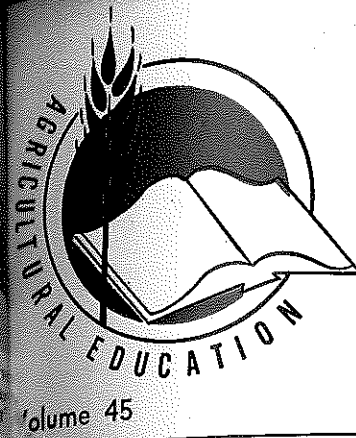


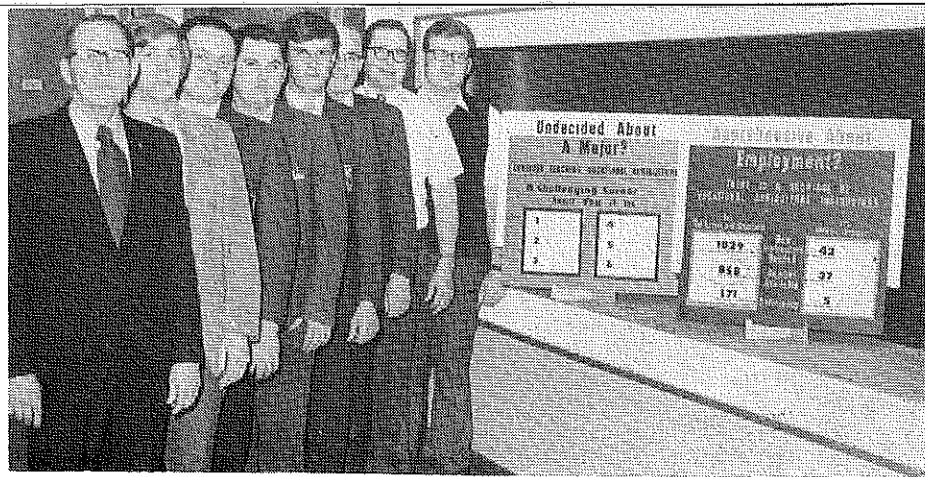
Agricultural Education

December, 1972

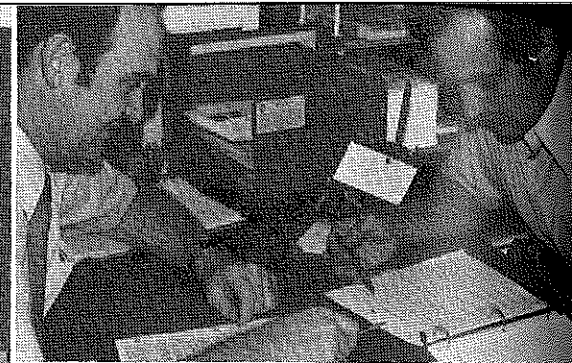
Number 6



Volume 45



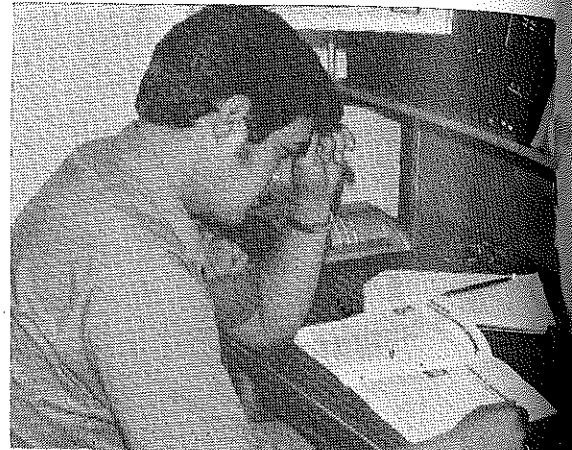
Dr. Robert Campbell, associate professor of agricultural education, addressed the agriculture section of the 40th annual Southwest Wisconsin Education Association convention held on the campus of the University of Wisconsin-Platteville. Area vocational agriculture teachers in attendance were Don Kolar, Fennimore; Dale Herbers, Potosi; Richard Morris, Iowa-Grant; Jerry Sherwin, Cuba City; Jack Trzebiatowski, Cassville; Paul Oehrlien, Lancaster; Bob Ray, Belmont and Gene Medeke, Platteville. (Photo supplied by Department of Agricultural Education, University of Wisconsin-Platteville.)



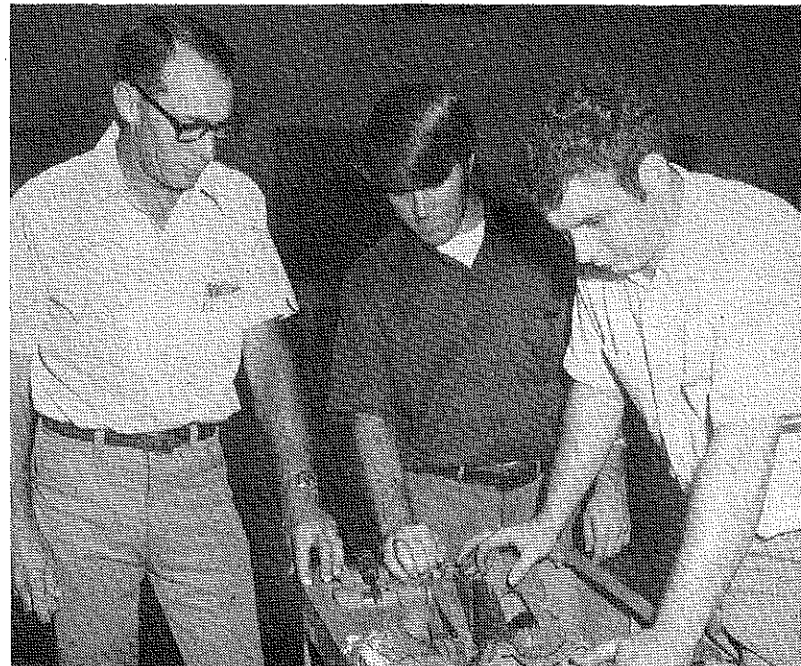
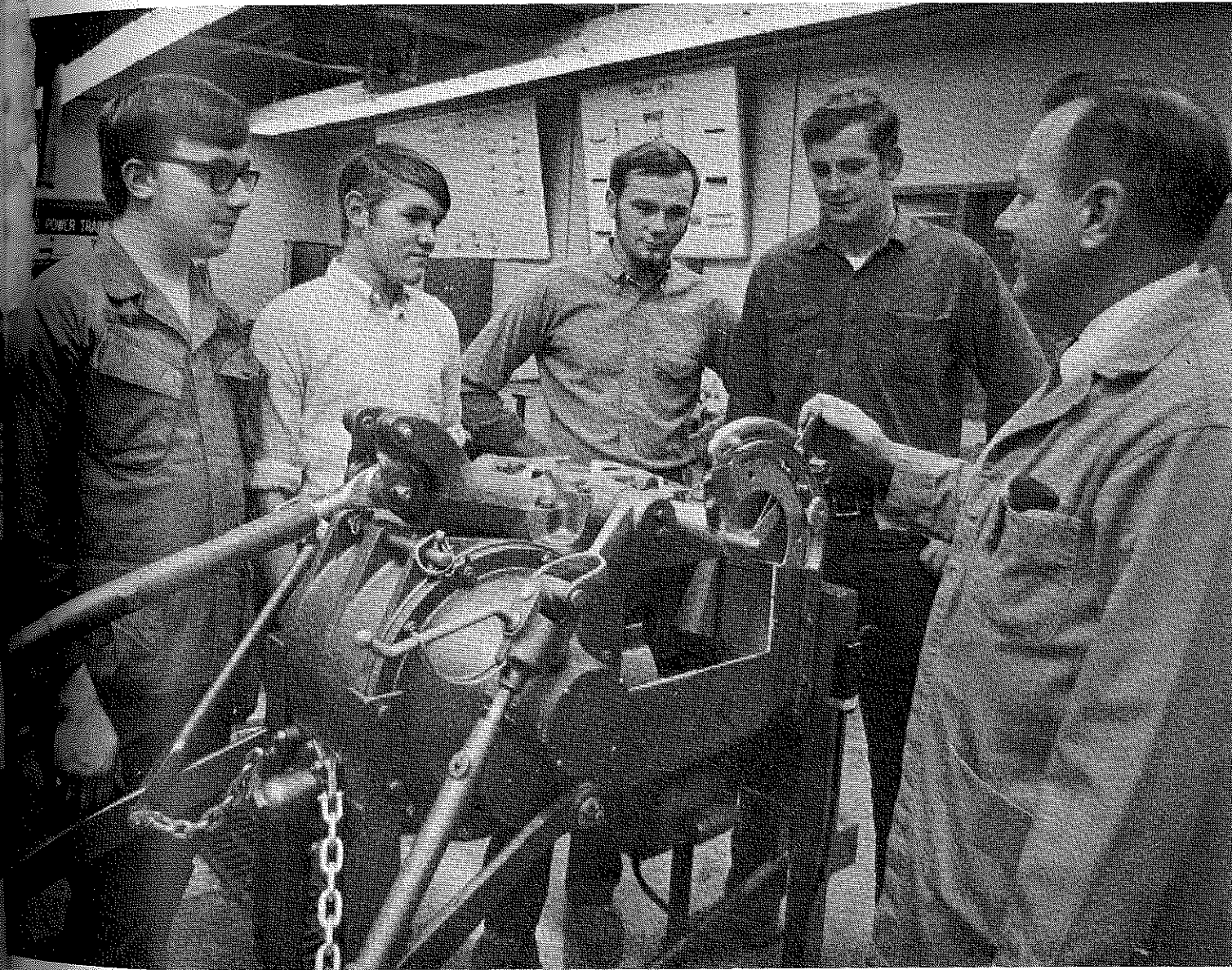
Eugene Trotter, right, a doctoral student at the University of Illinois, seeks advice concerning proposed research from his advisor Dr. David L. Williams. The preparation of persons for leadership roles in vocational education in agriculture is an important function of the Division of Agricultural Education, University of Illinois, Urbana-Champaign. (Photo by Robert W. Walker, University of Illinois.)

Stories in Pictures

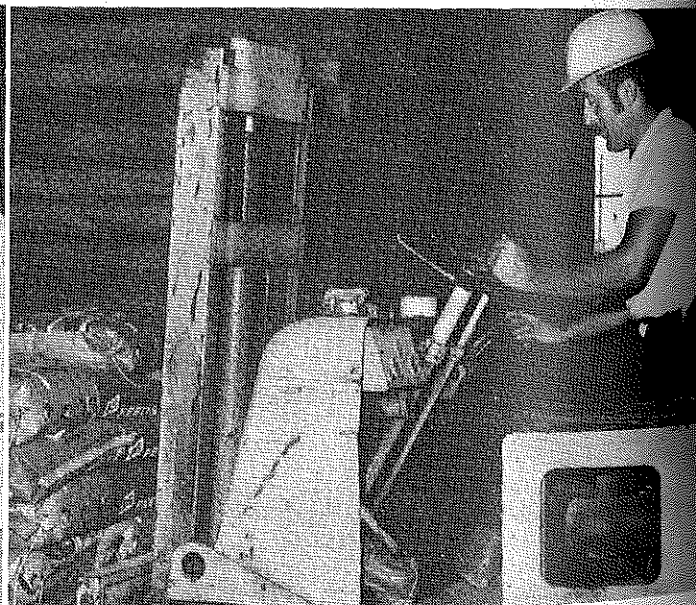
by
Richard
Douglass



Mississippi is proud of the progress made in Vocational Education. Pictured above is Ronald A. Brown, a former Mississippi agriculture teacher, studying at the University of Illinois for a doctoral degree in Vocational Education in Agriculture. (Photo by Robert W. Walker, University of Illinois.)



POWER TOOLS WORKSHOP — Ron Taylor, center, representative of Rockwell Manufacturing in Atlanta, directs Alabama agri-business teachers E. G. Hendrix, Jasper, and S. A. Watson, Curry, in repair of a shop circular saw. (Photo supplied by Cecil Gant, Agri-business Division, Alabama State Department of Education.)



Roger Johnson, Agricultural Occupations Instructor at Wayne City High School, operating a tow motor in the process of loading feed. This is one of the operations Mr. Johnson became familiar with during his two week internship at Marion-Jefferson Service Company at Mt. Vernon. Mr. Johnson's internship was part of an intensive four week course, Ag. Ind. 512 at SIU with Dr. Thomas R. Stitt as instructor. (Photo supplied by Thomas R. Stitt, Department of Agricultural Industries, Southern Illinois University.)

Theme — POST-SECONDARY EDUCATION

Do Your Students View Post-Secondary Education As An Advanced Step In Their Planning Toward A Career?

015282 1272
MAYNARD J. IVERSON
COLLEGE OF ED.
UNIV. OF KENTUCKY
LEXINGTON KY 40506



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This publication is the monthly professional journal of agricultural education. The journal is published by THE AGRICULTURAL EDUCATION MAGAZINE, INC., and is printed at the Lawhead Press, Inc., 900 East State Street, Athens, Ohio 45701.

SUBSCRIPTION PRICE: \$3 per year. Foreign subscriptions \$4. Student subscriptions in groups (one address), \$1 for October-May. Single copies and back issues 50 cents. In submitting subscriptions, designate **new** or **renewal** and address including ZIP code. Send all subscriptions and requests for back issues to Harlan E. Ridenour, Business Manager, AGRICULTURAL EDUCATION MAGAZINE, Box 3843, Columbus, Ohio 43214.

Second-class postage paid at Athens, Ohio.

Send articles and pictures to the Editor or to the appropriate Special Editor.

Cover Photo:

Agricultural Mechanics is an integral part of many post secondary curriculums. The tractor hydraulic system is studied by students in a one-year Agricultural Mechanics program at the Agricultural and Technical College, Cobleskill, New York. (Photo supplied by Bruce Emanuel, Associate Professor, Cobleskill)



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Guest Editorial . . .

**EXPANDING EDUCATIONAL OPPORTUNITIES—
The One Year Occupational Program**

Bruce W. Emanuel
Associate Professor

*Agricultural and Technical College
Cobleskill, New York*



Bruce W. Emanuel

fill the gap between the skilled technician and the graduate from a high school vocational program.

In answer to this need, Cobleskill Agricultural and Technical College, in September 1968, instituted one-year certificate programs in four areas of agriculture: agriculture mechanics, dairy cattle management, greenhouse maintenance, and grounds maintenance. These programs were set up to provide training for young people who desire direct entry into employment, as well as for those people already employed who wish to improve and update their skills. Many of the students enrolled in these courses are graduates of high school vocational programs. The motivation, development of interests and capabilities, and instruction they received at this level has made it possible for them to continue their education at Cobleskill.

Advantages of the Program

The one-year occupational program offers an opportunity for college experience and education to the high school graduate who has very definite vocational goals and wants to join the working world in the near future. Although he recognizes the benefits to be gained by further education, he does not want to devote two years of his time to this pursuit.

Also, some of our young people are frankly uncertain of their ability to meet the standards of the two-year technical college. The one-year occupational program is geared to an academic level more fitted to their needs, interests, and abilities. The young person who wants specialized training without additional work in theoretical sciences, mathematics, or the humanities is motivated by the direct application of the material covered at the one-year level.

Goals of the Program

One important objective of these one-year programs is to teach the student enough skills (mental and manual) to be able to begin on a job and advance on the job. Specialized course work concentrates on the development of competencies at the beginning of the first term, rather than being deferred to later semesters as is sometimes the case in two-

and four-year programs.

Surveys of employers show that they want employees who can write and speak effectively. Many workers also express the need to know how to write a clear, concise report. In addition to the 25 to 30 hours of practical, applied work in their specific occupational field, 6 units in communication skills are required of each one-year student. This course covers the application of basic principles of English to such things as writing business letters, keeping business records, handling orders and reports and verbal communications.

The one-year occupational student is given a variety of opportunities to work with the excellent laboratory facilities available at Cobleskill. The college maintains a milking herd of purebred dairy cattle. Over 200 acres of land provide ample pasturage and forage crop acreage. A conventional barn and an animal science laboratory, as well as laboratories for painting, welding, agricultural machinery, diesel motors, hydraulics, gasoline engines, electricity, equipment installation, and agricultural mechanics, are all available to these students for laboratory instruction. The facilities in ornamental horticulture include four automatically ventilated and lighted greenhouses, a plant materials garden, nursery, and propagating beds. Thus the student has an opportunity to work with a variety of facilities, livestock, and crops of commercial importance, as well as with the modern equipment of the business.

The graduate of the one-year post-high program is not currently given his fair share of public esteem for the special training and skills that fit him for essential places in our society.

Importance of the Teacher

Some of the students enrolled in the one-year occupational courses may have a low self-image, because they feel that their achievements in high school have been below average in quality. Much of this is due to the high emphasis placed on scholarship, scientific, and writing abilities by many of the most popular standardized tests.

We hear a great deal about the gifted student today, but very little about the vocationally talented student. We have been influenced by the measurement of I.Q. because we had the tests. We still do not have good tests to identify the vocationally talented student. There is a real need, then, for the occupational programs to try to improve the skills of these students in a variety of areas of competency, and to show them that the skills which they do possess are of very real importance in the occupational world which they plan to join.

(Continued on next page)



Students in the one-year Greenhouse Maintenance program working on floral design.

(Emanuel — from page 123)

It is most important that each of their instructors be aware of this need, and that they work with the students in a variety of ways to improve their self image. A student who knows that his teachers value his unique background and capabilities will come to value them more himself. As the teacher points out the importance of the students' previous work experience, drive to learn, and clear occupational goals, the student will see that he can indeed take an important place in the world of work and in his community.

The Problem of Status

There is no question that there are many young people in our high schools today who could benefit from this kind of post-high school program. A very important factor in-

fluencing their choice of higher education is that of status. The high school vo-ag teacher can do much to ensure the success of his graduates by advising them to place their emphasis on areas in which they are interested and in which they have a good chance of achievement. He can also, by talking with both parents and students, explain that a comprehensive, well-planned program of occupational training can offer many of the benefits of college work and provide the opportunities for success on the job, even though a degree is not conferred on the student at the completion of his studies.

Implications for the Future

The general public needs to be made aware of the importance and real value of the education gained from the one-year program. The four-year college degree has long held a position of prime respect in our society. As our two-year college graduates command increasingly important and satisfying positions in our technological society, the associate degree is gradually coming to be respected also. However, the graduate of the one-year program is not currently given his fair share of public esteem for the special training, skills, and capabilities that fit him to fill essential places in our society.

Educators in the many phases of agricultural education must find a variety of new ways to educate the public to appreciate the worth of higher education on all levels, and to respect the right of each individual to study and work according to his special interests and abilities. As those graduates are successfully employed and confidently advertising their success to their peers and parents, the program will indeed be well started. ♦♦♦

Jim Lewis
Agri-Mechanics II Instructor
Helena Vocational Technical Center
Helena, Montana



Jim Lewis

The most important concern.

Establishing and coordinating a cooperative training program for agri-mechanics trainees of a post secondary vocational technical training center presents many problems. The problems are magnified when the farm implement dealerships are often located 70 miles apart in a state that extends 500 miles east to west and 300 miles north to south. However, being sure that each trainee has the needed competencies is by far the most important concern.

The cooperative training program for Helena Vocational-Technical Center began in 1970. During the summer of that year the agri-mechanics staff traveled 2500 miles and interviewed the owners of 55 farm implement dealerships. During each interview the purpose of the program was explained to each potential employee while his willingness to cooperate, working conditions and salary were carefully noted. Following six weeks of extensive interviews, a group of farm machinery dealerships were identified as potential training centers.

The First Year Course

To assure success of the cooperative training program it is necessary to provide a curriculum which will provide each trainee with those competencies he will need while working in the dealership. During the first year each student is required to complete 1032 hours in technical training and 252 hours in related courses.

Technical courses included:

1. Diesel Engine Overhaul 460 hrs.
2. Diesel Pump Repair and Calibration .. 260 hrs.
3. Diesel Injector and Repair & Calibration 125 hrs.
4. Trouble Shooting Diesel and Gas Engines 72 hrs.
5. Diesel Electrical Systems 125 hrs.

To round out the first year of the in-school training program the potential tractor mechanics are given 108 hours of machine shop, 72 hours of trade-math and 72 hours of welding instruction.

Every effort is made to provide ample opportunity for each student to actually overhaul a tractor engine. To provide this experience the students completely overhaul 50 or more diesel or gasoline tractor engines during the first year. After each engine has been overhauled, the tractor is checked out on the dynamometer and returned to the owner.

The Cooperative Experience

During the second semester of the first year, students are given the names and addresses of the cooperating dealers in the state. The potential employee then applies for an available position.

Because of the distance involved, each trainer is usually visited only one time during the summer three month cooperative training period. However, many of the problems of coordination and supervision can be solved via the telephone.

COOPERATIVE TRAINING IN AGRI-MECHANICS



Louis Bay installing a bearing race in differential housing of a farm tractor. Tractor is literally repaired from radiator cap to drawbar pin for learning experiences.

The real pay off of the cooperative training program is observed during the second year of training. Greater enthusiasm on the part of the students is very much in evidence. Class participation increases, and the students take greater pride in their workmanship.

The Second Year

The curriculum for the second year evolves around the maintenance and repair of the systems which are a part of the modern tractor. Each student spends 5½ hours per day, 5 days a week in the shop and classroom. Technical courses include:

1. Hydraulics 175 hrs.
2. Tractor Electric System 125 hrs.
3. Tractor Repair and Service 360 hrs.
4. Implement Units Repair and Service .. 300 hrs.
5. Business Management-Implement Dealership 72 hrs.

Related courses in basic electricity, business management and sales and services account for 192 hours of additional training.

In addition to the regular course work, seminars are held to discuss working conditions, wages, worker benefits, shop organization and management, flat rates, short cuts in overhaul, maintenance problems facing dealers and warranty work.

During the second year two students, working cooperatively, repair a tractor from the radiator cap to the drawbar pin. In addition each student is given some experience in assembling and repairing swathers, balers and various other harvesting implements.

Conclusion

Following graduation, many of the students return to the dealership in which they received their cooperative training as fulltime employees. A good attitude and exceptional skill displayed during the cooperative training period is often rewarded by a higher beginning salary. Subsequently, salary raises seem to be more frequent for those who have spent three months in a cooperative training program. ♦♦

From Your Editor . . .



Roy D. Dillon

The "Career Education" themes for 1973 are designed: (1) to stimulate the imagination of the agricultural educator toward examining his own program, (2) toward his identifying ways he can make his program more meaningful for students, and (3) to describe for him ways he can assist with career oriented programs on other levels. Themes for five of the last six months will "round out the series." The November issue will feature the NVATA Silver Anniversary.

JULY— Career Education: Unique Instructional Programs. What are the pilot instructional programs in urban and rural settings showing?

AUGUST— Career Education: For More Teacher Education and Supervision. What can and should be being done by teacher educators and state supervisors to implement career education.

ROUNDING OUT 1973

SEPTEMBER— Career Education: Articulation Among Local, Area, and State Programs. What methods are being used for coordinating the program planning on the local, area, and state basis?

OCTOBER— Career Education: Upgrading Adults. How does the career education concept influence adult education programs?

NOVEMBER— NVATA Silver Anniversary Issue.

DECEMBER— Career Education: Accountability in Education. How do we "measure" whether our occupational programs are effective in preparing people for the world of work?

Manuscripts should arrive at least two and a half months ahead of the issue for which intended, and can be sent to your regional Editor or to: Roy D. Dillon, Editor, *Agricultural Education Magazine*, 302 Agricultural Hall, East Campus, College of Agriculture, University of Nebraska, Lincoln.

PRODUCTION AGRICULTURE TRAINING -In Western Wisconsin

Walter T. Weihrouch, Chairman,
Agriculture Division
Western Wisconsin Technical Institute, La Crosse



W. T. Weihrouch

Western Wisconsin Technical Institute, comprehensive career education center for Wisconsin Vocational, Technical and Adult Education District No. 2 at La Crosse, serves an area covering seven counties in Western Wisconsin.

District 2 encompasses approximately 5,000 square miles in the heart of western Wisconsin's fertile and scenic, unglaciated "Coulee Country." It has a total population of more than 190,000 residents. The district is primarily rural in nature with La Crosse, Wisconsin's largest city on the Mississippi River, as its industrial, marketing and population center. It is an important dairy area with other sources of agricultural income from enterprises such as beef, chickens, tobacco, cranberries and hogs.

The agriculture picture is changing rapidly in District 2, as in other rural areas of the United States. Farms are becoming larger and more mechanized. More capital is required to "keep up with the times," and farm operators must be more technically skilled and business oriented to make their operation profitable.



Students Wyman Cade, Gary Brudos, and Steven Holte from the Viroqua, Wisconsin class discuss hay baler adjustments with instructor Wilbert Hutchens.

The Western Wisconsin Technical Institute Production Agriculture course is a vocational-type instructional program for the farmers actually tilling the soil. Federal and state-approving agencies determine the guidelines to be followed by the schools and qualified participants.

To determine approximately how many ex-servicemen were interested in a training program of this type and whether or not it was practical to start the program, a meeting of county service officers were held. Information was sent to radio, television and newspapers, and informational meetings were scheduled.

PROGRAM INITIATED

The decision was made to start the program after discussing it with county service officers, county agents and high school agriculture instructors. A definite need was apparent and the District 2 Board of Western Wisconsin Technical Institute recognized their obligation to offer the training to the farmers in the area by formally initiating the Production Agriculture Program.

The selection of the centers for training was determined by the number of applicants and the locations of their homes. Considering distances involved, four centers were selected to keep commuting distances to any local center under 30 miles for all students.

Students attend 12 hours of classroom instruction each week for 44 weeks. The week is divided into one 6-hour day class and two 3-hour evening classes, scheduled so the day class does not follow a night class and so two sessions are not held in any one day. Classes are not held during the eight remaining weeks of the year. This is divided into a spring planting, fall harvest and Christmas vacation.

The three-year program is fully comprehensive and covers all aspects of farming. The Wisconsin Board of Vocational, Technical and Adult Education has set a standard recommended curriculum. It is adapted to fit the

needs of the area and approved by the State Board.

INSTRUCTORS ARE SPECIALISTS

Three instructors were hired to teach on a rotational basis, so the same number of hours are spent in each center by each instructor. Each instructor was hired for special skills, abilities and training. By selecting instructors with different skills, it was easy for them to divide the various courses to be taught.

Arthur Brieske is head of the Production Agriculture Department and has a master's degree in Dairy Science. He was involved with the research at the Lake Mills, Wisconsin, Experimental Farm before accepting a position at Western Wisconsin Technical Institute. He instructs the livestock and nutrition courses. Buel Dull, a former high school agriculture instructor and farmer, instructs in crops and soils. Wilbert Hutchens has an agriculture engineering degree, was an implement dealer and instructs the farm machinery and welding courses.

PRODUCTION AGRICULTURE COURSES

Course Name	Hours of Instruction
Dairy Cattle Selection	48
Animal Nutrition	24
Dairy Cattle Feeding	24
Dairy Cattle Breeding	12
Milking Techniques	12
Diseases of Cattle	48
Farm Credit I	72
Swine	48
Beef Cattle	48
Farm Credit II	12
Sheep	12
Poultry	12
Farm Fencing	60
Farm Business Analysis	48
Farm Income Tax	96
Soils	60
Plant Growth	60
Corn Production	24
Storage Crops	24
Small Grains	36
Conservation and Ecology	12
Transfer of Farm Property	12
Farm Organizations	12
Farm Advertising	12
Farm Arithmetic	6
Dairy Plant Security	18
Business Organizations	24
Farm Insurance	24
Farm Business Reorganization	48
Farm Marketing	48
Agricultural Agencies	72
Farm Planning	72
Farm Records and Accounts	144
Farm Machinery	48
Farm Welding I	64
Farm Power	64
Farm Buildings	48
Farm Welding II	48

(Concluded on page 143)

TRAINING FOR EMPLOYABILITY -At Colby Community College

Colby Community College (CCC) is located in the sparsely populated area of Northwest Kansas. Consequently, a high percentage of the student body migrates to Colby to obtain their higher education. Although CCC was originally established as a liberal arts junior college, the philosophy has changed considerably to fulfill the challenging objectives of a community college. A current major goal is to provide occupational training suitable to develop the techniques and skills required by persons employed as semi-professional and/or para-professional workers in the community.

The agriculture industry is not only the economic backbone for Northwest Kansas but it provides the bulk of the employment opportunities for the working populous. Therefore agricultural education programs were added to the school curriculum in 1969. Currently eight instructors are employed to teach 35 agricultural science courses and supervise the occupational programs. Approximately 25% of the 800 students are enrolled in the agriculture transfer and occupational programs.

The Agriculture Department at CCC provides students an option of occupational or transfer programs in business, science, or production. The college awards an Associate of the Arts Degree in the transfer programs. The Associate of Applied Science Degree is awarded students completing the requirements in an occupational program.

Programs in Agriculture

Transfer programs have been de-



Annual hospital technology offers veterinarians para-professionals trained to perform many technical tasks.

signed in cooperation with the Colleges of Agriculture and Veterinary Medicine at Kansas State University and the Division of Agriculture and Biological Science at Fort Hays Kansas State College. The cooperating schools have developed a group of basic courses for transfer students which are accepted at full credit value.

Transfer programs currently offered at Colby Community College are agricultural economics, agricultural education, agricultural science, animal science, plant-soil science, and pre-veterinary medicine.

The occupational programs have been designed to provide students with a foundation considered essential for success in their selected vocation. Programs currently being offered include animal hospital technology, feedlot management technology, meat inspection technology, and agricultural production.

Production Agriculture

Many students who complete their secondary education want to enter an agricultural production occupation. They recognize the necessity to increase their knowledge in agricultural science but find the colleges of agriculture seldom offer short-term ag-production programs.

Educational programs offered at Colby Community College are designed specially to meet the needs of the individual. The adviser and student plan a course of study which includes the most appropriate courses to fulfill the student's goals.

The course of study in agriculture production is designed for the student who plans to take all of the Ag Science courses offered at Colby Community College then enter immediate employment. It involves intensive preparation and training in agricultural science, agricultural business, and agricultural economics. A student may earn additional college credit through supervised on-the-job training by members of the ag staff during summer months.

Feedlot Management Technology

With the rapid expansion of the commercial feedlot industry in Western Kansas, a lack of trained personnel became an increasing problem for operators of feedlots. The Kansas Livestock



Sam Stenzel



Roger L. Lukens

Sam Stenzel, Assistant to the NVATA Executive Secretary, Lincoln, Nebraska, served as Director of Agriculture at Colby Community College until June 30, 1972. Roger L. Lukens, D.V.M. is Director of Animal Health at Colby Community College.

Association became aware of the situation and scheduled meetings with community colleges to discuss the problem. At the same time, many youths were seeking employment as semi-skilled workers with an opportunity to advance to management positions. With these conditions in mind, the college developed a feedlot management program.

It is a two-year program which blends practical experience in the feedlot with a formal academic curriculum including basic communications, mathematics, business, and agriculture courses, including supervision by members of the agriculture staff and personnel in a cooperating commercial feedlot.

Meat Inspection Technology

The source of potential meat inspectors offers unique advantages to consumer protection programs. The program is designed to orient students, place them in federal inspection perspectorship for several months, then finish the training in a state inspected plant.

Job experience is provided during the summer in federal plants under the direct supervision of veterinary inspectors. Work experience is supervised by a staff member employed in a local plant as a state meat inspector.

Animal Hospital Technology

The need for veterinary nurses and technical assistants to help with general hospital activities allows more time for

(Concluded on page 135)

KIRKWOOD'S AGRIBUSINESS PROGRAM'S ANSWER TO: RELEVANCE IN TEACHING

Garland Ashbacher
Chairman, Agribusiness and
Production Agriculture
Kirkwood Community College
Cedar Rapids, Iowa



Garland Ashbacher

Nothing in the classroom can beat hands-on experience. That's why at Kirkwood Community College agribusiness students are engaged in a \$100,000 annual business running their own farm

supply store.

The KCC Farm Supply Center idea arose from a need for an efficient method of bidding supplies for the student-operated Central Demonstration Farm Laboratory, which includes 300 acres of row crops, 200 beef cows, 230 head feeder cattle, 112 litters of swine farrowed per year, 33 ewes with lambs fed out, and 45 dairy calves and yearlings.

The AgriBusiness Advisory Committee was instrumental in setting up the KCC Farm Supply Center. Its recommendation was made in the fall of 1969. When committee members were asked to help provide empty chemical containers, feed and fertilizer bags, and animal health containers for a sales-room display, one member asked, "Why don't you use the real thing? Why doesn't AgriBusiness sell to the Farm Lab?" The KCC Farm Supply Center began operations in May 1970. It provides a practical, realistic business situation laboratory for AgriBusiness students.

AgriBusiness is a two-year program at Kirkwood Community College, designed to prepare students for a career in the farm supply industry. Graduates, receiving an Associate of Applied Science Degree for seven quarters' work, or a Diploma for four quarters' work, are qualified for jobs as feed and fertilizer salesmen, feed mill foremen, chemical fieldmen, warehouse foremen,

countermen, or assistant managers — jobs connected with supplying the farmer with feed, seed, grain, fertilizer, chemicals, and hardware.

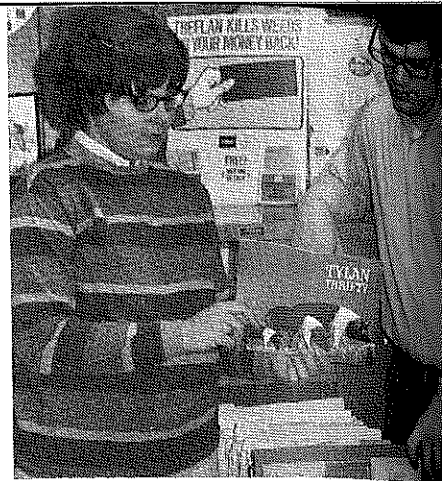
The facilities for the KCC Farm Supply center, at its inception, included a 24' x 24' classroom an 8' x 10' salesroom, an instructor's office, an 11' x 14' grain grading room, and three 7-ton Schuld Bulk Feed Storage bins. During the last two years, a 48' x 72' warehouse, an 8' x 16' portable warehouse, a 6,000 bushel grain bin, and two more 7-ton Schuld Bulk Feed Storage bins have been added.

Both first- and second-year students take 15 hours of Farm Supply Enterprise class each week; eight hours of this time is spent in the actual operation of the KCC Farm Supply Center, and the remaining seven hours is formal classroom instruction.

During the weekly eight hours of Farm Supply Enterprise, the KCC Farm Supply Center is operated by the AgriBusiness students through departmental responsibilities. These departments include Feed; Animal Health; Hardware; Fertilizer, Seed, & Chemicals; Files, & Operations; Bookkeeper; and Safety Officer. Each of these departments has a student department head who is responsible to the student manager and the instructor-manager.

Seven hours of formal classroom instruction offered during the Farm Supply Enterprise class includes discussions on salesmanship, office procedures, business financial statements, credit and inventory control, book-keeping, pricing, merchandising, transportation, storage, and facilities.

All students receive a total of 30 hours of instruction per week. The 15 hours not spent in the Farm Supply Enterprise are spent in technical agriculture and business courses. The students take about eight field trips per



The heart of the KCC Farm Supply Center is the filing system. Carla Eisher points out product information to Larry Iverson. This is in the sales room of the KCC Farm Supply Center.

year to area businesses.

All supplies for the farm laboratory enterprises are purchased by the students from the KCC Farm Supply Center. The supply center puts a mark-up on these supplies and bills the Farm Lab crop and livestock enterprises for the products they purchase from them. The KCC Farm Supply Center sells only to the Kirkwood Farm Lab enterprises—no supplies are sold privately to students or farmers.

The Farm Supply Enterprise acts as a retail dealer and purchases feed, hardware, animal health products, and chemicals at wholesale prices. Some of the companies we currently hold dealerships with are Hubbard Milling Company, Ralston-Purina Company, Hawkeye Steel Products, Inc., Marling Manufacturing Company, and Iowa Veterinary Supply. Seed and fertilizer are purchased from regular dealers.

Having the KCC Farm Supply Center in the curriculum gives the AgriBusiness students many benefits. It provides a realistic, business learning experience. It allows the students to learn and practice salesmanship and product knowledge, and they can practice farm supply service. It supplements the students' employment experience training periods. It provides many business contacts for the students since they are able to talk with many farm supply salesmen every week. And the supply center helps them to see more job opportunities.

With an actual farm supply store for them to operate, the AgriBusiness students are performing at higher work standards while on employment experience, and after graduation, when they accept a full-time position. ♦♦♦

Ronald H. Anderson
District Director
Southwest Wisconsin Vocational-
Technical School
Fennimore, Wisconsin



R. H. Anderson

The Southwest Wisconsin Vocational-Technical & Adult Education District was formed July 1, 1967. The facilities are located in the farming community of Fennimore, Wisconsin. The school was founded to serve students in five counties in the southwestern part of the state encompassing about 4,000 square miles and 9,000 farms.

A modern concept of agriculture must include production, processing, distribution, utilization, and related activities. The post secondary agricultural courses of the Southwest Wisconsin Vocational-Technical School provide specialized, in-depth information to students in this largely agricultural oriented area. Farming is the backbone of the economy.

The needs of this rural district are being met as evidenced by the rapid growth of agricultural courses on the post-secondary level. The current offerings consists of:

1. **Agri-Equipment Serviceman (Materials Handling)** — This specialized training program will prepare a graduate for responsible employment in the materials handling segment in the field of agriculture.

The student in the Agri-Equipment Serviceman program is taught the underlying principles and techniques for the proper installation of the equipment used on the modern farm of today. Considerable effort is involved in the application of installation principles and the diagnosis of functional failures which include piping, electrical, applied mechanics, and construction practices.

2. **Agricultural Building Serviceman** — The construction industry is an important related field in that it provides adequate buildings in which to carry on production endeavor.

Preparation for initial employment as an agricultural building serviceman closely follows training received in

Southwest Wisconsin Vocational-Technical School—5 Years

Agriculture is the fundamental system of the Southwestern Wisconsin society, and it extends far beyond concern with the production of food and fiber.

other building construction fields. Much shop practice is provided in this one-year vocational diploma program so that each student reaches a maximum degree of proficiency.

In-depth training and experience are provided in the safe use of tools and equipment, building construction methods, building layout, types and use of construction materials, footing and foundations, concrete and masonry, and insulation and ventilation for agricultural buildings.

3. **Agricultural Mechanics** — Individuals can no longer repair and maintain all of their machinery. In many cases, a large amount of equipment and a thorough knowledge of testing devices is necessary to correctly calibrate and adjust complex subassemblies and equipment used in farming.

The two-year vocational diploma Agricultural Mechanics program places emphasis on mechanical skills and related technical information as it is needed to perform these skills. Farm machinery operation is studied and proper procedures and safety in assembly, operating and servicing farm equipment is stressed. Shop practices, pre-delivery service, trouble-shooting, and repair are emphasized.

4. **Agri-Machinery, Partsman-Salesman** — Machinery partsmen sell replacement parts and accessories for agricultural implements, tractors, and related machinery. Most work in agricultural implement dealerships where they sell directly over the counter and take telephone orders for parts and supplies used in the agricultural machinery industry.

In addition to sales duties, the partsman keeps catalogs and price lists up to date, orders parts and replenishes stock, unpacks incoming shipments of parts and distributes them in the stock room, maintains sales records, and

takes inventories.

5. **Production Agriculture** — This program provides specialized, in-depth information and training to students who are actively engaged in agriculture production. Farmer-students receive instruction of a practical and realistic nature enabling them to immediately relate the information, knowledge, and training in their day-to-day farming operations.

The program is designed for all farm operators and does enable military service veterans to participate in the Veterans Administration Educational Program under Public Law 89-358.

6. **Farm-Training Program** — This program is designed to fit the needs of persons engaged in the business of farming. It is developed to promote continuation of training on an organized basis. The program is conducted on a two-fold basis:

Classroom instruction is planned and presented to the enrollees in a classroom or field trip situation. Each enrollee has at least ten classes scheduled yearly to receive instruction designed to meet the needs of the individual farmer in answering the problems of agriculture today. The program provides related systematic instruction over a period of 5 years.

Individual on-the-farm instruction is provided by the instructors. The minimum amount of individual on-the-farm instruction for each enrollee is:

1st year	18 hours
2nd year	18 hours
3rd year	12 hours
4th year	8 hours
5th year	8 hours

7. **Mobile Instruction** — Special training is provided by mobile welding units with welding instructors supplemented by electric and hydraulic mobile units with electric and hydraulic instructors.

8. **Farm Operator Technician** — This program has been approved by the State Board of Vocational and Adult Education and future plans are to

(Concluded on page 133)

A FOLLOW-UP OF FORMER STUDENTS IN A LANDSCAPE AND NURSERY TECHNICIAN PROGRAM

Donald E. Elson
Assistant Professor
College of Education
Virginia Polytechnic Institute
and State University



Donald E. Elson

Systematic evaluation of educational programs, especially those in vocational-technical education, is one of the primary concerns in education today. Feedback from former students is one of the major sources of information and can well be the starting point in the evaluation of educational programs. Through the use of follow-up studies, information can be collected concerning the performance of students after they are on-the-job.

Only in the most recent years has vocational-technical education at the post-secondary level been the subject for evaluation studies. A start has been made to learn more about students of technical institutes and community-junior colleges, but much more needs to be known.

One recent study attempted to provide information on former students of the Landscape and Nursery Technician program in the Institute of Agricultural Technology, Michigan State University.¹ The first section of the study dealt with the reasons former students left the program; the job history; the amount, kind, and source of additional formal education; the ability of the former students to function effectively with other employees as perceived by their employers; and the extent of participation in community and industry activities. The second section of the study sought information from former students employed in the landscape and nursery industry and their matched employers concerning fifty-five selected landscape and nursery competencies. Data and results from this section of the study were reported in an earlier issue of the *Agricultural Education Magazine*.²

Methodology

One hundred and sixty-two former students who were scheduled to graduate in 1966, 1967, 1968, 1969, or 1970 were contacted by telephone to obtain preliminary information regarding address and military, educational, and employment status. Based on this data the former students were classified into four groups: persistent graduates—those who graduated from the program and were employed in the landscape and nursery industry at the time of the study; persistent dropouts—those who withdrew from the program before completing all requirements and were employed in the industry; non-persistent graduates—graduates of the program who were not employed in the industry; and non-persistent dropouts—those who withdrew from the program and were not employed in the landscape and nursery industry. The names and addresses of the employers of the persistent former students were also obtained during the telephone interview.

A questionnaire was mailed to each of the 162 former students and to 38 employers. Eighty-two per cent of the former students and 79 per cent of the employers responded to the questionnaire.

Summary

Fifty-eight percent of the former students graduated from the Landscape and Nursery Technician program while 42 percent withdrew before completing the requirements for graduation. The principle reasons for withdrawal

Former students were rated as performing as well on-the-job as fellow employees who had up to four years more experience in the industry but with no formal training in landscape and nursery technology.

Former students indicated the need for more supervision and guidance in selecting courses, in the classroom, and on placement training.

were low grades for those who did not continue their education and plans to transfer to another college for those who did continue their education after leaving the program.

It should be noted that over 40 percent of the former students continued their education after withdrawal or graduation from the program. At the time of the study twenty-four former students were continuing their education. Three former students had completed associate degrees, sixteen had completed bachelor degrees, and one had completed the masters degree. Fifty-four percent of the former students limited their study since high school to landscape and nursery related areas.

Fifty-two percent of the former students were associated with the landscape and nursery industry as employees or as students. Forty-four percent were in jobs or studying in areas not related to the industry. The remaining 4 percent were unemployed.

Graduates employed in the landscape and nursery industry reported an average salary of \$9,700 per year. An average salary of \$9,500 was reported by those who withdrew from the program but were employed in the industry. Former students not employed in the industry reported salaries approximately \$2,000 per year less than the above amounts. As a group, former students employed in the industry seemed to be more satisfied with their work and more active in social and civic activities than were those employed in jobs not related to the landscape and nursery industry.

(Continued on next page)

(Elson — from page 130)

The practicality of the program and the placement training phase were indicated to be important and beneficial aspects of the Landscape and Nursery Technician program.

The thirty industry employers returning the questionnaire rated the former students in their employ on twelve personality traits. The employers indicated that former students, as employees, were trustworthy, responsible, and had good attitudes toward work. On the other hand, the former students needed improvement in making decisions, in initiative on-the-job, and most of all, in leadership.

Implications

The follow-up procedure applied in this study provided useful feedback information from former students of the Landscape and Nursery Technician program.

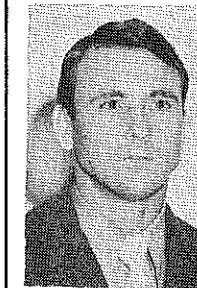
1. A large number of former students withdraw from the program and the industry. It appears that students might benefit from more extensive counseling and guidance, especially prior to the time they enroll in the program.
2. Priorities placed on the competencies to be developed while students are enrolled in the program should be examined.
3. Methods should be explored for providing more adequate coordination services to students while they are in occupational placement. Restrictions on the coordinator, which make it impossible to provide adequate supervision for students on placement training, and the need for developing competencies to a greater extent while on placement training suggest that placements be confined to cooperators who would provide careful supervision and offer adequate learning opportunities in all facets of their businesses.
4. An intensified program of leadership development, to encourage students to participate as active members of industrial, civic, and social organizations, should be considered. ♦♦♦

¹Elson, Donald E. "An Evaluation of the Landscape and Nursery Technician Program at Michigan State University." Unpublished Ph.D. dissertation, College of Education, Michigan State University, East Lansing, 1971.

²"The Competency Gap." *The Agricultural Education Magazine*, 45:20-21, July 1972.

MUSKOGEE YOUNG FARMER'S Tractor Safety School and Contest

Wendell Fenton
Vocational Agriculture Teacher and
Young Farmer Advisor
Muskogee, Oklahoma



Wendell Fenton

The Muskogee chapter of Oklahoma Young Farmers Organization sponsored the second annual tractor safety school and contest for all FFA and 4-H members in Muskogee county in December, 1971. The organization's activities include educational programs, community services and promoting agriculture products.

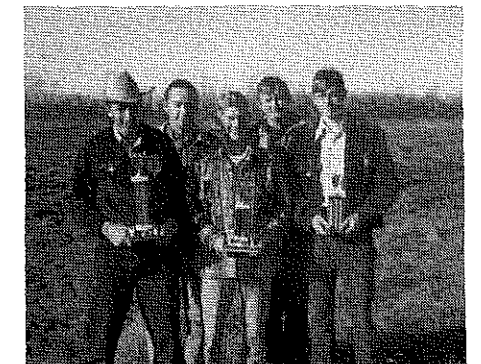
The purpose of the tractor school and contest was to instill safety in the minds of farm youth in order to eliminate the numerous farm accidents that occur each year. Farming is ranked as the third most hazardous occupation. In 1970, 2,400 fatalities occurred in farm accidents. The National Safety Council estimates that 15-20,000 injuries and approximately 1000 deaths occur annually because of tractor accidents.

Increased mechanization, size and horsepower of farm equipment has increased the dangers involved in farming and ranching.

The contest program began with a talk by Oklahoma Highway Patrol Trooper, Lee Ivy, concerning tractor safety on the highway.

Next a demonstration concerning tractor safety using model tractors with remote control was presented by Mr. Ervin Heidbrecht, Assistant Safety Director for The Oklahoma Farm Bureau.

All students were given a written examination and were given the opportunity to drive tractors under the supervision of Young Farmer members.



Contest winners: Front row, left to right: Joel Boyer, first; Dan Hix, second, both Muskogee FFA members; Don Hendrix, third, Ft. Gibson FFA member. Back row: Young Farmers, Robert Plunkett and Don Perry.

However, only the top ten (10) scoring individuals on the written test were graded on their tractor driving ability and safety.

Tractor implement dealers from Massey Ferguson, John Deere, Ford and International Harvester from Muskogee, and Allis Chalmers from Wagoner provided tractors and equipment for the contest.

Muskogee County Farmers Union provided three trophies for the top three scoring individuals. Winners of the contest were Joel Boyer, first; Dan Hix, second; and Don Hendrix, third. Joel and Dan are members of the Muskogee FFA chapter and Don is a Ft. Gibson FFA'er.

The lunch was provided for all participants by Muskogee County Farm Bureau.

Muskogee Young Farmers officers are: Howard Perry, President; Don Perry, Vice President; Secretary, Mike Scantlen; Treasurer, Robert Plunkett; and Reporter, Arlic Perry. Advisors are Wendell Fenton and W. G. Parker.

CITRUS GROVE LABORATORY



Frank Eisenschenk

The educational dictum—"Learn to do by doing," is not just a platitudinous slogan at Polk Vocational Technical Center's Citrus Culture and Grove Management Department. It is a genuine educational experience involving the students in every phase of caring for the Center's twenty-five acre citrus grove laboratory except harvesting the crop. Located in the center of Florida's "Imperial" Polk County, the very hub of the citrus industry, Polk Vocational Technical Center is one of two similar schools in the state offering a complete course in the propagation, growing and care of citrus.

The program began in 1967 with a mere handful of students, crowded into tiny quarters in an old building of the war time army training school for pilots at Bartow Air Base, with bare-bones equipment. Today the program serves fifteen to twenty students, is well



Successful budding depends on a suitable stock and the selection of a satisfactory scion — Here an adult student, attending classes with regular high school students, is practicing a newly acquired skill.

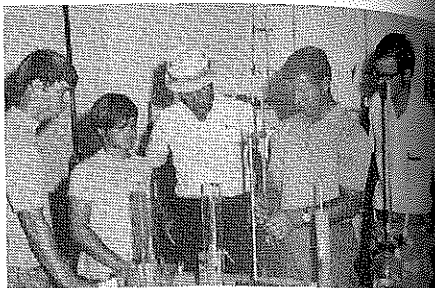
supplied with some of the most modern and up-to-the minute equipment available, shares a portion of what will upon completion be a three and a half million dollar facility, and perhaps best of all, is blessed with the citrus grove laboratory where students become intimately acquainted with every aspect of citrus production.

With what his close friends would fondly term his characteristic "stubbornness," the Center's Director, Maynard Traviss, bluntly stated that he wanted no agricultural program at all if he could not have one of the very best in the nation. The Polk County School Board, the then superintendent and the higher echelon at the state level wisely acceded to his insistence on excellence. The Board exercised good judgment in buying sufficient land for the new center, including a fair sized although neglected citrus grove of about twenty acres of grapefruit and five of oranges. Recognizing the vital part which practical experience plays in a well run vocational program today, the present school board and Superintendent W. W. (Bill) Read have virtually given a free hand in the operation of the program and have generously allowed the school to retain a part of the grove earnings, thus providing funds for up-dating operations, buying new equipment and experimenting with innovations in this particular branch of agriculture.

During the first few days in the course students are given a brief survey of the very interesting history of the citrus industry. Students also learn that there are three citrus genera of commercial significance, from which practically all present day varieties have developed. Their attention is next directed to the propagation of citrus fruits, and they begin their practical experience by planting citrus seeds in specially prepared seed beds. They are initiated into the intricacies of budding and grafting. They learn that stocks for budding citrus are always grown from seed and that there are about nine of these stocks most commonly

STUDENTS

"Learn By Doing"



Determining of when the sweet citrus fruit reaches maturity is demonstrated by instructor Frank Eisenschenk to part of class. He is determining the sugar and acid content of juice before harvesting.

used today, these being: Rough lemon, Sour orange, Cleopatra tangerine, Trifoliate orange, Carrigo and Troyer Citrange, Milan, Estes Ridge Pineapple and Rangpur lime. Students also learn to identify some thirty-eight varieties of commercial citrus and the importance of each.

Very early in the course students learn the importance of climate and soil conditions and discover that there are marked differences within relatively limited geographical areas. An important part of the instruction in this area consists of field trips to a variety of groves demonstrating these differences. They discover for example, that good air drainage is equally important with good water drainage.

To provide the raw materials for experimentation, Polk Vocational Technical Center at present is caring for 10,000 seedlings in its seed bed. It also maintains a 2,500 citrus tree nursery, a miniature laboratory for observing the effects of various methods of cultivation, fertilizing, watering, insect control, etc. The grove itself also serves this purpose. The most effective way to learn how to properly plant citrus trees is to actually plant a grove rather than reading about it or hearing a lecture. Consequently, whenever possible, the instructor makes arrangements with a grove owner to plant at least a portion of a new grove. Students thus learn the great importance of correct methods of tree planting. Experimental plantings are also made in the school grove.

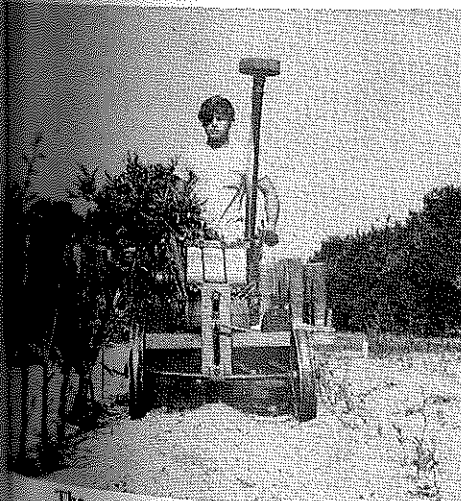
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During the course of the year, students participate in every phase of grove management and production. In short they follow the same methods and perform the same operations as would a commercial grove care service company. This includes discing, chopping, mowing, spraying, fertilizing, irrigating, and even such highly specialized operations as "hedging," an operation increasingly used in older groves where trees were planted too close to permit efficient use of modern grove machinery.

Under the supervision of the instructor, the students each week conduct an insect survey of the grove. When spray treatment is indicated, the class decides which spray is required and whether it should be a dilute or concentrate application, the latter being a labor saving device increasingly used in commercial production. Upon completion of the spraying operation, spray machines and all equipment are thoroughly cleaned and stored.

To adequately care for the grove and to give students the vital experience required, the department is well supplied with most needed equipment. This includes two modern Ford tractors, a 5000 and 4400 model, a power spray machine, nursery tiller, nursery plough, a herbicide machine and a good assortment of hand tools. The Center's Tractor and Diesel departments assist in keeping the equipment in first class operating condition.

Every effort is made to keep the entire instructional program up-to-date and functional. To this end new equipment is purchased as rapidly as funds become available. Innovative methods



The nursery should be kept clean from weeds and grasses so that the young tree may grow as fast as possible — student is shown cultivating part of one acre nursery.

are tried whenever possible. At present overhead irrigation is being installed on a ten acre block. Although this work is being done professionally, the students and instructor designed the plan and prepared working drawings.

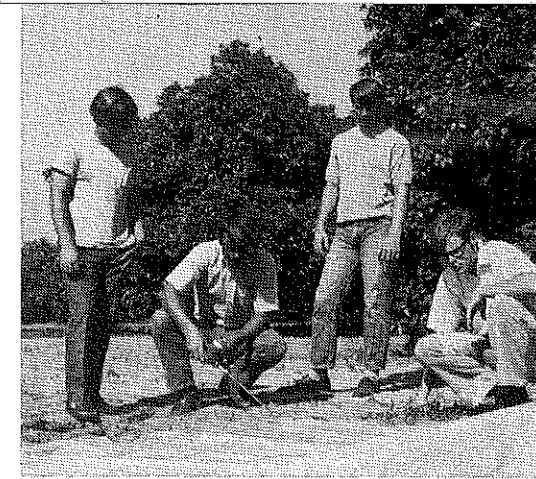
A constant problem for the grower in most years is that of providing adequate protection against a threatened freeze, a fact of life in Florida which occurs with surprising frequency. The very latest equipment in this area is a power driven heating system utilizing fuel oil and meeting present pollution standards. Plans are being made to install this system during the next year or two in a portion of the grove.

Striking evidence of the extent to which citrus yield can be dramatically improved through proper production methods, is shown by the production figures since the Citrus Culture and Grove Management Department took over management of the grove three years ago. The first year total grapefruit production was about 3,000 boxes. The second year it jumped to 6,000. This past year it reached 11,000 boxes. Production figures for the small block of oranges also increased markedly. With grapefruit currently bringing around \$2.00 per box, the outlook for obtaining additional needed equipment looks promising.

The top production limit has not yet been reached. It is estimated that the grove is now being operated at an efficiency level of about 70 per cent. While it is unrealistic to assume that 100 per cent efficiency can be reached, it is very reasonable to assume that an 85 per cent level of efficiency can be reached without difficulty.

As part of the program to reach the 85 per cent level and as another part of the total instructional program, students are instructed in grove renovation. This consists of identifying and removing sick and dying trees and replacing them with healthy young trees, often container grown to speed them to profitable production.

There are doubtless hundreds of acres of citrus in Florida which have received only minimal care and which are capable of vastly improved yields if proper care-taking methods are adhered to. Students in this training program have seen adequate proof of what can be accomplished with the use of the right production procedures. It is expected that many of them will fully utilize these methods in the future on



To rid the soil of fungus organisms, nematodes, weed and grass seeds, soil fumigation is an important phase of citrus production — class members are fumigating reset spaces for young trees.

groves of their own.

Students in this program have also had the satisfying experience of being members of and actively participated in FFA activities. This year they placed third in a state-wide citrus judging competition.

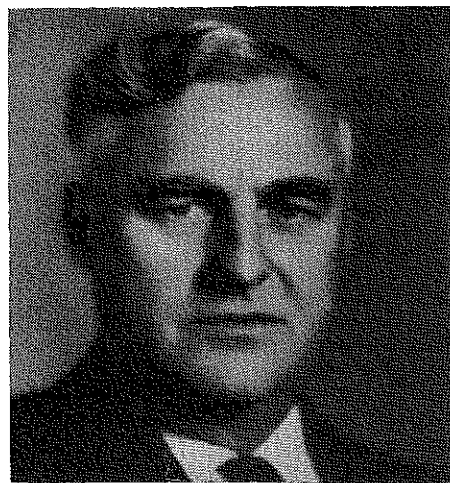
The employment opportunities for students who have applied themselves and satisfactorily completed the course are almost unlimited. Such students have a choice of good paying jobs awaiting them upon graduation.

Paraphrasing an old advertising slogan "It pays to educate," and especially when that education is of a realistic and practical nature. ♦♦♦

(Anderson — from page 129)

offer it in the fall of 1973. This technical associate degree program will provide specialized, in-depth information and training to students who are presently, or intend to become, actively engaged in agricultural production. The instruction is of a practical and realistic nature and is designed to provide the student with the necessary information and skills to enable him to immediately relate this knowledge and training to day-to-day farming operations.

The past five years have been years of progress for the Southwest Wisconsin Vocational-Technical School. The District school and staff is willing to share additional information on each of its programs. Persons interested in more detailed information may contact Mr. Millard "Mick" Gundlach, Agriculture Coordinator, or Mr. John McNett, Supervisor, Production Agriculture.



Albert M. Field

The impact of Dr. A. M. Field on agricultural education might well be compared to the ripples on a pool spreading over the entire surface smoothly and quietly. He was a quiet man, a gentleman in the best sense of the word. As my adviser he was frustrating because he would insist I make my own decision after he had explained the alternatives of any given situation. The dedication of "That Inspiring Past," a history of the FFA in Minnesota reveals some of this man's silent strength. It is taken verbatim from the publication.

"To Professor Emeritus D. Albert Martin Field, this volume is affectionately dedicated. If any one individual can be said to have brought the Future Farmers of America into being in Minnesota, that man is Dr. Field. His courage in the face of discouragement, his leadership in a time crying out for leaders, his patience with those who decried patience as a weakness, his faith in the public schools as the basic unit in our democracy, his supreme confidence in public education for public good and, above all, his faith in the future of farming make it inevitable that this first comprehensive history of the Future Farmers of America in Minnesota should be, must be dedicated to Dr. Field and the high principles for which he fought."

Dr. A. M. Field was born in Wisconsin in 1879 and, like many of the early leaders in agricultural education, came into the field on the basis of interest rather than high school or college experience. After graduating from Whitewater State Teacher's College in Wisconsin, he taught in the rural schools of Mt. Hareb, Wisconsin. After a turn as principal and superintendent

ALBERT MARTIN FIELD

—Educational Pioneer

of schools, he took a position as teacher of agriculture in Northfield, Minnesota. It was here that he earned the sobriquet of "Alfalfa Field," a tribute to his work with farmers of the area and his success in getting them to grow alfalfa as the major roughage for the dairy herds. This contributed in no small measure to Northfield's reputation as the city of cows, colleges and contentment.

But for A. M. Field, this was only the beginning of an illustrious career. He subsequently completed his Ph.D. in rural education at Cornell under Dr. R. M. Stewart and returned to head the department of agricultural education at the University of Minnesota. It was here that he made his greatest and lasting contribution to agricultural education. An indication of his philosophy may be found in the publication "Whether Agricultural Education" to which he contributed an essay on "The Course of Study" in vocational agriculture.

True to his role as a philosopher he contended that a program of agricultural education should be rooted in a sound philosophy as a point of departure. The students should then be directed through a series of learning experiences that would take them "from where they are to where they probably will be, or ought to be."

Dr. A. M. was a true leader in his belief that the philosophy of Agricultural Education must be a philosophy of change. Dr. Field set an example for current leaders of agricultural education by insisting that agricultural education must change "more rapidly than agricultural practices, otherwise it cannot lead." Agricultural education, he insisted, must catch the problems of the future in its philosophy of today.

Principles for Teaching Agriculture

A large part of Dr. Field's contribution to agricultural education might well be condensed into his suggested

guiding principles for teaching agriculture on a vocational basis.

Principle No. 1. *In teaching agriculture emphasis is put on the needs of the students rather than on the subject matter to be taught.* Dr. Field expressed it thusly, "The personal development of the student is placed above the acquisition of facts or the skillful performance of manipulative activities."

Dr. Field impressed his students with the idea that the seat of good farming is in the mind, that "the pencil guides the plow," that to be successful in agriculture the students must think good agriculture. Thus he shaped prospective teachers of agriculture in his image (philosophically) and developed the important attributes of ideals and attitudes.

Principle No. 2. *Agricultural education is democratic in its service to the community.*

Given the resources, Dr. Field's philosophy would raise the level of people engaged in agriculture to the highest social and economic level their abilities would permit.

The Integrated Course of Study

On indication of how Dr. Field would approach present-day problems can be gleaned from his efforts to develop an integrated course of study of vocational agriculture in his day and time. Basic to his philosophy was the

(Concluded on bottom of next page)

This article was prepared by Dr. Milo Peterson, Professor of Agricultural Education, University of Minnesota, presently on special assignment on the Korea-IDA Education Project, at the Dunwoody Industrial Institute, Seoul, Korea.



Milo Peterson

THE EDUCATIONAL ASSOCIATION OF YOUNG FARMERS OF PUERTO RICO IS BORN IN THE REGION OF ARECIBO, P. R.

Luis Camara Capra
Regional Supervisor of Vocational Agriculture
Arecibo, Puerto Rico

The program of Vocational Agriculture as a division of the Department of Education has as one of its main objectives to train regular students in entering the field of agriculture or related fields, to establish out of school youth permanently in agriculture, and to upgrade the proficiency of the adult farmer.

Our teachers in the region of Arecibo are conscious of their responsibility to carry on these objectives.

The twenty-two teachers in the young and adult program of vocational agriculture had an enrollment of 1350 young and adult farmers.

The age of students enrolled in vocational agriculture ranged from 18 to 65. There was one group with an age range of 18-35 years. The teachers realized that such a heterogenous enrollment had different needs, attitude, and interest in agriculture.

Young students were eager to learn more and were interested in developing supervised exemplary projects on their own farms.

For this reason, the teacher of vocational agriculture realized that he had to give special attention in education to these young farmers without disregarding the needs of the adult farmer. As this new technique was developed by the teacher, the young groups of farmers decided that they should organize an association, in the same way and manner as the Young

Farmers of the State of Virginia and California.

A general assembly was held, among the young farmers in the age group 18 to 35 years old, on May 29, 1971 at Arecibo, P. R. In that assembly the Constitution and By-laws of the Association were discussed and approved. These were sent for the consideration of the State Secretary of Education, Doctor Ramón Mellado, and the Advisor of the Association on the state level. The Constitution and By-Laws were provisionally approved by the Legal Division of our Department of Education and sent to the State Secretary of Education for final approval.

On May 16, 1972, the Association with the board of directors, all of its members, and advisors were present at a forum in the State Department of Education.

The Governor of Puerto Rico, Honorable Luis A. Ferré, was present along with the State Secretary of Education, Doctor Ramón Mellado, the Secretary of Vocational and Technical Education, Dr. María Socorro Lacot, the State Secretary of Agriculture, Doctor Luis Rivera Brenes and the State Director of Vocational Agriculture Victor Hernandez Penzal.

In that magnificent activity the Constitution and By-Laws of the first Educational Association of Young Farmer of Puerto Rico, was officially legalized by the signature of the State Secretary of Education. ♦♦♦

(Peterson — from page 134)
idea the farming was not carried on "in general" in the community; rather, the individual farm business was the unit of study. One can see the influence of George Warren and R. M. Stewart in this approach.

Major Contributions

In this writer's judgement, Dr. Field's most significant contributions

were: (1) his ability to advise without directing; (2) his advanced philosophy rooted in the student centered approach to teaching, and (3) the development of the course of study in vocational agriculture on the "Horizontal vs the vertical" basis. In essence, Dr. Field's idea was to match the subject matter with the capacities, interests and opportunities of the individual. ♦♦♦

(Stenzel & Lukens — from page 127)

the veterinarian to spend with patients. Animal hospital technology graduates offer veterinary hospitals para-professional personnel trained to perform many procedures and technical tasks.

The program prepares personnel who have been selected for this type of technical work, who have been oriented in the role of auxiliary personnel in the veterinary hospital, and who have worked in at least two hospitals supervised by a veterinarian.

The animal hospital technology program at CCG is based on the American Veterinary Medical Association Guidelines and is approved by the Kansas Veterinary Medical Association. All clinical instruction is by professional personnel in a clinical pathology laboratory and a local veterinary hospital which provides services for small and large animals. Construction is underway on the campus which will provide a small animal colony with X-ray, surgical nursing, and animal care facilities.

Graduates Are Employable

The programs at Colby Community College are popular. Campus facilities, staff, and available cooperative training stations have been factors causing the limitation of students admitted into each of the three programs annually. Pre-enrollment for 1972-73 included the following numbers: animal hospital technology—42; feedlot management technology—25; and meat inspection technology—12.

Those graduates who sought employment upon completing the requirements, found jobs in their vocation. Several graduates in the feedlot management technology and meat inspection technology programs transferred to the College of Agriculture at Kansas State University to major in a phase of animal science.

The consensus of the agricultural staff and the school administration is that a course of study including vocational training courses interspersed with academic courses is necessary to train for successful employment. Students study two years in courses designed to develop their aptitude to think, speak and write effectively as well as to gain proficiency in their selected field of work. The programs at Colby Community College have a tendency to increase the intellectual and cultural capacity of the student while preparing him for a mature and complete living. ♦♦♦

Making Overhead Transparencies In Color From Magazine Illustrations

Did you ever want to show that favorite and truly appropriate color picture from a magazine on your overhead projector, and couldn't? You can. It is easy to make an overhead transparency of that picture and you do not have to fuss with the flammable thinner and rubber cement often used to do so.¹ You also do not have to use the rather costly equipment and materials often used in commercial processes for making overhead transparencies in color.

The process outlined below produces good color transparencies from pictures easily and safely with readily available materials. As a bonus, excellent transparencies of black and white material can be made also. In either case, the original illustration will be destroyed, but the resulting transparency will be permanent. Students can be taught the procedures involved quickly and can make overhead transparencies for your use.

The basic process consists of two steps. First, a transparent, adhesive backed, plastic contact film is used to lift the colored ink from illustrations printed on clay based paper. The film with the colored ink adhering to it is then transferred to a clear sheet of acetate plastic for projecting.

The following materials are needed:

1. Transparent adhesive backed plastic contact film such as "ConTact" brand wall and shelf covering. This material, available in eighteen inch wide rolls from department and hardware stores, costs approximately forty-nine cents a running yard.
2. Non-heat sensitized clear acetate film at least five mils thick such as reprocessed x-ray film or commercial materials such as the K+E brand "Mercury Clear Acetate Film." Exposed or out-dated x-ray film from hospitals or doctors' offices can be used after it is dipped out-of-doors in a chlorine bleach solution to remove the emulsion, rinsed in clear water, and dried. Commercially prepared clear acetate film may be secured at stationary and office supply stores, college bookstores, or artist supply stores already cut into 8-1/2" x 11" sheets. This is the same type sold for making overhead transparencies with acetate ink pens or wax pencils.

3. A tablespoon, a hard smooth roller such as a socket from a socket wrench set, or a linoleum roller.

4. A pressurized spray can of glossy finish artist's fixative or transparent spray. This may be bought at office supply, photography or artist's supply stores, and some department stores.

5. Pan of warm water with a little laundry detergent added. Cool water without detergent can be used; but in some cases, warm water with detergent works faster.

6. Soft dish towel, bath towel, or similar cloth.

The process involves the following steps:

1. Determine if the picture you wish to make into a transparency is printed on clay base paper. If a white film is left on your finger after rubbing a moistened finger over a margin of the page, the paper is probably clay based. Transparencies have been made successfully from non-clay base pictures, but their quality varies greatly.

2. Cut out, slightly oversize, the clay base picture you wish to make into an overhead transparency. It is better to trim the picture to the finished size desired as a later step to assure neat margins.

3. Cut out a piece of the transparent adhesive backed contact film slightly bigger than the oversize picture you cut out.

4. Peel the paper backing from the film, holding the plastic film by the edge.

5. Place the plastic on the picture with the sticky side in contact with the picture, making certain not to leave fingerprints on the part of the adhesive backing that will come in contact with the picture. Fingerprints on the adhesive will show on the projected transparency.

6. Working from the center of the picture outward, rub the adhesive backed contact film *hard* with the tablespoon or roller to press the plastic onto the picture. It often helps to rub the picture twice with the second rubbing being at right angles to the first. This is the most critical step in the process. A "muddy" appearing transparency can often be traced to

failure to press the contact film into complete contact with the picture.

7. Soak the picture, now coated with the plastic, in the pan of water until the paper comes loose from the plastic and floats off or can be peeled off. This will occur in three to seven minutes. If the paper does not peel off after becoming thoroughly wet, gently and carefully rub the paper off the plastic with your fingers, keeping the plastic wet at all times.

8. Dip or rinse the plastic with the color lifted ink picture now adhering to it in clean water while gently rubbing off any traces of the clay film that may still adhere to the adhesive side of the plastic. This step must not be omitted. Do not dry the plastic.

9. Trim the picture on the plastic film to the finished size wanted.

10. Position the wet plastic film, adhesive side down, on the clear acetate.

11. Smooth and press the plastic film on the acetate with the towel working from the center out to the edges to remove any trapped air bubbles and to increase the adhesion of the film to the acetate. Enough adhesive remains on the back of the plastic film for it to stick to the acetate.

12. Spray lightly and evenly with the glossy artist's fixative to increase transparency, if necessary.

The overhead transparency is now ready to use. The author has several that are now two years old that show no signs of deterioration.

Good overhead transparencies have been made from illustrations appearing in "Newsweek," "Farm Journal," "U.S. News and World Report," "Life," "The Progressive Farmer," "The Furrow," "National Geographic," and catalogs of equipment, agricultural chemical, and other farm supply manufacturers.

Incidentally, the same process may be used to make fairly acceptable 2" x 2" or 35 mm slides. In this case, the transparencies are fastened in Kodak Ready Mounts by sealing the edges of the mounts with a warm electric iron.

¹A. K. Jensen, "Preparing Low-Cost Overhead Transparencies — In Color, Too," *The Agricultural Education Magazine*, December, 1965, pp. 140-142. Ed: Thanks to Dr. Christiansen for a practical and inexpensive procedure for making an instructional aid.

AGRICULTURAL MECHANIZATION COMPETENCIES NEEDED BY SELECTED LOUISIANA FARMERS

Richard C. Weber
Vocational Agriculture Teacher
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Louisiana



Richard Weber

edge, skills, and understandings are developing so rapidly that the training of youth is often outdated soon after they graduate from school.

Technology in agriculture makes it necessary for adults to stay abreast of constant changes in mechanization. As machinery and technology become more complex the problem of displaced individuals will increase, forcing farmers off the farm. Agricultural mechanics has always been an integral part of vocational agriculture. Needless to say, the mechanization of farming has placed additional emphasis on this phase of the program in adult education for farmers.

The teacher of agriculture is in a position to give counsel and guidance, acquire resource personnel and provide basic instruction in most areas of mechanization for practicing farmers.

In a recent study at Louisiana State University, research was conducted to identify skills in agricultural mechanization that were felt to be important to a farming program by selected Louisiana farmers. The purpose of this study was to secure information which may be used as a guide in formulating adult education programs in the farm mechanization phase of vocational agriculture and to make recommendations concerning its use. Responses to skills which farmers indicated to be important in their operation, provided information relative to the purpose.

The survey was limited to a sample of farmers in Louisiana as determined by a selected group of 75 vocational agriculture teachers. The sample covered a 55 parish (county) area of the state. Each teacher was asked to distribute questionnaires to four farmers in his teaching community. A total of 300 questionnaires were distributed. This study was further limited to farmers to receive 50 per cent or more of their income from farming.

Findings

A distribution by farm types revealed that 41 or 22.7 per cent were crop farmers, 32 or 17.7 per cent, dairy farmers, and 28 or 15.5 per cent, livestock farmers. The remaining 80 or 44.2 per cent were diversified farmers because they had no special enterprise that contributed 50 per cent or more to their annual gross income.

The average age of respondents was 44 years with a range from 19 through 66.

The average number of years of formal education completed was 11.5 and ranged from three to more than 17.

The average number of years in farming was 20.7.

The average size of farm in this study was 476.7 acres with a range from below 50 to over 2,000 acres.

There was an average of two trucks and three tractors on farms in the survey.

Other items of a mechanical nature found in a lesser degree on most farms included; combines, hay balers, corn pickers, forage harvesters, electric welders and oxy-acetylene units.

Eighty per cent of the farmers surveyed stated that they would attend an adult education class in agricultural mechanization, if offered.

Sixty two skills in agricultural mechanization under six major headings were included in the survey form.

Farmers were asked to rate each activity according to importance in a farm operation. The degrees of importance from which they could select are as follows: extremely important, 5; very important, 4; important, 3; of little importance, 2; of no importance, 1.

The mean value for the skills in each major division surveyed were revealed as follows: agricultural power units, tractors and related field machines, 4.02; agricultural electricity, 3.48; agricultural construction and maintenance, 3.45; agricultural structures and environment, 3.40; processing, handling and storage of farm materials, 3.28; soil and water management, 2.96.

All 62 skills and abilities in the survey were rated according to their mean value and placed into three levels of importance. All skills in Level I received a mean value rating of 3.50 and above. Activities in Level II received a mean score of 3.00 to 3.49 and skills in Level III were scored 2.99 and below.

It is realized that many agriculture teachers have evaluated their individual community needs and are aware of what should be taught at local levels in agricultural mechanization.

This survey indicated that a definite need exists for training in agricultural mechanization competencies since farmers stated that they would attend adult classes in farm mechanics if offered by local vocational agriculture departments.

Agriculture teachers should not forfeit the tremendous opportunity to provide for an adult program in farm mechanics for this group in the local communities and at the same time create further support for the total program in vocational agriculture. ♦♦♦

A list of the skills assigned to each level is available from the author.

William G. McVay
Teacher of Agriculture
Whitko High School
South Whitley, Indiana



William G. McVay

What is Education? Education to me is helping people make desirable changes. A tool we have found useful to help people make desirable changes is the Farm Management Approach to Adult Education.

Several years ago Professor Harry Leonard, now retired, of Purdue University asked me if I might be interested in starting a special Farm Management, Record-Keeping Program for adults. He was of great help in organizing and carrying out this program. The basic idea is to use records as the basis of decision making in Farm Management. Since 1963, 38 farmers have received instruction in this program. When the program started, the families kept records in the Indiana Farm Account Book. Now our farmers use the mail-in computerized record system developed by Purdue University.

In discussing this subject, I would like to discuss the following 4 areas:

1. How the program benefits farmers.
2. Why the teacher of Vocational Agriculture should get involved.
3. Who should start such a program.
4. Some ideas in starting the program.

HOW HAS THIS PROGRAM BENEFITED THE FARMERS?

1. The business analysis farmers receive help them make major management decisions easier and more effectively. If we budget several alternatives and use average figures, it is not as effective or as correct as if we use our own figures based on our own records. For example, the average farmer in the state might have a fertilizer cost per tillable acre of \$15 but your records might show a cost of \$20 per acre. This \$20 would be much more meaningful than the \$15 figure. The only way to obtain

GET INVOLVED— BY TEACHING ADULTS

such a figure is with good records. We have helped farmers make such decisions as whether to buy or rent more land, which enterprise to expand, or whether they should take an off-farm-job.

2. These records have helped identify the limiting factor in crop and livestock production. We can determine for example that low crop yields are the major factor limiting farm income. By using the records and talking with the farmer, we can determine whether such things as fertilizer, weed control or timeliness were the contributing factors to low yields. After the problem is identified it is easier to solve it.

3. One of the major uses of records we have found is to use them as the basis of a father and son agreement. We Ag teachers have always been interested in helping boys get set up with their fathers. Good records are essential in setting up such an agreement.

4. These records have greatly improved the income tax reporting and income tax management of the farmer. Because the farmers have good records, their income tax reports are much more accurate than before. Also, our farmers receive a preliminary tax report in December. This allows them to make some decisions that can reduce their income tax obligation.

WHY SHOULD THE TEACHER OF VOCATIONAL AGRICULTURE GET INVOLVED IN THIS PROGRAM?

We may all agree that this is a good program, but why should the Agriculture teacher get involved when there are other agencies trying to do this job. I believe the Ag teacher should get involved because:

1. The Ag teacher knows the farmer. If a farmer is to receive help in making decisions, he must have someone who knows him. Just looking at a computer print-out sheet is not enough. You must know the farmer, his goals, abilities and the

farm situation. I believe the Agriculture teacher is in a better position to do this than any other person or agency.

2. This program can get the Ag teacher involved in helping the entire farm family. We have always stressed knowing the home situation and the parents when working with high school students. This program will help us get involved more with the family. The mother in most cases is the record keeper, and you will be working with all the members of the family in going over the analysis. I believe this program can contribute to helping us know and work with all the family in meeting their goals.

3. Adult farm visits become more meaningful. The teacher has a reason to be there. He does not "just drop in for a visit." It is on a real business-like basis discussing real problems.

4. The Farm Management approach can give several very good topics for winter night classes. During the past several years, we have had such topics as money management, insurance, credit, agriculture outlook, deciding how much to invest in machinery. These topics are very closely related to the problems the farmers have and the problems that have come to light as a result of the program.

WHO SHOULD TRY THIS MANAGEMENT PROGRAM?

1. The teacher should have been in the community long enough to be accepted by the community. He must have the respect of the farmers he is trying to help.
2. The teacher must have an interest and aptitude in farm management.
3. The teacher must enjoy and have the ability to work with people on a close personal basis. This must involve the ability to keep in confidence anything he discusses with his farmers.

4. This program will work best in an

(Concluded on page 142)

AGRICULTURAL STUDENT CLUBS IN POST-SECONDARY PROGRAMS

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M. J. Iverson

During the 1960's two-year, post-secondary education programs in agriculture have spread rapidly across the country. Some agricultural educators now look to this new area for expansion of the "youth organization" philosophy which fostered the FFA as well as various collegiate agricultural education groups. In recent literature, proponents and opponents alike have expressed themselves as to the need for, makeup of, and direction to go with an organization for post-secondary students. But amid arguments for and against having such clubs, and debate over how they should be structured, with whom they should be affiliated and the like, little has been done to determine what presently exists.

The Study

In order to provide some insight into this situation, a national study was made by the author in 1971. A major focus was to determine current status of student clubs in the more than 300 post-high school institutions reporting agricultural programs. State directors were contacted to provide a list of institutions and to indicate which programs had student clubs. A survey instrument was designed and mailed to the 100 institutions known to have agricultural clubs, and also to a 50 percent random sample of the remaining 226 institutions. Agricultural Division Chairmen in 163 institutions located in 40 states and Puerto Rico provided data for the study.

Findings

★ Seventy percent of the respondents reported having agricultural student clubs—a much higher percentage than was previously thought to exist. The North Atlantic and Central regions were found to have a higher proportion of clubs than the Pacific and Southern regions, as shown in Table 1.

TABLE 1 — Regional Status of Institutions Offering Post-Secondary Agricultural Programs

	Institutions By Regions				
	North	Central	Atlantic	Pacific	Southern U.S.
Useable Responses	65	14	46	38	163
Ag-Related Student Organizations in Operation	49	11	32	23	115
Percentage with Organizations	75.4	78.6	69.6	60.5	70.5

★ A number of common characteristics of institutions, departments and students were found. However, when schools having agricultural student clubs were compared

with "have not" institutions, only a limited number proved to be statistically significant. Those factors affecting establishment of clubs were:

Percentage of Students Age 17-20

Name of Department: Agricultural

Number of Farm Students

Number of Previous FFA/4-H Members

Department Chairman's Attitude Toward Student Organizations as a Part of the Program

Number of Female Students

Number of Minority Students

Existence of School Policy

Number of Full-Time Faculty

Total Department Enrollment

★ Most of the clubs were relatively young (under 10 years of age), department-wide groups engaged in leadership, social development, and program-assistance activities. Most were traditionally structured. Eighty-eight percent had agricultural names; only seven percent had Greek-letter titles. The groups were primarily independent of outside affiliation. Nearly all the clubs had regular and social or recreational meetings. Almost all were local but clubs in New York, Kansas and Minnesota had moved toward forming state-wide groups. A total of 5,397 members were reported in 121 clubs; with enrollment in agricultural programs totaling 11,603 students, membership was less than one-half of the potential. However, most members participated in at least one major activity and continued as members into the second year. The average budget was \$800, with most income from dues and fund raising, but with nearly one-third of the clubs receiving financial support from the school. Costs of meetings, social activities and travel comprised the major financial outlays. Most clubs had changed little since starting, and then, mostly in larger membership and number of activities. Trends indicated were for increased and diversified programs, movement to form state groups, development of subgroups within local clubs and expanded scope of the clubs. Major problems reported were in securing membership, participation, and financing—and dealing with restricted time schedules due to the high percentage of students working at part-time jobs.

Conclusions and Recommendations

What do these findings mean to the profession? Where do we go from here? Fortunately, the primary thrust of post-secondary agricultural student clubs is still in its infancy and mainly at the local level—but this may not long be the case.

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POST-SECONDARY AGRICULTURAL EDUCATION— Marketing And Management At Mitchell, S. D.

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A new infant in the Agricultural Education program in South Dakota was born at the Mitchell Area Vocational Technical School, Mitchell, South Dakota, when 17 post-high school students enrolled in the Agricultural Marketing and Management program in the fall of 1969. This was the first South Dakota program aimed at furthering the education of young men wishing to go back to farming and ranching or into Agri-business. The program was designed for those who are beyond the high school age and did not wish to attend an agricultural college in this State. One can now look back and see where many changes could have been made, but we still can see many great accomplishments made with the first classes.

The Agricultural Marketing and Management Class was started with a dual purpose of preparing young men returning to the farm or ranch as well as those who wish to go into agriculturally related businesses. As the program grows and develops, it is foreseen that there will be two distinctly different curriculums with some basic subjects for both.

The curriculum is set up to have six quarter hours of training in Animal Sciences, another six quarter hours in

Plant and Soil sciences, 7 quarter hours in Farm Management, and seventeen quarter hours in Agricultural Mechanics. One quarter hour is equal to one hour of class or laboratory activity per day for 12 weeks or a total of 60 hours. The Mitchell Area Vo. Tech. School operates on six hours of class or laboratory per day, five days per week, for 12 weeks to equal one quarter. A fall, winter, and spring quarter are scheduled with possibilities of some summer classes.

This schedule is perhaps quite different than most agricultural programs in other area schools. The long distances that some of the students must travel require most students to stay in Mitchell and return home only for the weekends. They come from so many different areas that it is nearly impossible, at the present time, to allow time off as a group for spring work or fall harvest, which creates some absenteeism during these periods.

Another unique situation in the agriculture program is the exchanging of classes with other instructors in other areas of training in the school. This allows for more specialization and certainly gives more variety to both the instructor and student. Rather than using a shop area of its own, the Agriculture Department uses the specialty facilities of the Automotive and Diesel Mechanics, Carpentry, Welding and Electric Construction Programs. This arrangement has worked out quite satisfactorily, and more of this type of class arrangement is being worked on in other programs in the school for next year.

One critical point that is continually looked upon for improvement is to make the course as practical as possible and give these students some work experiences that they can use on the farm or on the job.

A great asset to making a very practical Agricultural Program has been the various resource personnel in the Mitchell area. The County Extension Agent and his assistant have been very

helpful. Working quite closely with them has made the students aware of the values and benefits of their local County Extension Agents and the great help that they can give. Various night meetings of the Agricultural Extension Service have been incorporated into the class activities, as well as field trips and the use of demonstration test plots and field days.

Other very helpful personnel have been the area farmers on whose farms many field trips have been made to observe and discuss farming programs and management problems. This certainly has "spiced" up the classroom discussions. Other men called upon have been: Agricultural Chemical Fieldmen, Bank Agricultural Representatives, County Weed Commissioner, Soil Conservation Technician, ASCS Representative, Farm Machinery Dealers, Livestock Packing Plant Managers, Elevator Manager, Feed, Seed and Fertilizer managers, and Commercial Feedlot Managers. All of these plus many more contributed to getting the agricultural program off the ground and rolling with eighteen young men enrolled in the first class. A constant exposure of these young men to the Agricultural Specialists made them more aware of their availability to them at home in the future.

The makeup of the first group included only two boys having former Vocational Agriculture training in high school. However, the second class included quite an increase in those with a Vo. Ag. background in high school with a sprinkling of State Farmers and one American Farmer aspirant.

These young men have shown a great improvement in their ability to think and analyze for themselves, as well as improve in the various technical skills that are necessary in present day agriculture. Our aim is to better prepare them for more proficiency in farming or an agricultural business. With time to measure their accomplishments, we will see if we have prepared them better for their chosen occupation. ♦

ACCOUNTABILITY IN ADULT EDUCATION

M. D. Thornton
Agribusiness Education Teacher
Montevallo, Alabama



M. D. Thornton

human resources and basic trades education, has established objectives and goals to serve everyone desiring to benefit from them. In fact the entire community can pose as a target when broad and long-range objectives are once established based on factual information and on predictions and forecasts based on proper studies.

The adult education teacher of agribusiness education and related fields should be aware of the "Accountability" expected of the program in which he is engaged. It can be expected that the core of the program will be concentrated on those enrolled in organized instruction in the specific classes. Serving individual needs and concerns will require much personal counseling, supervisory visits, continuing educational information, and a definite follow-up procedure. The all-day enrollment, having given a year or two to exploratory studies having to do with "The World of Work" through following an organized curriculum wherein factors concerning future possibilities are understood, can work toward an alignment or establishment of an objective program for each student limited to one area (or possibly more) for specialized study through high school. With placement for work and study experiences being a part of the organized curriculum, it is possible to have the advantage of resource persons and equipment associated with the specific study objective which the local school cannot offer.

Since a number of students will probably remain where placed, for permanent employment following graduation from high school, they will require follow-up supervision as they

Continuing adult education as a part of an organized and functioning program of agribusiness education can become a force in any community. The total program of agribusiness, including natural and

The adult education teacher of agribusiness education and related fields should be aware of the "Accountability" expected of the program in which he is engaged.

progress. Present day vocational-technical education can look to a limited number of students channeling into the secondary school vocational technical area training centers before they meet the adult challenges of a chosen trade or field of specialty. These, too, will require additional follow-up. Post vocational-technical education for two years will make a good introduction to adult performance demands but, in my opinion, will require individual follow-up after the student is on the job.

Although emphasis can be given to adult education in the program of organized classes, the out-of-school individual and group approach cannot be ruled out. Trends in ownership, productivity, size of farms, and other agribusinesses will have an impact upon any organized adult vocational education program. Changes in employment status and in job classifications will necessitate much flexibility in program planning. The present trend toward increase in number of older people and women employed could serve a two-fold purpose; the need for follow-up education of those presently employed, and a renewed interest in the pre-adult education for job qualification preparation. The fact that only 20 per cent of the potential future jobs and professions require a college education, and that costs of services are rising will become important factors in job training objectives in the immediate future.

It is possible that as vocational technical graduates enter their chosen area of employment participation, there will be urgent need for some additional follow-up training. There is always the danger of the student wanting "a job" more than wanting to be a "skilled employee" or "career person." Capital investments by various persons and en-

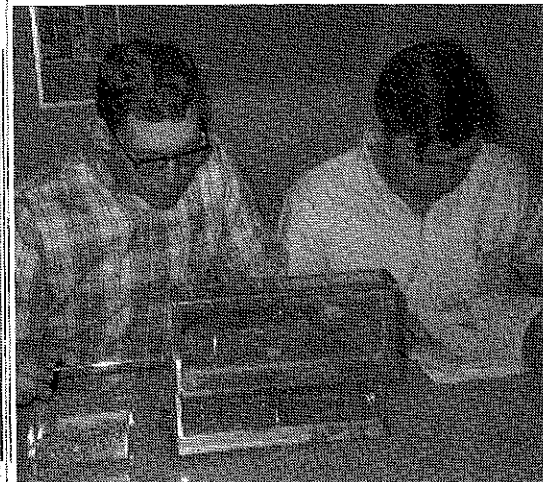
terprises hopeful for quick gains have caused problems to the prospective farmers and other adults desiring to enter a phase of self employment. Increased costs of land, equipment, labor, and supplies have converted many of these prospective persons for trained employment status to the ranks of the unemployed or to temporary work without a favorable future. A program of continuing education, although limited in its functions, can be useful to a community or larger segment only if organized within the bounds of the capability of the program to serve.

I am projecting the thesis that the agribusiness education teacher can best serve through a well organized limited program resulting in having resource people as examples who have been brought up through the planned program and who have become established in the community. In my opinion, the agribusiness teacher is first responsible to those adults who have been placed through his agribusiness program. The laboratory of the community can be termed the "Proving Ground" for those who stay.

The necessary implementation of technological developments has caused the need for adjustment in many ways. The live-at-home program long promoted among farm families has, in some instances, given way to larger and fewer farms in specialized production and these farmers have become customers at the food retail store. In some cases "Contract Farming" has lessened the demand for direct education for some individuals on the part of the agribusiness teacher, because contracting companies have put personnel in the field for informational and supervisory help.

Adult continuing education can help both rural and urban families as rapid changes in transportation, housing, food processing and distribution, and mode of living change their needs. It is expected that when those who are brought up through the training program make an exit from the community they will look elsewhere for follow-

(Concluded on page 143)



In the laboratory, the students study the techniques of grain grading and evaluation. Here they are calculating dockage on a wheat sample.

BOOK REVIEWS

OUR NATURAL RESOURCES by P. W. McNall and Harry B. Kircher, Danville, Illinois, The Interstate Printers and Publishers, 1970, Third Edition, 296 pp. \$4.95.

The third edition of this book comes at a time when an increased need is being exhibited for courses concerning environmental quality and ecological balance. A chapter on air pollution has been added, chapters have been rewritten, and the entire book has been revised and updated. Thus those teachers who are presently teaching or will be teaching a unit or course on natural resources or ecology should review this book for possible use as a text or reference.

Areas of content include: worth of natural resources, sources of energy, minerals, forests, soils, wildlife, and air. *Our Natural Resources* is relatively easy to read and is organized in a logical sequence.

The book is written primarily from the view point of use and conservation of natural resources. Thus, the teacher searching for a book that primarily treats the current topics of environmental quality, e.g. air and water pollution, its causes and prevention, may be disappointed with this book as a reference. Rather, the book deals with a more general approach to the total environment and the use of natural resources. It would seem that this broader approach would be the more desirable for teaching an introductory ecological course, designed to develop an appreciation for our environment and its resources. Naturally, for an advanced course designed for preparing students for occupational proficiency in environmental quality occupations, additional references would be required.

Hollie Thomas
University of Illinois

NEPAL VOCATIONAL AGRICULTURE TEACHER'S HANDBOOK, by Harvey S. Woods and Thomas R. Stitt, Sano Thimi, Nepal: Janak Educational Material Center, 1971, 245 pp.

Dr. Stitt, currently of the Agricultural Education Staff of Southern Illinois University, served as a USAID/SIU Agricultural Education Specialist for 26 months in Nepal. While in Nepal Dr. Stitt arranged

to have Dr. Woods of Illinois State University go to Nepal to serve as a consultant. Together they co-authored this book at the request of the Ministry of Vocational Education. Six top vocational agriculture teachers of Nepal served as consultants and authors of the lesson plans included in the text.

The introduction outlines two major objectives. These include:

1. A review of present teaching materials by selected inservice vocational teachers of Nepal, and;
2. Development of additional materials that will provide opportunities for improvement of academic, vocational and professional competencies of all vocational agriculture teachers in Nepal.

Chapter I reviews the current situation in the country regarding the general school programs, and specifically, the S.L.C. (School Leaving Certificate). The course of study for the S.L.C. is a course outline provided to the vocational agriculture teacher of Nepal by His Majesty's Government, Ministry of Education. It is later explained that this course outline is for the Nationally Administered Examination required prior to graduation.

Chapter II deals with (a) farming practices which are presently being used in Nepal, and (b) economic analysis of current production systems. Potential farm and agriculture related employment opportunities which graduates may consider are outlined in Chapter III. These chapters deal with the situation in Nepal and, other than being of general interest, would have little value outside of Nepal.

Chapters IV and V are entitled "Principles of Teaching and Learning" and "Effective Teaching Methods", respectively. Their discussion of preception, insight, motivation, habits, transfer, level and rate of learning is at an elementary level. These two chapters constitute the "instructional techniques" suggested for the Nepalese vocational agriculture teachers. The methods section suggest an outline for a lesson plan and includes 60 lesson plans. It appears the lessons could have been greatly improved by (a) developing more specific and measurable objectives, and (b) providing additional technical information which would be required to teach effectively.

The chapter which discusses Supervised Farming Programs, Future Farmers of Nepal and the Young Farmers of Nepal program parallels existing programs in the United States. There is always the

question of application of practices used in the states to a country which has different social, economical and political policies. *Summary:* The format, lay out and photography of the text (pictures for text were taken by Stitt) are excellent when compared with other Asian published materials. The objectives of the book are clearly stated and as the title states apply primarily to Nepal. The reviewer found the book to be very interesting and informative on Nepalese agriculture. Anyone interested in international Agricultural Education could gain a valuable insight to the various problems and possible solutions in one country that might very well be quite applicable to other developing countries.

Donald L. Ahrens
Southern Illinois University

(McVay — from page 138)

area where production agriculture is a major phase of agriculture in the community.

5. The local school administration must be cooperative. There must be a low teacher-farmer ratio due to the large amount of individual instruction involved. There are usually Federal and State funds available to help support this program.
6. There must be a reliable place to have records summarized and analyzed.

In summary, there is a need for such a program in Farm Management and Record Keeping. Because of the Ag teacher's unique position, he is a natural to help set up and carry out such a program. The Ag teacher can be of great service to the farmers and the community by setting up such a program.

I have had few teaching experiences in 18 years of teaching that have given me as much satisfaction as this program. I believe this is true because you really are involved in helping people make desirable changes. ♦♦♦

organizational needs of post-secondary students and devise optimum procedures and plans for development of related group activities.

5. Publicize and otherwise utilize successful programs to promote improved clubs elsewhere in the state and nation.
6. Learn more about young adults, their psychological make-up and their organizational behavior and needs — so that we can more effectively assist them in their club activities.
7. Plan now for the growth potential. ♦♦♦

This article reports one phase of his doctoral dissertation, "Guidelines for the Development of Student Organizations Associated With Agricultural Programs at Two-Year, Post-Secondary Educational Institutions in the United States," which was completed at the Ohio State University in June, 1971. A copy of the full Research Report of this study may be obtained by writing the Department of Agricultural Education, The Ohio State University, 2120 Fyffe Road, Columbus, Ohio 43210.

H. H. Burlingham Retires

H. H. Burlingham, head of the Agricultural Education Department in the School of Agriculture and Natural Resources at California State Polytechnic College, San Luis Obispo, retired on June 30 after a total of 42 years service to agricultural education.

Since 1948, Burlingham has been training future vocational agricultural teachers at Cal Poly, for 12 years prior to that, he was a vocational agriculture teacher and a supervisor of vocational agricultural instruction.

Burlingham was director of agriculture at high schools in Willits, Madera, and Paso Robles until his appointment as a regional supervisor in the Superior

Region in 1942. Six years later he joined the faculty at Cal Poly.

Burlingham's teaching career covered a wide scope of agricultural enterprises. At Willits, emphasis was on livestock and on crop farming which supported livestock; at Madera, livestock and crops played an equal role, with deciduous fruits, cotton, and vines of major importance. Paso Robles was a beef cattle country, with a secondary interest in dryland grain farming.

Over the 42 years Burlingham has been involved in vocational agricultural education, the supervised project has played a differing role. He is happy that after a period of decline in the high school vocational agricultural programs, the project as an instructional

tool is regaining in importance. He notes that the concept of the supervised project has been broadened to include various types of work experience as well as the productive farming enterprise.

As he retires, Burlingham also is satisfied to see that the role of the Future Farmers of America chapter in the high school educational program again is gaining strength. He believes this gain is the result of incorporating into the FFA program activities which serve students with a non-farm background as well as those with a farm background.

Burlingham and his wife, Ruth, will continue to make their home at 877 Center St. in San Luis Obispo. ♦♦♦

(Wehrhouch — from page 126)

BENEFITS OF PROGRAM

Instruction is designed to be vocational in nature. Discussion-type classes are encouraged with student participation emphasized. Quizzes are given, but only so the instructor can measure his effectiveness and see whether or not the students are learning.

A practical-type farming is discussed in order that the information may be related to their own situations. Much is learned from the students in the class, as well as from the instructor.

Response from the students to the

program has been excellent. In classes as diverse as these, it is impossible to have all students interested in all subjects, but reports from both individual students and from the representative committees indicate excellent results.

Upgrading the farmers in the area will improve the local economic conditions.

Veterans get paid according to the G.I. Bill for attending class. This brings considerable money into the community. It is used to make farm improvements, investments in land, machinery, and to pay off previous debts.

Community leaders were anxious to have the classes located in their towns.

It is an economic advantage to have 30 farmers in town, where they may purchase goods needed for the farm.

Each class has selected a committee of three to represent them in discussions with the administration, to plan social functions, and to manage local details to lighten the instructors' loads. They function well and are an asset to each class.

There are presently 143 students enrolled. This makes the class size too large for the best teaching conditions in some cases. Non-veterans are not encouraged to enroll at the present time, because other veterans are waiting to get into the program. Eventually, the program will be opened to anyone wishing admission. ♦♦♦

(Thornton — from page 141)

up instruction and supervision. The "drop out" from high school can be looked upon as one who should enter immediately into some phase of post school, young farmer, or adult education program.

The rapport of relationship and understanding with all those concerned with the farms and related establishments, including agri-industries, is a must for the effective agribusiness, agri-industry, and basic trades teacher. Their help will be needed to a degree in many and varied ways:

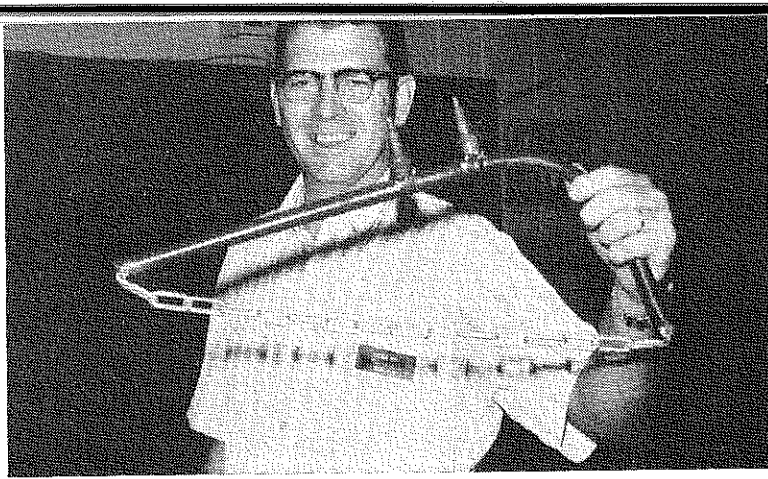
1. To provide placement situations.
2. To aid in instruction and supervision.
3. To aid in outlook and projections.
4. To evaluate and re-evaluate.
5. To recommend.

6. To have an unusual depth of understanding of the total program.
7. To keep open lines of communication.
8. To employ.
9. To keep a system of records.
10. To suggest curriculum content and revision.

Seasonal and called meetings for all personnel involved will aid in coordinating and keeping all phases moving. An adaptable advisory counsel could be most helpful if properly organized and used.

As the leadership of our nation looks to future demands for improved living, it seems essential that continued adult education will be needed to aid in supplying information for decision making not available during the normal span of years. The present situation is that

70 per cent of the national population lives on 2 percent of the land; available profitable productive farm land acreage is decreasing while the population increases, and much of our environmental areas are congested and polluted. We have cause for concern. The adult program will, of necessity, need to follow a course including the preparation of skilled employees to join the agribusiness phase of the total program. Today with approximately 38 percent of our workers engaged in this phase, there is no indication that any fewer will be needed at this time. Adult education, in my opinion, can have its best results with people who have gone through the exploratory study stages of "The World of Work" in high school and even in elementary school with "Career Education" in focus. ♦♦♦



Mr. Palmer Eidet, President of the South Dakota Vocational Agriculture Teachers' Association, shows off the "chain saw" which was presented to him as a memento of his year of leadership in the Association. The chain saw is a product of the instructor at Chamberlain, S.D., Mr. Leonard DeBoer. This may be an ideal Christmas gift for your neighboring Ag teacher. He can cut the lumber he left too long in his "Board Stretcher".



A Vocational Agriculture student puts finishing touches on one of the many wreaths produced by the Housatonic Valley Chapter Future Farmers of America. The objective of the project is to familiarize the students with the mechanics of marketing and salesmanship and also introduce them into the area of assembly-line production. All students participate in some phase of wreath making and are responsible for taking and filling wreath and tree orders and making sales at the Christmas Tree Stand. (Photo supplied by Robert B. Gambino, Vo-Ag Instructor, Fall Village, Connecticut)

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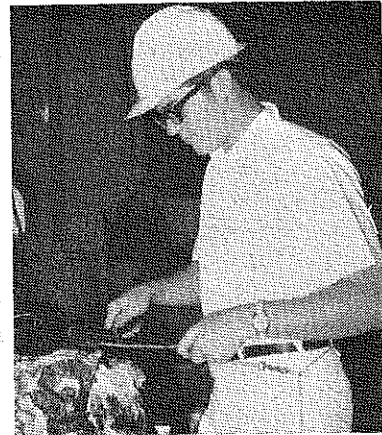
January, 1973

Number 7

Agricultural Education



Teaching Occupational "Awareness"



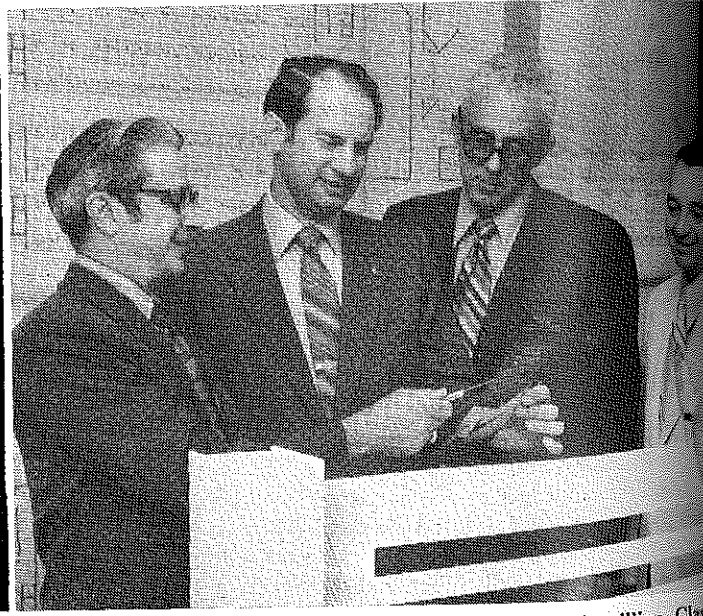
Students in the Colby, Kansas Community College receive extensive training in meat inspection procedures for compliance with both State and Federal regulations. Further information on this and other programs at CCC will be found in the article by Sam Stenzel and Roger Lukens on page 127, this issue. (Photo supplied by Sam Stenzel)

Stories in Pictures

by Richard Douglass



Palmer Eidet, (left), President of the South Dakota Vocational Agriculture Teachers Association presents an achievement award to Mr. W. R. Bryant, retiring teacher of Vocational Agriculture. Mr. Bryant taught Vocational Agriculture in South Dakota for 39 years, 36½ of which were in the Canton, South Dakota School System. This is one of numerous recognitions which were extended to Mr. Bryant in recognition of his years of service to Vocational Agriculture. Presentation was made during the State Vocational Education Conference on August 17, 1972 at Mitchell, South Dakota. (Photo supplied by E. W. Gustafson, State Supervisor, Agricultural Education)



Agricultural Education will be housed in the \$3.1 million Classroom-Office Building under construction at the University of Minnesota's St. Paul Campus. Examining plans for the five-story structure are, from left, R. Paul Marvin, Head of the University's Department of Agricultural Education; State Rep. Wendell Erickson, Hills; Paul Day, State Supervisor of Agricultural Education for the Minnesota Department of Education, and Marlyn Wacholz, Past President, Minnesota Vocational Agriculture Instructors' Association. The building also will house the departments of agricultural and applied economics, rural sociology and applied statistics. It is scheduled to be ready for use in the fall of 1972. (Photo supplied by Paul M. Day)



Theme - CAREER EDUCATION:
ELEMENTARY PROGRAMS