SUMMER RESEARCH PROGRAMES: AN INVESTIGATION OF THE AGRICULTURAL EDUCATION PROGRAMS AVAILABLE TO NATIVE AMERICAN STUDENTS

Managing Editors
ROY D. DILLON, Editor, University of Nebraska, Lincoln, NE 68583; HARLAN E. RENDENNOR, Business Manager, The Ohio State University, Columbus, OH 43210.

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From Your Editor... WHAT DOES "MORE EFFECTIVE" DENOTE?

As a teacher educator, I ponder the term “more effective teacher education and supervision,” and ask “What does this indicate that I, we, they, should be doing that we are not now doing, or should not do that we are now doing?” This seemingly complicated statement has a simple answer, I believe—that being for teacher educators and supervisors to determine how to be sensitive to the pre-service needs of prospective teachers, and just as importantly, to the in-service needs of the employed teacher.

Judgments made by the teacher educator concerning what to teach in the pre-service teacher education professional courses must be carefully made, based on an accurate assessment of the competencies required by the beginning teacher. With the limited time available for students to obtain the many professional competencies “good to have” to start a new job, in most cases the teacher educator must select competencies to include in pre-service courses from a large list. In order to identify the most important competencies, and in the correct priority.

As an educator, I believe that being for teacher educators and supervisors to determine how to be sensitive to the pre-service needs of prospective teachers, and just as importantly, to the in-service needs of the employed teacher, requires that many factors be considered by a teacher educator who serves as a program developer. Communication channels must function properly if the innovative program developer is to get new programs developed within a reasonable time period.

When the verbal channel of communications is closed, the developer loses much of his effectiveness in developing new programs or in even maintaining the programs that are already in existence. At least he loses two doors for every one he opens.

Reasons for this communications channel becoming unproductive are numerous. Some of them are: (1) a feeling that the superior is incompetent, and (3) the feeling that the superior does not support the program the subordinate is promoting. One way to approach the topic of communication is to look at some of the pitfalls or traps which program developers get themselves into.

Guest Editorial... COMMUNICATION: VITAL TO INNOVATION

Hollie B. Thomas and Lloyd J. Philips
Agricultural Education Division
University of Illinois

Lloyd J. Philips

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The agriculture teacher may wish to take a trip to an agricultural business firm to “kick off” an agri-business course or develop interest in such a course. This field trip necessitates several arrangements to be made, permission from the administration must be obtained, a bus must be scheduled, and the students of the course must be notified of the upcoming absence. If the request for this field trip is delayed, the aspect of the program that the developer may have felt was very essential to the total program may not be supported by the administration because of the inconvenience that is caused by the shortness of time. The primary reason for fear is the pro-

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Cover Photo: An unusual, specialized instruction is used to provide prospective teachers needed experiences beyond which can be provided in the classroom. Students in the teacher candidate’s class in Upper Arlington, Ohio, learn about the ideal teacher and their role in modern education. (Photograph by J. H. Cates, Supervising Agricultural Occupations, Tennessee State Department of Education.)
CAREER EDUCATION – Implications for State Supervisory and Teacher Education Staffs

JAMES E. DOUGLAS
Ohio Agricultural Education Service Director

Career education is a revolutionary approach to American education based on the idea that all educational experiences, curriculum, instruction, and counseling should be geared to preparing each individual for a life of economic independence, self-respect, and an appreciation for the dignity of work. Its main purpose is to prepare all students for successful and rewarding lives by improving their basis for occupational choices through the performance of occupational skills necessary for employment or to continue their education.

Career education pervades all of education and everything we do is done, not for the sake of education, but for the sake of the student's career preparation. It is clear that career education is an idea whose time has come. In career education we are plugging for a new thrust; a change in the educational climate; not just an enrichment of our present K-12 program, but a changed curriculum.

Until we bring career awareness down into the elementary grades—unless we give young people the desire and motivation to aim for it, and unless we recruit them—until we prepare them to leave high school with a marketable skill or to continue their education, we cannot expect our present K-12 program to meet the needs of the students we are ready to enter. We will continue to shortchange our students and our society.

The principle responsibility for planning and conducting the total career education program is with the public education system in partnership with business and industry, the home, and the community. There must be a federal, state, and local system of leadership and funding if the career education is to move ahead and accomplish this change in our educational system.

Since the vocational education program is the major component of the career education movement, it is necessary for supervisors and teacher educators to work in educational institutions to become actively engaged with the state vocational education staff and other state educational agencies in performing their role in developing and implementing a statewide career education program. The question is not—who is to assume the leadership in implementing career education in the Agriculture, Natural Resources, and Environmental Management cluster but rather, how soon are we going to do it?

3. A curriculum guide with instructional materials that high school teachers can use in a career education program, hand-on experiences related to the agricultural industries.

Our vocational program is the major component in the total Agricultural Education Career Development Continuum.

There are high priority tasks that the career education program and the career education staff need to consider if quality programs are to be maintained, extended, and expanded to serve manpower needs in the total Agriculture, Natural Resources, and Environmental Management cluster. Some state staffs are well on their way to accomplishing those. However, they are:

1. Each state should develop a five-year plan that is realistic, practical, and inclusive, and quantify the qualitative objectives for all programs that are the responsibility of the career education.

2. Develop and put into operation, a career education continuum in Agriculture, Natural Resources, and Environmental Management.

(Concluded on next page)
TRENDS IN AGRICULTURAL TEACHER EDUCATION—10 YEARS LATER

Ten years have elapsed since the passage of the Vocational Education Act which called for up-dating existing programs and urged that new and better programs be adopted in all vocational education programs. A recently completed study indicates that changes are being made by many teacher training institutions to provide service-teachers with some understanding and expertise in the newer kinds of agricultural programs being offered.

Production Agriculture
All 40 of the agricultural education departments contacted, both in persons and by mail, are continuing to give a solid base in teaching production agriculture. The average number of semester hours required in agricultural subjects is 47.9 with a minimum requirement of 45.8 hours in some schools and 53 hours in plant and soil science, 6.7 hours in agricultural economics, and 6.7 hours in agricultural mechanics. This permitted 17.4 hours of agricultural electives up to the 47.9 total semester hours required.

Agricultural Specialties
Science changes are occurring in high school vocational agriculture programs across the nation with emphasis on specialty courses and on special programs, i.e., mechanization, forages, nutritional agriculture, small animal care, etc., and also because of the increased need for mechanical technicians in agricultural mechanics. This permitted 17.4 hours of agricultural electives up to the 47.9 total semester hours required in agricultural science.

Agricultural education teacher educators are interested in and are making efforts to keep their training programs abreast of changing techniques in agricultural education and in agriculture. They are interested in keeping their training departments up-to-date on current and future employment opportunities for agriculture.

The Internship Program is designed to provide interns in agricultural education with opportunities to develop and apply their ideas, concepts, principles and practices dealt with in the undergraduate teacher education program.

Advantages of Internship Program
For Participating High Schools

The interns are certified vocational agriculture instructors and are expected to perform duties and responsibilities equivalent to approximately 50 percent of a full-time vocational agriculture instructor. This provides an opportunity for the local vo-ag instructor to expand and improve his program to meet the needs of a greater number of young people and adults in the community.

The interns are expected to be vo-ag program rather than merely reteach the same vo-ag instruction of 50 percent of his responsibilities. The teaching and related responsibilities given to the intern are over and above those activities presently being performed by the local agriculture instructor. If the intern is given responsibilities of teaching classes presently taught by the local agriculture instructor, the local agriculture instructor is expected to assume some of these activities in other part-time teaching and related activities. This includes activities and responsibilities that are very difficult to perform without the assistance provided by the intern.

The Internship Program provides an opportunity to receive experience in teaching vocational agriculture as a certified instructor. This permits more realistic experiences than those provided during the regular teaching day or teacher education seminar.

The interns work closely with the local vo-ag instructor providing experiences in working with a certified instructor in a two-teacher department.

Advantages of Internship Program
For Participants

The interns are expected to perform an approximate 50 percent of the work of the full-time vocational agriculture instructor when he enters the teaching profession or a full-time basis.

The interns are given an opportunity to gain firsthand experience in teaching, (two or three classes) on-farm supervision, assisting in the co-op program, and participating in sunmer program. Although many of these activities are provided during student teaching, the responsibility is assigned to interns in carrying out these activities is much greater.

The interns can earn money while developing valuable skills and teaching abilities. In addition, the interns are permitted to earn approximately 60 percent of their graduate credits while employed as interns.

Advantages of Internship Program
For Participants

Our job as teacher educators should be that of simply developing an in-service program that attracts participants, but that of developing the in-service program most needed to improve the performance ability of occupational teachers.

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Step 2: Administration of the form to secondary level occupational education, and their perceived performance level on each performance element as well as the importance of each performance element to the teacher in his professional role.

Step 3: Occupational education experts will then rate the occupational performance level of the secondary level occupational teacher.

Step 4: The analysis will include a comparison of the occupational teacher's perceived performance level appraisal with the performance level as rated by the knowledge-able, experienced teacher who observes the teacher's performance. In effect, an attempt is being made to indirectly rate the teacher's performance ability on all of these performance elements associated with secondary level occupational teachers.

Step 5: Inservice education programs will be based on the occupational teacher's performance ability (lack of) in conjunction with consideration for the importance of each performance element to individual teacher.

If this method of determining in-service needs proves viable and reliable, the in-service educator will be able to turn to his prospective students when he asks such questions as 'What courses should we teach?'. Therefore, it is recommended that the students answer to the question, 'What content should be included in this course?' The students answers would be based, not only on the student number content, but on the student number content the student needs to improve his performance in his local situation.
TRAINING PROGRAMS FOR SAFE TRACTOR AND MACHINERY OPERATION

In the late 60's, the federal government established a labor order that identified 16 hazardous occupations in agriculture. These occupations were declared "off limits" to young people under 16, and a recommendation was made in 1972 for the Farm Bureau to set up an educational program to train young people in the safe operation of tractors and other machinery.

The developers of the program felt that 14- and 15-year-olds with proper training could be expected to perform within the guidelines set forth in this program. The program is designed to be used in schools or by parents at home, and it can be used in conjunction with other programs. The program is divided into three parts: training, operation, and maintenance.

The training part of the program includes lessons on the safe operation of tractors and other machinery. The operation part of the program includes lessons on the proper maintenance of tractors and other machinery. The maintenance part of the program includes lessons on the proper repair of tractors and other machinery.

The program is designed to be used in schools or by parents at home, and it can be used in conjunction with other programs. The program is divided into three parts: training, operation, and maintenance.

In conclusion, the program is an excellent resource for parents and teachers who want to teach their children about the safe operation of tractors and other machinery. It is an important tool for ensuring the safety of agricultural workers and for preventing accidents on the farm.
LEADING TEACHERS AND TEACHING LEADERS

The Role of The Agricultural Supervisor and Teacher Educator in Career Education

Glen McCarthy

If career education is to develop beyond infancy, supervisors and teacher educators must provide leadership to assure that local teachers are prepared in cooperation with this emerging concept. Teacher training institutions and supervisors must provide both pre-service and in-service education for the local agricultural teacher. The local teacher must be trained for at least two basic functions: (1) to restructure agricultural courses to implement the principles of career education, and (2) to serve as a leader and resource person in integrating career education into the total school curriculum.

Career education's goal is to make work possible, productive, and meaningful to every individual. The concept that career education is a comprehensive effort, involving the total educational process from kindergarten through adulthood, affords numerous challenges and opportunities for teachers, supervisors, and agricultural teacher-training institutions.

The supervisor and teacher-training institution are shown below. Each is helping the local agricultural teacher assume his new role. They must provide in-service training to assure that opportunities exist for the local agricultural teacher to participate in all phases of career education. Instructional materials that are available should be used to teach agriculture and agricultural occupations are needed, as well as materials for teaching agricultural occupation skills.

Teacher educators and supervisors should look to see that necessary instructional materials are provided and that the teachers are adequately prepared to use the various instructional materials. Naturally, utilization of independent study materials will be necessary because of the increasing diversity of student backgrounds and student interest levels. Supervisors and teacher educators must see that such materials are selected, adapted for use in their localities, and adopted into the local programs.

The local teacher must be trained (1) to restructure agriculture courses to implement agricultural education, and (2) to serve as a leader and resource person in integrating career education into the total school curriculum.

Teacher educators and state supervisors in agricultural education should develop a system for providing teachers with current information regarding the changing work force demands. These changes include changes in number and location of employment opportunities and changes in the type of preparation needed for the occupation. This should be presented to the teacher with enough time to enable him or her to utilize it in counseling and teaching his/her students and to permit him to introduce it in the pre-vocational phase of the agriculture education program.

Agricultural education teacher-training institutions should provide service courses and pre-professional courses for teachers to agricultural and agricultural occupations. Successful career education in the local school requires the understanding and appreciation of agriculture and agricultural education by the vocational agricultural classroom.

Not only is in-service training essential, but a system should be developed to allow the local teacher to participate in career education. The basic strengths of the agricultural teacher education programs should not be neglected. Many of the unique programs need to be continued.

(Concluded on page 22)
ESTABLISHING NEW DEPARTMENTS AND PROGRAMS OF APPLIED BIOLOGICAL AND AGRICULTURAL OCCUPATIONS

Allan L. Utech, Consultant
Applied Biological and Agricultural Occupations
State Staff — DYT, Springfield, Illinois

Don't let the title scare you! The name, Applied Biological and Agricultural Occupations is the Illinois answer to the need for a change in identity. We once used the term "Vocational Agriculture" until it no longer fitted the need.

There are thousands of boys and girls in Illinois who are not enrolled in Agricultural Occupations today who should be. That fact is discouraging to some of us. There are hundreds of schools that should be providing programs but aren't.

The majority of these schools and students so identified are in the rural areas but not exclusively so. Where they are and who they are isn't important as long as we recognize that every student with an interest in a career in any of the 01.00 O.C. Code areas should have the opportunity to enroll in an agriculture program in their local school. Our programs in Illinois permit the student in the smallest school and the student in the largest school those rights and privileges.

The program initiator has a number of problems in getting near to those who can implement a new Applied Biological and Agricultural Occupations program in a school that has never had one. It is a slow process since it involves changing people's minds. If you are successful in this, the next step would be to answer the question, "How do we get started?"

My answer to this question is outlined as follows:

1. Establish an Advisory Council of representatives of all the 01.00 O.C. Code areas. Look to sub-committees for action.
2. Establish a Department of Applied Biological and Agricultural Occupations in a full fledged partner with Industrial Oriented, Health Oriented, Business Oriented, etc. The department will then be listed in the student's work guide.
3. The department and program identity is important to enrollment of students.

Every student who has an interest in a career in any of the 01.00 O.C. Code areas should have the opportunity to enroll in an agriculture program in their local school.

1. Parents, faculty and community need the identity a department provides.
2. Select instructors (when there are no recognized Applied Biological and Agricultural Occupations, etc., the staff.) The most obvious answer at this point would be to refer school people to appropriate teacher training institutions. There is a number of reasons why this isn't feasible. The main reason is that there are limited funds for adding additional teachers.
3. Identify one individual with competencies and interest in the Applied Biological and Agricultural Occupations area to help build up the program. This individual could help with the program, the identity needed. He or she would do the leg work necessary to help enroll a program successful. If the school is an Area Center, this selected individual must be recognized as a specialist.

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BETTER TEACHERS THE KEY TO BETTER CAREER ORIENTATION AND OCCUPATIONAL EDUCATION IN AGRICULTURAL MECHANIZATION

Thomas R. Sitt, Associate Professor
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Carbondale, Illinois

These internships provide an opportunity for students to interview, observe, work in cooperation, and learn by performing the task of employees in the cooperating business. In an agriculture machinery and equipment business the student becomes involved in various degrees of participation with the owner, set-up man, parts man, mechanic, shop foreman, manager, bookkeeper, salesman and the company's field representative. Each job is then closely reviewed by studying the requirements and interaction with the customer.

The undergraduate summer internship supervisor arranges for three on-the-job visits. Location of training station has a large effect on achieving this goal.

Each student keeps a log of observations and activities performed and then submits a final report upon his return to campus.

Structural Occupational Internships
With the development of each new program there must be provisions to accommodate those teachers currently practicing in the field. Agricultural Industries 812, "Structural Occupational Internship for Experienced Teachers," is such a transitional program. The course was first initiated as part of the Doctoral and Technical Education funded project. It has been continued during the past five years by the department.

The primary objective of the program is to provide experienced teachers with insight into a specific agricultural business. Agricultural occupation teachers spend Phase I working and studying the various ramifications of an agricultural business. Selected guest speakers from the business community are invited as guest speakers. In Phase II of the program teachers work in a selected business. Under these situations, teachers through a process of observation, interview, or participation in the respective job, develop an awareness of the job or jobs that are related to the business. These situations are then tailored to the emphasis on knowledge or skill development depending on the needs of the teachers. Phase III brings the teacher back to the classroom with the information with other teachers and develop curricula and materials for the home school program.

In-Service Training in Cooperation with Industry
Under "financial squeeze" it has been difficult for many colleges and universities to keep "boiled up" in the most recent developments in agricultural mechanization; SIU is no exception. At the present time the agricultural (Concluded on page 46)
Summary

As schools seek to establish career education programs, they find that they hardly prepared to cope with the new concept. Teacher educators must respond to the needs of the teacher education programs of the future and toward preparing teachers to implement career education at all levels, to become better prepared to implement career education than any other group of educators. In particular, the measures to be taken to stem career involvement in education, and relevant and education professional preparation, prepared to implement career education must be directed to career experiences, and vocational preparation from middle school through college. Each of these areas is fundamental to the concept of career education. Agricultural teachers should be provided with the skills and knowledge necessary to work with academic teachers and counselors in articulating courses and planning interdisciplinary programs.

Agricultural teacher educators must be included in the preparation of administrators and supporting staff for career education. Supporting staff for career education includes vocational counselors, community resource specialists, extension agents, and agricultural specialists for elementary programs. Each of these groups must be provided with information and materials.

Local administrators and supervisors must be prepared to assist teachers in implementing career education. The agricultural teacher cannot successfully fulfill this role in career education unless he has the understanding and support of his administration.

State Program Planning System

In Washington State considerable progress has been made in relation to coordination of vocational programs in the high schools. In the last three years, through a cooperative effort by the Coordinating Council for Vocational Education and the Superintendent of Public Instruction, a state planning system has been developed. Upon delivery of the plan to the state board of education, the requirements of P.L. 80-576, each school district is required to have in operation an annual and five-year plan, if they desire to use state and federal funds to support their local Vocational Education programs.

The purpose of the ANNUAL PLAN is to describe all vocational education programs, services and activities expected to be carried out during that school year. The ANNUAL PLAN includes such information as:

I. Identification and Description of Persons to be Served in Vocational Education Programs.
II. Description of how Basic Standards for all Vocational Education Programs will be Met.
III. Description of how similar Instructiohal Programs and Instructiohal Programs and Instructional Programs.
IV. Narrative Description of New Classes. Planning for New Vocational Education Classes and Programs.
V. Documentation of Costs for Introduction of New Classes.
The library has several advantages which should not be overlooked by teaching personnel. It provides mechanisms for locating reference materials by the use of indexes and a systematic card catalog; it provides the means of acquiring materials through interlibrary loans from other libraries. In most cases a library collection is less costly to acquire and keep up than classroom collections because of book company discounts, available storage space, and trained personnel whose responsibility is to acquire, process, and care for these materials.

Another important consideration is that materials in a central library location are available to all students, not just those in a specific class. Hopefully, the proximity of literature on agriculture would interest more students in an agricultural career.

At present, many school libraries are contributing very little to the success of the vocational agriculture programs. The measure of the contribution made by a library is determined by the degree of communication and cooperation between teachers and librarians. Suggestions for strengthening the library's participation can be grouped into four main areas:

Agricultural Literature

The agricultural literature department has its own classroom collection of the best books available in the field. Therefore, the librarian should be familiar with the literature available in the agricultural department.

If a student goes into farming or an office related to agriculture, or even minorly after completion of high school he will be expected to obtain information for himself without supervision. To a great extent his growth and success will depend on his ability to find information in books and periodicals. He will have access to only a limited amount of current literature unless he is experienced with the library. This also holds true for those who continue their education in a technical school or college. Perhaps the largest advantage of library publications will help some "smooth operator" to increase money making ability in dealing in the commodity market.

\[\text{Mary Ruth Brown, Head Librarian, Agricultural Library, University of Kentucky, Lexington} \]

Agricultural literature contains numerous articles, special reports, and bulletins. This includes books, articles, and reports concerning agricultural education, such as the school, technical school or college level and what the schools of the agricultural program are or should be. In only a few of these publications can be found any mention of the library and its relationship to agricultural education.

A school library or materials center can play an important role in the development of an outstanding agricultural program. However, the library will be of little value unless it contains at least a minimal collection of the books and periodicals necessary to keep teachers and students aware of advances in agriculture in the field.

The selection of these books and periodicals should be made by the librarian and teacher working together, since the teacher is more aware of the current literature which will meet the needs of his particular students. This does not mean that there should not be better scholars when they enter on the final phases of their formal education. In addition, every school should have its own library for better service to the students.

When students learn about such publications, they can be encouraged to read them and to learn how to summarize briefly the information they contain. Collegebound students should be better scholars when they enter on the final phases of their formal education. In addition, every school should have its own library for better service to the students.

Perhaps vocational agriculture teachers feel that asking students to write term papers is not their responsibility. If English is not something which a wide choice of topics is possible, wouldn't it be a good idea to let pupils know that there are many interesting facets of agriculture about which written material is frequently published? Such a suggestion might prove to be the way to encourage students of what to write about. If no such paper is required, asking students to find articles about agriculture in the Readers' Guide to Periodical Literature would be a fruitful exercise particularly those headed for college.

At present, many school libraries are contributing very little to the success of the vocational agriculture program.
Publicity

If attendance is used as criteria, it may be said that the library is one of the most popular rooms in the school. The library's missions are many; all students should make the proper use of the library. The opportunity exists for students to read more books on agricultural subjects. Students should take advantage of this opportunity to learn more about their field of study.

CAREER EDUCATION IN SECONDARY PROGRAMS

The January and February issues of the Agricultural Education Digest have spotlighted Career Education: Elementary Programs and Career Education: Junior High Programs. These topics have delved into the details of various career education programs. Career Education: Junior High Programs has been designed to develop career educational materials for junior high students. Career Education: Elementary Programs has been designed to develop career educational materials for elementary students.

A set of guidelines for developing career education programs has been developed. These guidelines include:

1. Development of career education programs that are consistent with the needs of society.
2. Development of career education programs that are consistent with the needs of students.
3. Development of career education programs that are consistent with the needs of schools.

The publication also includes case studies of career education programs implemented in various schools.

BOOK REVIEW


The Farm Management Handbook is an excellent guide for students interested in agricultural education. The handbook provides a comprehensive overview of the various aspects of agricultural management, including crop production, livestock management, and farm economics. The handbook is well-organized and easy to read, with clear explanations and practical examples. It is an excellent resource for students, teachers, and farmers who want to improve their understanding of agricultural management.

The handbook is divided into several sections, each focusing on a specific aspect of agricultural management. These sections include:

1. Crop Production: This section covers the basics of crop production, including soil management, irrigation, and pest control.
2. Livestock Management: This section covers the basics of livestock management, including nutrition, breeding, and disease control.
3. Farm Economics: This section covers the basics of farm economics, including cost accounting, profit planning, and farm management.

Overall, the Farm Management Handbook is an excellent resource for students interested in agricultural education. It is well-written, well-organized, and provides a comprehensive overview of the various aspects of agricultural management. It is an excellent resource for students, teachers, and farmers who want to improve their understanding of agricultural management.
Stories in Pictures

by Richard Douglass

Agricultural Education

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SMALL ENGINE WORKSHOP — Fred Westfield, owner of Westfield Equipment and Battery Company, instructs J. W. Metz, Governor of the state, and Charles Hassell, an agronomist, in repair of small engines, featuring "hands on" operations on trouble shooting, disassembly, reassembly, and repair of 2- and 4-cycle engines. (Photo from Cecil Choat, Alabama State Department.)

This 27-foot long mobile welding trailer, owned by the Southwest Wisconsin Vocational-Tech School, is manufactured to repair invitations to the future in welding. The trailer contains a portable power source, an overhead welding shield, and other welding equipment. The trailer was used by a Production Agriculture student to demonstrate welding techniques. (Photo from John P. McNeil, Supervisor of Production Agriculture, Pleasant Prairie, Wisconsin.)