be at the center frequency of 4000 Hz, see Figure 2.

In the attempt to reduce the noise in and around the shop, three techniques were found to be useful: (a) cloud of sawdust with a static charge to control the noise is inaudible to the transverse process between the sawdust and the received. After applying static and the received. After applying static

FINDING: BASIC LANGUAGE
language program was used as an introduction to evaluate the attenuation that would be afforded by twelve different types of earplugs and earmuffs at the noise center frequency from 515 to 8000 Hz, for noise generated by the radial arm saw. The attenuation that was afforded by these twelve devices varied with the noise spectra. For example, a comparison was made with the radial arm saw noise which has its noise components predominantly in the high center frequency region, above 1000 hertz, and the wood planer noise which has its noise components predominantly in the low center frequency region, below 100 hertz. The effective noise reduction in dBA from ear muff E is an over-the-head type with a foam rubber cushion which allows for a seal between the muffs and the head. The other ear muffs tested included the earmuff B for the radial arm saw noise. The earmuff B provided 3 dBA for effective noise reduction than earmuff E. The reason for this was that the radial arm saw noise was at the lower frequencies which dominate the wood planer noise. Therefore, in selecting earplugs or earmuffs for effective noise reduction, consideration should be given to the frequency distribution of the noise and the wearability of the earplugs or earmuffs.

In measuring the effects of noise on the verbal communication, the Harvard University Psycho-Acoustic Laboratory Acoustically Isolated Laboratory Pal SOURCE (PAL-PB) standardized word lists. The test results showed that the noise levels of 90, 85, and 80 dBA, and the speech level kept constant at 70 dBA. Students understanding of speech was greatly influenced by varied degrees of noise. For example, when the noise level was at 90 dBA and speech level was at 70 dBA, the mean score for correct responses for the 22 test individuals was 10.7 out of a possible 100 words. But as noise levels were decreased to be more in line with the speech level, the mean scores for the test individuals increased accordingly. For instance, when the noise levels were at 85, 80, and 75 dBA, with the speech level kept constant at 70 dBA, the mean scores were 10.7, 85.3, and 95.5, respectively.

The students were correct. They can't hear with the radial arm saw operating. The saw produced a noise level which not only restricted verbal communication but it also subjected the teacher to the noise level for prolonged periods of time it can be injurious to their hearing.

(Coordinated on page 167)
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on the operation and
maintenance of farm
machinery, as well as the
economic considerations
involved in its use.
ON-JOB TRAINING — Students enrolled in urban Agricultural Education programs derive considerable benefits from supervised occupational experiences. Here, Barry Campbell, a student at Rosier F. Washington High School, New Orleans, Louisiana, is receiving on-the-job supervision from his agriculture teacher, Sidney Jenkins. Barry is receiving training in ornamental horticulture at The Royal Orleans Hotel. (Photo by J. C. Simmons, Louisiana State Department of Education)

PET CARE IS BOOMING — Small animal care is a popular activity in urban agriculture. Millions of pets require medical treatment each year in the United States. In this photograph, Attila Caffo is being examined for an injury. (Photo from Eastern Kentucky Company)

STORIES IN PICTURES

HORSES ARE FAVORITES — Large animals are popular with many urban students. Jane Cleverlaud, a student at Wilmington College, Wilmington, Ohio, is shown with one of her favorite animals. In addition to her personal enthusiasm for horses, she is planning a career in animal science. (Photo from Wilmington College)

AGRICULTURAL MECHANICS IS POPULAR — Many students like the hands-on activities of agricultural mechanics in urban agriculture. In this photograph, Don Crookett, agriculture teacher at Talladega County (Virginia) High School, is demonstrating the use of farm machinery equipment. (Photo by Robert Veltz, Photo Lab. & CO)

Theme — PROGRAMS IN NATURAL RESOURCES