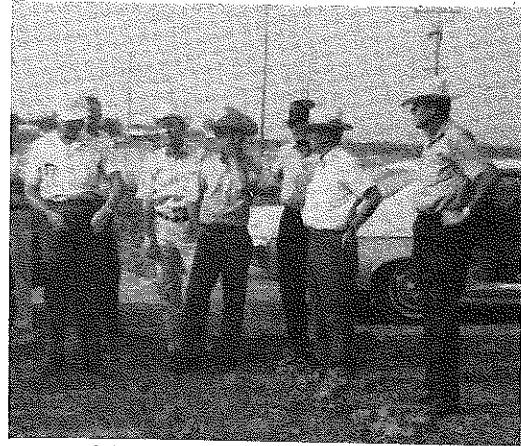


STORIES IN PICTURES

by
Paul
W.
Newlin



A group of farmers from Ferris, Texas, looking over some cotton research at the Texas Agricultural Research Center at Lubbock, Texas. Tours are an important part of Adult Education. (Photo courtesy M. S. Hammack, Ferris, Texas — See related article on p. 221)



The focus of instruction in business management courses is on making intelligent decisions. (Photo courtesy Cushman and Bail, Cornell University)



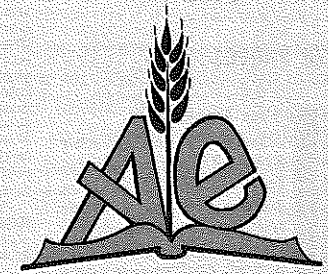
The 1977-78 NVATA Board of Directors. Seated (L-R) Sam Stenzel, Asso. Exec. Dir., Lincoln, NE; Richard Weber, Past Pres., Larose, LA; James Guilinger, Pres., Sycamore, IL; James Wall, Exec. Dir., Lincoln, NE. Standing (L-R) Tom Jones, V.P. — Region I, Tucson, AZ; Albert Timmerman, Jr., V.P. — Region II, Rockdale, TX; Quentin Christman, V.P. — Region III, Rugby, ND; Robert McBride, V.P. — Region IV, Kenton, OH; W. A. McLeod, Jr., V.P. — Region V, Red Springs, NC; David Miller, V.P. — Region VI, Gaithersburg, MD. (Photo courtesy NVATA)



"Sound Off For Agriculture," 1977 winners were presented awards by Max Riggan, Elanco Products Company. (L-R) Louis Horton, Elko, NV; Tom Mowery, Fort Collins, CO; David Gliniecki, Wisconsin Rapids, WI; Larry Lokai, Springfield, OH; J. T. Black, Greenville, SC; Roland Duperron, Ulysses, PA. (Photo courtesy NVATA)



"NVATA Outstanding Young Member Awards" were presented by Charles Bourj, U.S. Steel Corporation to: (L-R) Steve Gomes, LeGrand, CA; John Sharber, Sapulpa, OK; David Bisson, Atwater, MN; David Schneider, California, MO; Charles Williams, Davenport, FL; William West, Ripley, WV. (Photo courtesy NVATA)



AGRICULTURAL EDUCATION

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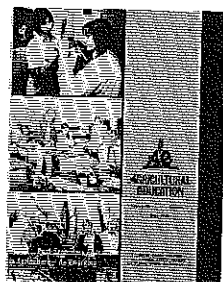
Theme — Post-Secondary Education
Agriculture — An Emerging

★ CENTER PAGES FEATURE ★
16' TANDEM STOCK TRAILER
— PLANS, STEPS, MATERIALS —

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Top Photo — Students at Texas State Technical Institute, Waco, TX, preparing to be animal technicians, help in office and lab work. Efficient technicians can enable a veterinarian to perform almost twice as much professional work. (Photo courtesy Ken Ragle and Carla Everett, TSTI, Waco, TX)

Center Photo — Dr. Gary Anderson, Agricultural Technical Institute, with students in the floral design laboratory. There are a wide variety of post-secondary programs in Ohio. (Photo courtesy Welch Barnett, Agricultural Education Service, Columbus, Ohio — Related story on page 260)

Bottom Photo — Leo Miller tells the UMW students a beef cow herd just about breaks even in Southern Minnesota. Beef cows do not utilize waste land to an advantage. (Photo courtesy Boyd C. Fuller, University of Minnesota Technical College, Waseca — Related story on page 248)

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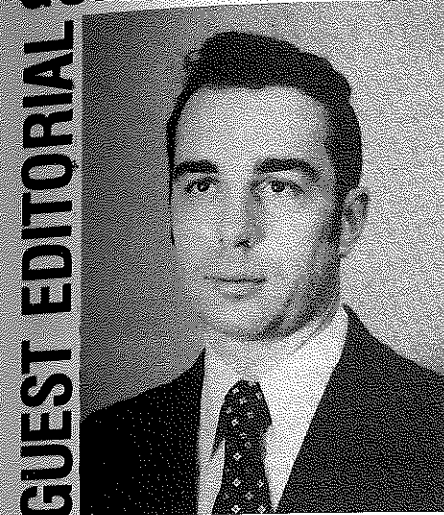
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GUEST EDITORIAL TECHNICAL EDUCATION IN AGRICULTURE AT THE POST SECONDARY LEVEL



Thomas C. Leamer

by
Thomas C. Leamer
Dean, School of Ag. Tech.
SUNY, Ag. & Tech. College
Alfred, NY

INTRODUCTION

For every individual employed in agricultural production, there are four or five others in agri-business. Farm businesses are dependent upon many other people with training and appreciation for the business of agriculture.

The production of food and fiber has evolved from a primarily self-sufficient production agriculture to a highly mechanized and specialized industry requiring increasing input and output services. Today's complex, urbanized agriculture has replaced the self-sufficient farmer of many years ago.

Research, education, mechanization, and the growth of non-farm markets have changed the face of agriculture. Agricultural research came fast on the heels of the earliest farm machines; and by the end of the nineteenth century, the scientists at the land grant universities and the U.S.D.A. were examining problems in soil fertility, plant breeding and livestock improvement. Their discoveries helped increase the productivity of each acre of land and each head of livestock. Simultaneously, a growing number of people who lived in the cities or worked at non-farm jobs in the country had to be fed. Handling, storage, and processing methods were improved so that food could be moved farther and stored longer. This type of increasing technology in agriculture requires a corresponding increase in the training level of our agricultural workers.

AGRICULTURAL PRODUCTIVITY

For the agricultural industry, these are times of rapid change. Those involved in agricultural education at all levels are the catalysts and motivators of these changes.

For many years, we have soared higher and higher, both physically and intellectually. We even have our flag on the moon. However, we must realize that we are all, in reality, dependent on the mineral rocks, organic matter, other animals, birds, fish, fresh water and other natural resources. Yes, we can soar, but we must rely on the land and soil for our food. Our agricultural technology has made our nation, the world's most industrialized, into the "breadbasket" of the world.

Agriculture is the nation's largest industry employing in excess of four million persons directly and supporting another ten to fourteen million jobs in machinery, chemical and other industries and in processing and marketing food and fiber. Increasingly, farmers depend upon others to do the same jobs they once did themselves. Spraying, fertilizing, building maintenance and equipment repairs are just a few of these.

Indications are strong that agriculture will have to expand even more in the future. An evergrowing population's demand for better nutrition in the developing countries will require sizable increases in world food supplies. Expansion of production agriculture necessitates additional supportive businesses.

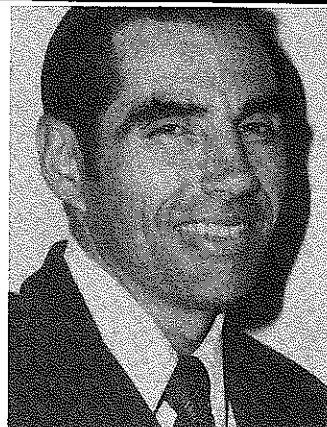
TECHNICAL EDUCATION

With the aforementioned information in mind, it is understandable that when college admissions have been leveling off, the enrollment in agriculture across the nation has been increasing. Agricultural enrollment in our nation's colleges has nearly tripled since 1963.

Agricultural technology and science has made our nation the leading producer of food and fiber in the world. With this in mind, we need to continue and expand, when necessary, programs to train technicians in agriculture. It is necessary to prepare a more highly educated and technically competent individual to work in all areas of agriculture. Two-year post-secondary agricultural technology programs have proved to be successful in providing an excellent education for the farm owner and agri-business personnel. These programs need to be maintained and increased with demand. Examples of the types of agricultural technology programs currently being offered are:

- Livestock Production
- Dairy Production
- Horse Husbandry
- Small Laboratory Animal Management
- Veterinarian's Assistant
- Crop Production
- Soil and Water Conservation

(Concluded on page 255)



FROM YOUR EDITOR

James P. Key

Some states have a very strong post-secondary program in agriculture. Others are developing rapidly and some are just beginning. All are recognizing the need to fill the gap between the secondary program and the 4 year college program. Articles in this issue indicate the way three states are organized to meet this need. Several articles share specific approaches and methods teachers are using in their programs. All indicate a strong partnership with the agri-business industry, the high school vocational agriculture programs, the state department of agricultural education and university colleges of agriculture and agricultural education departments. This is the kind of cooperation and communication necessary to make all these programs strong. Keep up the good work!

This issue features the first centerpages project requested by teachers at the AVA Convention, the plans for a 16' tandem stock trailer. Several people put a lot of effort into this project. Two vocational agriculture teachers from Guthrie, Oklahoma, drove to Stillwater in a snowstorm to bring the best set of plans. They interviewed the expert trailer-maker at the Vo-Tech school for about two hours getting the details. Then that expert condensed this detail down into the pertinent steps over a couple of weekends. The plans were drafted by an expert draftsman in the

AVA-AG DIVISION 5TH ANNUAL AG ED RESEARCH MEETING WILL BE HELD IN DALLAS, TX — DECEMBER 1, 1978

— CALL FOR PAPERS —

Send five copies of a summary of prospective papers, to include:

- A. Objectives of the Study
- B. Methods
- C. Data Sources
- D. Results and/or Conclusions
- E. Educational or Scientific Importance of the Study
- F. Name(s) and Mailing Address(es) of the Author(s)

To: Bennie L. Byler, P.O. Drawer AV
Mississippi State University
Mississippi State, MS 39762

By: June 15th

* FEATURE MATERIAL NEEDED *

- CENTER PAGES, PLANS, SKETCHES, PHOTOS
- THIS WORKED FOR ME METHODS
- LETTERS TO THE EDITOR CONCERNS
- FROM THE TEACHER'S DESK JOKES
- COUNTRY STORE SOURCES OF ITEMS

STRONG PARTNERSHIPS

Agricultural Engineering Department at Oklahoma State University. I would like to thank all these people for making possible the best set of plans for a 16' stock trailer I know of anywhere and the steps necessary to construct it. There are further details available on a 60 minute cassette for those interested.

To be able to continue this feature and to initiate the other features, those of you who know someone who has an excellent plan for a project, facility or other outstanding idea will have to encourage them to send it in or contact myself or a regional editor to request this person to share these plans or ideas. I know most of you have a good joke or story you could share or a source of materials, free or inexpensive. In order for each of us to benefit, each of us must share. Send in plans, ideas, jokes, stories, sources, and other contributions and nominate fellow teachers, supervisors, and teacher educators who should be contributing. You are doing an excellent job of supporting the Magazine with articles now. I had several good articles last month and this, that I could not use because of lack of space. This makes competition for space stiff and I have a hard job choosing the best articles. This makes your professional journal even better — Keep up the good work! Thanks and a tip of the hat!—Ed

Please submit articles and pictures 2 1/2 months before theme to allow publication time.

COMING ISSUES

- JUNE — Cooperative Education in Agriculture — Learning on the Job
- JULY — Careers in Agriculture — Summer Employment Opportunities
- AUGUST — Teacher Education in Agriculture — Laying the Foundation for Good Teaching
- SEPTEMBER — Student Competition — An Incentive Approach
- OCTOBER — Supervisors and Consultants — Important Members of the Team
- NOVEMBER — Effective Teaching — What's the Basis?
- DECEMBER — Professionalism—That's The Name of the Game

COMING ISSUES

COMING ISSUES



Bennie L. Byler

INTRODUCTION

Vocational agriculture has been an important segment of the curriculum in many Iowa secondary schools since the early 1900's. However, the establishment and growth of post-secondary vocational programs have occurred primarily during the past fifteen years. In 1965, a statewide system of post-secondary institutions was legislated, resulting in the establishment of 15 post-secondary area schools. Instruction in agriculture is a part of the vocational education offerings in all 15 institutions.

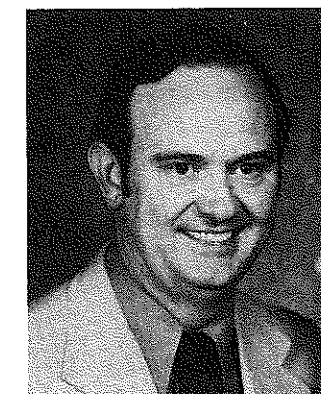
Recent studies by Byler (1) and Williams (4) indicate that approximately one-fourth of the Iowa secondary school students enrolled in vocational agriculture planned to attend an area vocational school or community college.

The expansion and growth of Iowa post-secondary area schools resulted in a need for secondary and post-secondary programs to emerge as partners in providing continuous educational growth for agriculture students. Educators in high schools and area schools needed guidelines that suggest articulation procedures between secondary and post-secondary agriculture programs.

DEVELOPMENT OF ARTICULATION GUIDELINES

During the spring of 1975, the Department of Agricultural Education at Iowa State University and the Iowa Department of Public Instruction provided leadership to begin the development of guidelines for articulation between secondary and post-secondary agriculture programs. A one-week workshop was planned to focus on the development of such guidelines. Six instructors of secondary vocational agriculture and six persons representing vocational/technical programs in area

Promoting Articulation Between Secondary And Post-Secondary Vo-Ag Programs



David L. Williams

Bennie L. Byler*
Teacher Education
Mississippi State University
David L. Williams
Teacher Education
Iowa State University

The five activities perceived to have the greatest need for articulation were as follows:

vocational schools were invited to participate in the workshop.

The results of the workshop (2) were a list of challenges identified as being related to articulation between secondary and post-secondary agriculture programs and possible action steps. The challenges identified and the possible action steps were grouped into the following categories:

1. Communication and Articulation Arrangements
2. Curriculum Development
3. Career Guidance and Counseling
4. Coordination of Leadership Activities, Employment Experiences, and Employment Placement
5. Program Entrance and Exit

Regional meetings were conducted across the state to refine and further develop the guidelines that emerged from the workshop.

IDENTIFICATION OF ACTIVITIES TO ENHANCE ARTICULATION

One of the recommendations that emerged from the workshop and regional meetings was that "Articulation in Agricultural Education" be the theme of the 1976 Iowa Agriculture Education Conference. This recommendation was accepted and supported by various groups and committees. A portion of the conference was scheduled to assess participants' perception of the importance and the level of implementation of 45 selected activities in promoting articulation between secondary and post-secondary vocational agriculture programs. Conference participants included 222 high school vocational agriculture instructors and 44 post-secondary agriculture instructors.

1. Send pertinent information to student's former vo-ag instructor
2. Work jointly to identify businesses for potential training stations
3. Conduct area meetings for administrators, counselors, board members and agriculture instructors concerning high school and area school programs
4. Exchange programs and curricula information
5. Inform high school instructors about placement and employment of former vo-ag students

Respondents believed all 45 activities were important for enhancing articulation between high school and area school agriculture programs (3).

FOLLOW-UP AND CURRENT PROGRESS

Action at the 1976 Iowa Agriculture Education Conference identified co-leaders (one secondary instructor and one post-secondary instructor) within each area school district. The co-leaders were selected to provide leadership for articulation between the secondary and post-secondary agriculture programs in their district.

Eighteen months after the 1976 conference, post-secondary and secondary agriculture instructors who had given leadership to articulation efforts were asked to identify articulation activities that have been implemented since the conference. The articulation activities being practiced may be placed in three categories: (1) curriculum development, (2) teaching and (3) communications.

(Continued on page 247)



Elwood D. Wessman

Post-Secondary's Alliance With Industry

by
Elwood D. Wessman
Ag. Science Dept. Supervisor
Vocational Technical Institute
Brainerd, MN

Methods and systems employed in vocational and technical training at the post-secondary level are as diverse as the employment requirements in the many agricultural industries. Our post-secondary training programs run in length from a few months up to two years, meeting the varied competencies required for particular positions.

We hang many titles on our graduates: skilled laborers, specialists, technicians, para-professionals, mid-management personnel, and others; but, the key to our success is in the degree to which we meet the needs of industry.

Meeting the needs of industry may first appear as a fairly simple task, but upon further analysis one soon realizes the complexities in training graduates for constantly changing industry. No industry will accept, for long, graduates whose training exhibits signs of obsolescence. With this in mind, let us explore some of the avenues available to us which can assist in keeping our training programs aligned with current demands from the agricultural industry.

IN-SERVICE AND UPGRADING

Certification of vocational technical instructors is a process of evaluation administered by our State Vocational Office during which both training and work experience are weighed. Meeting these standards is not an end in itself but rather a continuing challenge to keep instructors qualified. Upon entering the field of teaching, the teacher who has been lured away from industry could well possess the most current understanding of the needs of that industry. However, this same teacher could soon be a victim of stagnation if lacking an avenue for keeping abreast with changes in industry. Keeping abreast with new developments in industry requires a cooperative effort on the part of instructors and administrators in maintaining our teaching commitment to the student while, at the same time, allowing teachers direct contact with industry.

Industry's concern in retraining and upgrading their workers and supervisory personnel is very similar to the concerns we have within our own school systems. Many in-service workshops are provided by industry as well as by educational institutions and our teaching staff and supervisors are given the opportunity and encouraged to take advantage of these sessions. We also become involved in developing and presenting in-service training sessions for industry. This exchange of knowledge and know-how can only enhance the rapport and acceptance education has with industry

with the end result being improved acceptance and job placement of our graduates.

Our instructors are encouraged to maintain and expand their memberships in industrial related professional organizations. Whenever possible, the school supports their activity by providing financial allowance and time for active participation by the staff. Instructors are encouraged to accept positions of responsibility within these organizations whenever feasible.

Each school year the opportunity is available for instructors to spend some time observing the operation of an industry of their choice. This has proven a very successful method of orientating instructors as to the overall operation of a particular business and thereby adding new dimensions to subject matter taught.

As part of the Master Contract of our school district, tenured teachers can apply for a sabbatical leave for a period of one year. This leave is designed to allow for professional growth. During this leave the school district pays a portion of the teacher's salary plus full fringe benefits.

In order for our programs to continue to be approved by the State Department of Vocational Education, it is necessary to maintain a high percent of graduate placement in the field for which they were trained. With this responsibility of placement tied directly to the program and teachers, teachers are motivated to maintain constant contact with industry. These contacts, coupled with all the industry contacts made while supervising students placed in training stations in the industry, help to insure awareness of new developments in the field.

STUDENT-INDUSTRY CONTACT

Throughout the instructional training program, effort is extended to guarantee student contact with the industry for which he or she is being trained. Several different approaches are employed to make this practice possible. By far our most successful endeavor in student-industry contact is our required Supervised Occupational Work Experience Program. This on-the-job training varies in duration and at different times in training courses.

Good results have been obtained by placing students in industry in this supervised training session after they have completed most of, but not all of, the training course. This provides the instructor with a chance to bring the students back into a classroom situation and work with the students on any particular problem or deficiency that may have been observed during their work experience session. Also, good results have been obtained during this supervised work experience session when the student receives a salary from the firm in which he or she is employed. This enables the employer to expect and demand from the student a productive day in proportion to the student's responsibilities and salary. The student then becomes acquainted with his chosen vocation in a working situation as close to a typical work day as possible.

(Concluded on the next page)

CONTINUED POST SECONDARY'S ALLIANCE . . .

Another avenue used to assure industry-student contact is to involve the students in cooperative projects with related industry. These projects might be in the form of survey work, fundamental research, or public relation projects.

Undoubtedly one of the easiest and effective ways for students to become acquainted with industry firsthand is to bring representatives from industry into the classroom and involve them with some of the practical aspects of student training. Many industries have representatives who are specially trained for just such services. Keeping acquainted with and evaluating the ever-new educational and promotional material from industry can in itself be an enormous job but well worth the effort. Our institute recognizes the use of field trips to selected industries as an effective tool in training of students and promotes such by providing transportation. The scheduling of such trips has to be well coordinated between students and all staff members to insure maximum benefit and lessen the chance for irritation between classes and students.

INDUSTRY EVALUATION AND GUIDANCE

Each program has in effect its own on-going Advisory Committee made up of representatives from the various segments of industry. These committees meet periodically to evaluate our programs and to make recommendations for adjustments. The wealth of informational input from these industrial leaders is immeasurable.

The constant evaluation of curriculum in itself is a huge undertaking and many of the advisory committees' comments are very revealing and critical by nature. In a day when we are involved more and more with the competency based instructional approach, firsthand guidance from these committees is very important. The advisory committee does have the added clout needed to help bring about changes. The mere fact that we have readily available an outside knowledgeable source who can be called upon instantly to help with problems is indeed comforting. The makeup of membership on the Advisory Committee should be so designed as to allow for periodical enrollment of new members as the terms of others expire.

BE HONEST

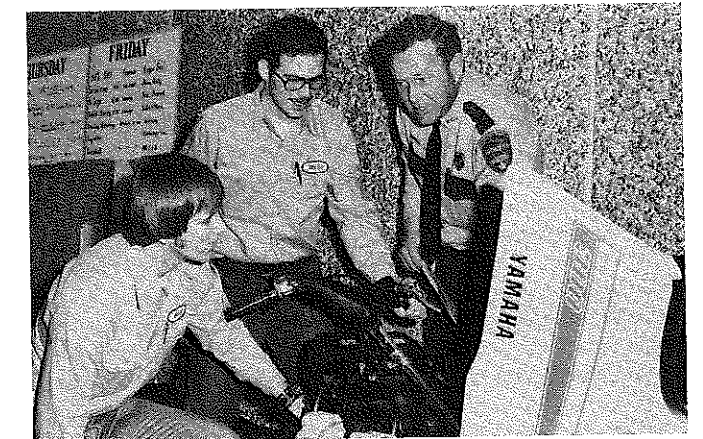
The major goal of all vocational-technical programs should be successful placement of graduates in worthwhile

positions in the area for which they were trained. In order to accomplish this goal year after year, honest rapport needs to be maintained with both the student and with industry.

Through close firsthand contact with industry, the student has the opportunity to evaluate, early in the training process, whether he or she wishes to continue training for this specific vocation or not. It is better that a student, dissatisfied with his or her first choice of vocations, discover this before too long a period has been committed in training for a position they really are not interested in. In like manner, close contact with industry serves to further stimulate the student who now realizes that he has made the correct choice.

After involving industry in the training process of our students, it is imperative that we be honest with them in recommending placement of our graduate. We must have available for the prospective employer a full listing and description of the subject matter taught, the major competencies learned by the students, and the general level of accomplishment by the student. At the present time we are enjoying a strong 95% placement of graduates in our programs.

Post-secondary education has already demonstrated its effectiveness in the agricultural industry within our state. We can ill afford to rest on our laurels for the more than thirty agriculturally related programs offered in twenty-one vo-tech institutes throughout our state will need to maintain and improve upon the alliance so diligently formed. ♦♦♦



Vo-Tech students from the Natural Resource Technician Program assist the State Dept. of Natural Resources in training 12-14 year olds in safe snowmobile operation.

CONTINUED PROMOTING ARTICULATION . . .

Curriculum Development. Articulation activities being implemented in the area of curriculum development included:

1. Area school instructors serving on secondary vocational agriculture advisory committees
2. Sharing of content of courses and programs between secondary and post-secondary instructors
3. Secondary and post-secondary instructors jointly conducting meetings for school administrators and

counselors on the value of summer programs in secondary and post-secondary agriculture instruction

4. Secondary school instructors serving on area school agriculture advisory committees
5. Instructors cooperating in the selection of employment training stations that may serve both secondary and post-secondary students

Teaching. The following articulation activities related to teaching were ob-

served being used:

1. Area school instructors substituting for secondary vocational agriculture instructors
 2. Area school instructors serving as resource people for adult farmer classes
 3. Secondary and post-secondary instructors jointly planning adult farmer classes
 4. Instructors sharing facilities for adult classes and other purposes
- (Continued on page 255)

LET THE FARMERS TEACH FARM MANAGEMENT

by
Boyd C. Fuller
University of Minnesota
Technical College, Waseca
Waseca, MN

"The only man who is educated is the man who has learned how to learn; the man who has learned how to adapt and change; the man who has realized that no knowledge is secure, that only the process of seeking knowledge gives a basis for security. Changingness, a reliance on process rather than upon static knowledge, is the only thing that makes any sense as a goal for education in the modern world."

Carl Rogers

How do you teach Farm Management, the fine art of risk-taking and decision-making, to young people who have never owned or operated a farm? Most of the students in Principles of Farm Management are from the farm. However, some have never been on a farm and a few are girls.

At the University of Minnesota Technical College, Waseca, I use what I call a "systems approach" to teaching Farm Management. This eleven-week, integrated teaching system consists of the following five components:

1. Six 2-hour field trips to a hog farm, dairy farm, beef farm, crop farm, horse farm and a part-time farm.
2. Six 1-hour class discussions, led by students, for each field trip.
3. Eleven 1-hour discussion lectures by the instructor.
4. Two 2-hour classroom discussions led by a guest speaker in the areas of agricultural credit and farm management.
5. Three 2-hour classroom presentations of research papers prepared by each student in the areas of their individual interests.

FIELD TRIPS

The backbone of the system is the 2-hour *field trips* to six area farms with the farmers discussing their concepts of farm management with the students. Farmers show students the results of their management efforts. A committee of students interested in the major enterprise of the farm assumes the responsibility of asking questions regarding the farm operation and leading a one-hour follow-up discussion in the classroom.

Various methods and opinions of management are essential to make this an effective learning experience. This is not to confuse the students, but to get them to think for themselves, to see that there are different ways to successfully manage a farm operation and to sense which manager or combination of managers reflects their newly-acquired management concepts. In other words, the farmers act as a sounding board for the students to test out their concepts of successful management and their value systems. The following combination of farmers, all located within a 15-mile radius of UMW, have worked exceptionally well at Waseca.

THE FARMS

Ted Deml has farmed for ten years. He and his family, with part-time help in the summer, crop 1800 acres of corn and soybeans and fatten over 6000 feeder pigs in two slatted-floor buildings.

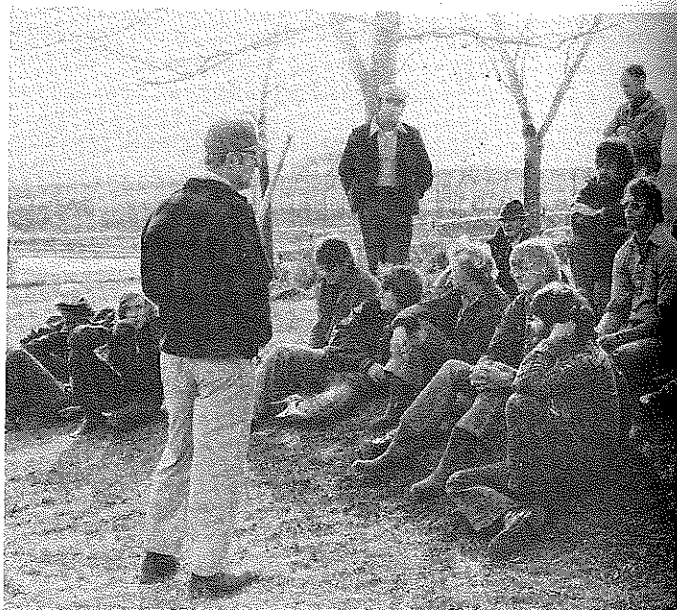
Our dairy farmer is Jerry Strodman, who, with his wife and two pre-teenage sons, milks fifty 16,000-pound milk dairy cows in loafing stanchions and crops 320 acres of corn and forage for the cows.

Kevin and his father, Leo Miller, make an excellent example of a father-son partnership. During an 8-year period, they have operated 800 acres of crop land, maintained a 50-cow beef herd and fed-out feeders on a 50-50 basis.

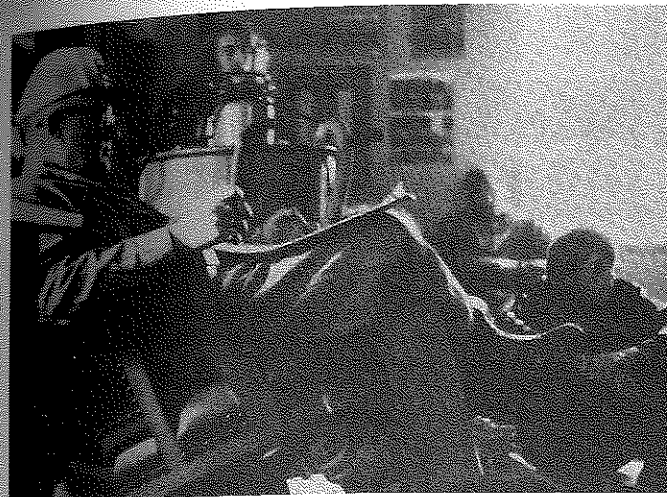
Roy and Marci Lukken are a middle-aged couple who do not have children. They want to retire from actively operating 1500 acres of crop land and a seed-corn and chemical custom-spray business. Through partnership and incorporating, they are bringing two young families into the operation.

Rod Searle's neighbor farms the tillable acres of Rod's 310 acre river-bottom farm. Rod is in the Minnesota legislature and sells insurance. As a hobby, he plants walnut, butternut and evergreen trees and develops wildlife areas on the non-tillable land. On this farm, all resources, including the human resources, are developed and put to their highest and best use.

Melvin Korman is a retired dairy farmer. Melvin has had a life-long interest in draft horses. On retirement, he cash rented his land to a neighbor, converted the machine shed into a boarding stable, and built a pole-type horse arena. He hired a former UMW Light Horse Management student to care for and train horses while he buys, sells, and breeds draft and light horses.



The duck pond and wildlife areas on the Rod Searle farm are excellent background for Rod and the UMW students.



According to Waseca area farmer, Roy Lukken, there are business and tax advantages in operating a seed corn and chemical business along with his crop farm operation.

DISCUSSION

"The first prerequisite of good teaching is democratic behavior by the teacher."

L. J. Phipps

The 1-hour *follow-up discussion* provides an opportunity for the students to become involved by discussing what they saw and interacting among themselves. Students tend to bring their home experiences into the discussion. The discussions are lively if the instructor keeps out of them and acts only as a source of information.

LECTURE

The 1-hour *lecture period* runs parallel to the field trips and provides an opportunity for the instructor to expand and supplement ideas generated from the field-trips and follow-up discussions. Each student has a packet of handouts which includes the following subject areas, discussed in this order:

- "MANAGEMENT: The Game of Life," Suter.
- "Stages of Growth or Development of the Farm Business," Stoneberg.
- "Effects of Management Levels on Firm Growth and Financial Success," Thomas.
- "Economic Principles in Farm Management," Weigle.
- "Applying the Principles of Diminishing and Alternative Returns," Fuller.
- "Management Considerations, in Estate Development for Younger Farm Families," Thomas.
- "Estate Planning," Harl.
- "Farm Business Arrangements: Which One for You?," Thomas.
- "Swine Housing Systems: Costs and Labor Requirements," Bache.
- "Guidelines for Analyzing the Dairy Farm Business," Willert.
- "Planning for Dairy Business Expansion," Willert.

GUEST SPEAKERS

"The manager's financial decisions interact with other decisions in production and marketing to determine the overall economic success of the firm."
J. A. Hopkins

Modern young farmers must learn how to manage money and credit. The 1976 average capital investment, in the Austin-Mankato area of Southern Minnesota⁴, is 310 thousand dollars. The high-profit farmers have 456 thousand dollars invested in their operations. It becomes obvious that young farmers must learn how to handle money and use credit for capital purchases and operational expenses. They must learn how to manage themselves and work with people, especially their parents! Two *guest speakers* cover these areas.

Bob Reger, Waseca Production Credit Association Manager, discusses money management for young farmers in a two-hour lab. During the first hour of the lab, Bob discusses the 5 factors for credit, which are: 1. Man Factor, 2. Financial Position, 3. Repayment Ability, 4. Security Collateral, 5. Purpose of Loan. The second hour is used for open discussion.

To summarize the course, Larry Christenson, Agricultural Extension Area Farm Management Specialist, shares his experiences working with adult farmers in the areas of father-son partnerships and estate planning. The second half of the lab is open discussion. By now the students realize that Dad or another adult farmer is the key to their establishment in farming.

RESEARCH PAPERS

Each student is assigned three jobs. The first job is a *research report* on a student-selected topic related to management. This is presented to the class during a lab session. Secondly, each student prepares a *written report* for the instructor. In this report individual goals, talents and opportunities are determined; also, the ideas and information learned from the course can be used in achieving these goals. A third assignment is to *evaluate* each segment of the course and offer suggestions for improving the course. These jobs, along with attendance and participation, are the basis for grading the students.

SUMMARY

In effect, the students see, hear, smell, touch, taste, and "feel" management. They discuss and form opinions on the relative success of the management practices they have observed. In effect, the farmers are a sounding board for them. The farmers have conflicting values and ways of doing things for the students to appraise. This system utilizes all of the teaching techniques except actually managing a farm operation.

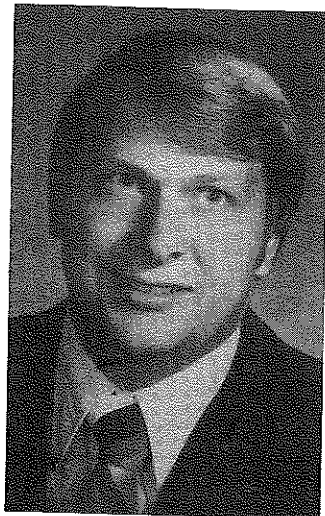
Leslie Montgomery, a student from an urban area, summarized the system in this manner:

"The teacher helped us teach ourselves and put us in situations and presented us with people that made us think."

The farmers are exceptional teachers because they are teaching by precept and example. ◆◆◆

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2. Phipps, L. J., *Handbook on Agricultural Education in Public Schools*, The Interstate Printers and Publishers, Inc., 1972, p. 73.
3. Hopkin, J. A., *Financial Management in Agriculture*, The Interstate Printers and Publishers, Inc., 1973, p. 3.
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Roger Carlson

EMERGING PARTNER!

by
Roger Carlson
Agri-business Instructor
Lake Area Vo-Tech Institute
Watertown, SD

Aaah!!! That bath water is just right. I think I'll just lay back and relax.

Can't forget to mention the scholarships that Cenex, Peavey, Farmland Industries and the Farmers Union Grain Terminal Association provide each year. When industry is willing to spend money on scholarships, plus take the time to serve on our advisory council, they must feel we're partners.

Whoops! It's getting late. Hey!! Where's a towel?

Terra Western Corporation turns their plant over to us for one day prior to the start of supervised occupational experience. This provides the students the opportunity to transfer anhydrous ammonia, blend dry fertilizer, manufacture liquid fertilizer, calibrate sprayers, operate a floater and work with the fertilizer pumps under the supervision of the Agri-Business Technology staff.

Monsanto, Ciba-Giegy, Mobay and other businesses provide guest speakers and equipment for the classes. Yep! I think industry considers us a "partner".

WITH THE UNIVERSITY

"Emerging Partners!" There's always a shortage of vo-ag instructors, maybe I should write about the working relationship that is developing with South Dakota State University. Previously, they would not transfer credits for our students, but now, through the efforts of Dr. Gadda and Dr. Hanson, two of our Agri-Business graduates have graduated from SDSU in Agriculture Education. Rick Johnson is teaching vocational agriculture and Joey Gednalske is an assistant county agent. Let's see, Roger DeRouchey, Bob Garrity, and Dave Paulson are all enrolled in Agriculture Education at S.D.S.U. right now. Hope they do well.

I wonder how the new salary schedules are going to look this year!

WITH VO-AG INSTRUCTORS

"An Emerging Partner!" I suppose the group that we most want to call us "partner" is the secondary vocational agriculture instructors. When time permits, we like to visit the secondary vo-ag classes about the opportunities that are available in agri-business. Glen Davis, Tim Holtquist, Bob Pollman, Loren Catchpole and other high school vo-ag instructors have said this was particularly informative for their Ag III and IV classes. We appreciate those instructors who have the confidence in our program to encourage their students to enroll. If it weren't for them we wouldn't be around to be anyone's partners.

When I was asked to attend meetings for the development of an Ag Sales and Service curriculum by the Mid-American Curriculum Consortium in Oklahoma City and the development of the Standards for Quality Agriculture/Agri-Business Programs in Kansas City, I felt we were "emerging partners". Since we were the first program in South Dakota to submit ourselves to the "Standards", I was asked to relate our finding to other vo-ag instructors at our annual summer vocational conference.

In a partnership, it is important that the contributions be mutual. The State FFA Leadership Contests are a good example. Myron Johnson, our Agri-Business Management Instructor, extends his expertise to the Job Interview Contest and I help with the Agri-Business Salesmanship Contest. We have conducted workshops in these areas for the secondary students each fall in addition to conducting the State Contests.

Rats!! I just ran a red light. — Hope that's not what the rest of the day is going to be like.

It's an honor to be asked to write an article for the Ag Ed Magazine but what's an ol' farm boy like me going to write about? Oh, well, maybe I'll think of something later. ◆◆◆

POST-SECONDARY AGRICULTURAL EDUCATION PROGRAMS IN SOUTH CAROLINA



Joe D. McCormick

In 1965, the Governor of South Carolina, realizing the significance of agriculture to the state, formed a Legislative Committee to study the programs and problems of agriculture with a view to making agriculture more productive and profitable to the people of the state. The responsibilities of this committee included the determination of the need in the state for increased educational opportunities in the field of agriculture.

NEED DETERMINED

Based upon a preliminary review of existing agricultural education programs in the state, the committee discovered that an agricultural education gap did exist. This gap was found to be between the undergraduate degree programs and the non-degree educational programs offered by the College of Agricultural Sciences, Clemson University, and the programs offered by the Vocational Agricultural Education Division of the State Department of Education. With these findings, the committee appointed a temporary advisory committee and charged the members with the responsibility of developing a proposal for a program to fill the void in agricultural education in South Carolina.

AG TECHNOLOGY PROGRAMS CREATED

Acting on the recommendations of the temporary advisory committee and the Legislative Study Committee, the General Assembly of South Carolina created agriculture technology programs at the associate degree level in November, 1965, and placed them under what is now the State Board for Technical and Comprehensive Education.

To eliminate the possibility of duplicating effort, these programs were made a joint responsibility of the State Board for Technical and Comprehensive Education, Division of Vocational Agricultural Education of the State Department of Education, and Clemson University.

STATE ADVISORY COMMITTEE FORMED

A State Advisory Committee made up of the Dean of the College of Agricultural Sciences, Clemson University; Director of Resident Instruction, College of Agricultural Sciences, Clemson University; Head of the Department of Agricultural Education, Clemson University; Dean of the College of Forest and Recreation Resources, Clemson University; State Supervisor of Vocational Agricultural Education; two agri-business leaders; and the Agricultural Consultant to the State Board for Technical and Comprehensive Education, is currently guiding the agricultural programs in the state. This committee, under the Chairmanship of Dean Luther P. Anderson, works closely with local advisory committees and reviews and evaluates these programs. It reports to the State Board for Technical and Comprehensive Education and the Legislative Study Committee, chaired by Senator Ed Garison, on an annual basis.

Joe D. McCormick, Consultant
Curriculum & Instruction
State Board for Technical &
Comprehensive Education
Columbia, SC

THE BEGINNING

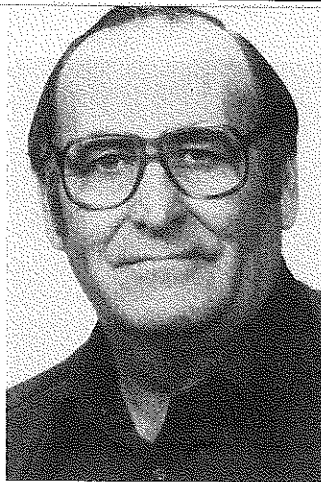
In September of 1966, the first students enrolled at three technical centers, which were: Tri-County at Pendleton, South Carolina; Florence-Darlington TEC at Florence, South Carolina; and Trident TEC at Charleston, South Carolina. At this point in time, the value of an agricultural technician was unknown, and recruiting students was an extremely difficult task. These programs were continued and when the first class graduated in 1968, they were employed at salaries above anyone's expectations. As more and more graduates found employment, the number of students began to increase. Today, in South Carolina, seven of the technical colleges offer ten programs in Agricultural Technology, with a Fall 1978 enrollment of 545 students in associate programs. Even with this increase in enrollment, job opportunities still outnumber the graduates.

SUCCESS FACTORS

The success of the agricultural technology programs in South Carolina might be attributed to many factors, but some of the more important ones would include these:

1. The close working arrangements with Clemson University and Vocational Agricultural Education.
2. The well-qualified and dedicated department heads and instructors who have been employed.
3. The support that has been provided by the college administrators.
4. The acceptance and support of the agricultural industry in general.
5. The support of the South Carolina General Assembly.
6. The ever-increasing need for skilled Agricultural Technicians.

(Concluded on page 261)



Walon Holt

16' TANDEM STOCK TRAILER

by
Walon Holt
Metal Fabrication Instructor
Indian Meridan Area Vo-Tech School
Stillwater, OK

with assistance from
Raymond Cockrum and Lloyd Fletcher
Vo-Ag Teachers
Guthrie, OK

Drawings by
Jack Fryrear
Ag. Engineering Dept.
Oklahoma State University

Step #1 —

Cut the material for the main frame.

- Cut angle iron from 20' bar stock. Identify and label each part as to length and location.
- Secure pre-fabricated parts locally when possible, or have fabricated before starting assembly.
- Check all dimensions with blue-print.

Step #2 —

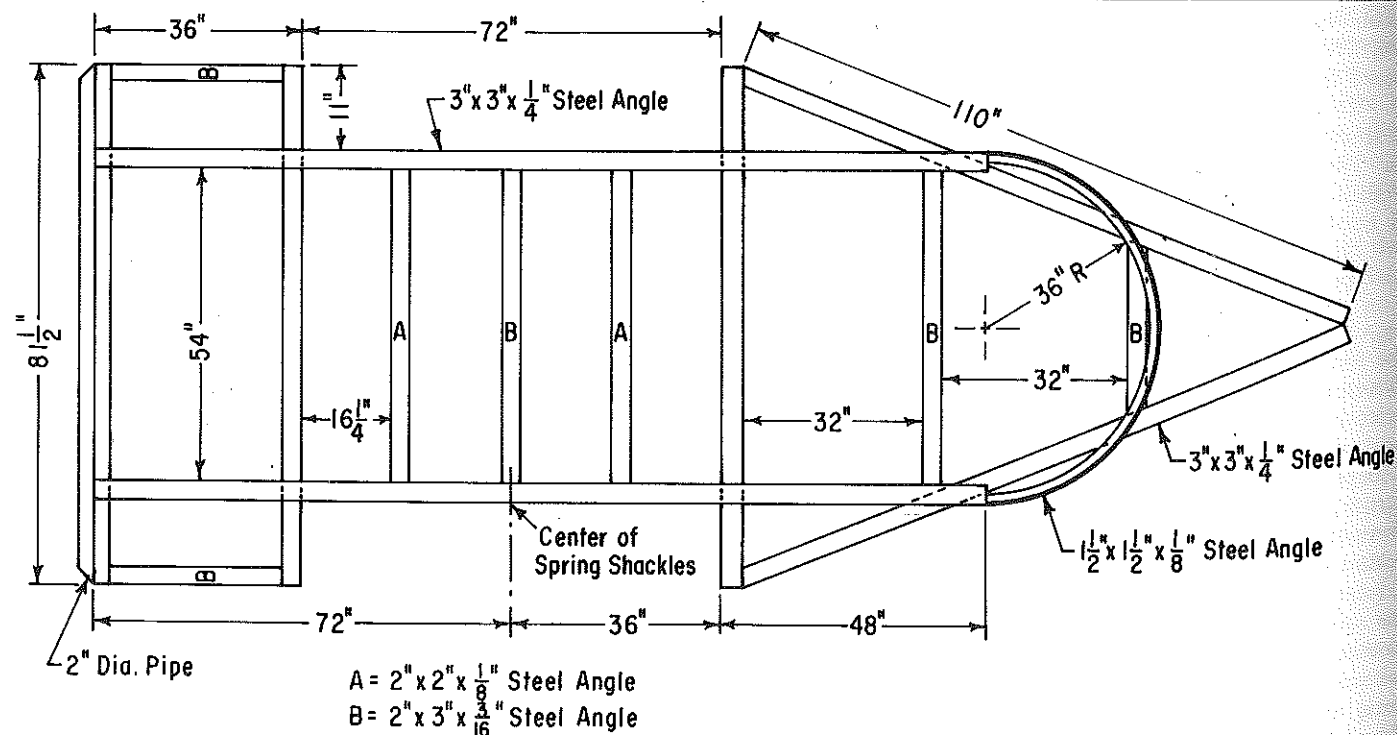
- Lay out the main frame.
- Lay 3" x 3" x 1/4" steel angles on four jack stands upside down.
- Clamp all parts in position. Check all measurements and square. Measure diagonally, from corner to corner, to square main frame.

- Tack weld everything in place. **Avoid overwelding to prevent distortion.**
- Locate standards according to print and tack weld in position.
- Cut and tack tongue and bottom circle in position.
- Fill in boxes with 16 gauge metal tack weld in place before turning frame upright.
- Weld everything in place. **Caution: Do not overweld — run hot, fast beads with good penetration.**

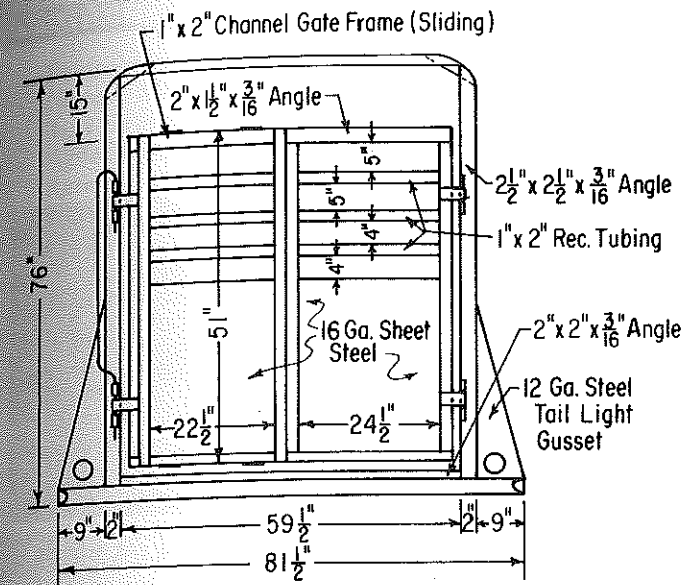
Step #3 —

- Turn the main frame over, assemble the side frame.
- Bolt axles in place — Brake axles have LH (left hand) or RH (right hand) stamped on them.

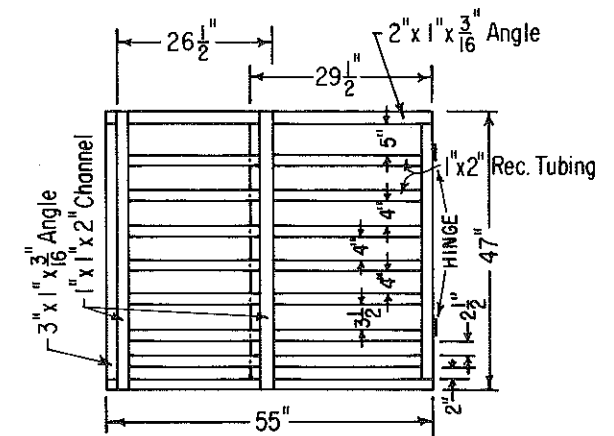
- Locate standards. Square with main frame. (Note: Tack weld front standards on rear side only.)
- Put top rail in position. Locate top rail 1" above standards, leaving room for top sheets to be placed later.
- Put top circle in position, flush with top of top rails.
- Tack weld fenders in place, flush inside with inside of standards. Raise bottom of fender 1/2" up from bottom of 3" x 3" x 1/4" steel angle to leave space for welding.
- Space top rail 60" wide, square stands. Tack braces in place.



MAIN FRAME - 16 Ft. TANDEM STOCK TRAILER



REAR VIEW



CENTER GATE

16 Ft. TANDEM STOCK TRAILER

Step #4 —

- Assemble the light wires, floor and front sheet.
- Run 1/2" electrical conduit for light wires. Ream out edges where cut.
 - Tie wires in position, tape all connections thoroughly.
 - Lay flooring boards, 2" x 12", #2 yellow pine, in position. Move forward 1/2" inside rear angle. Let front extend over bottom circle.

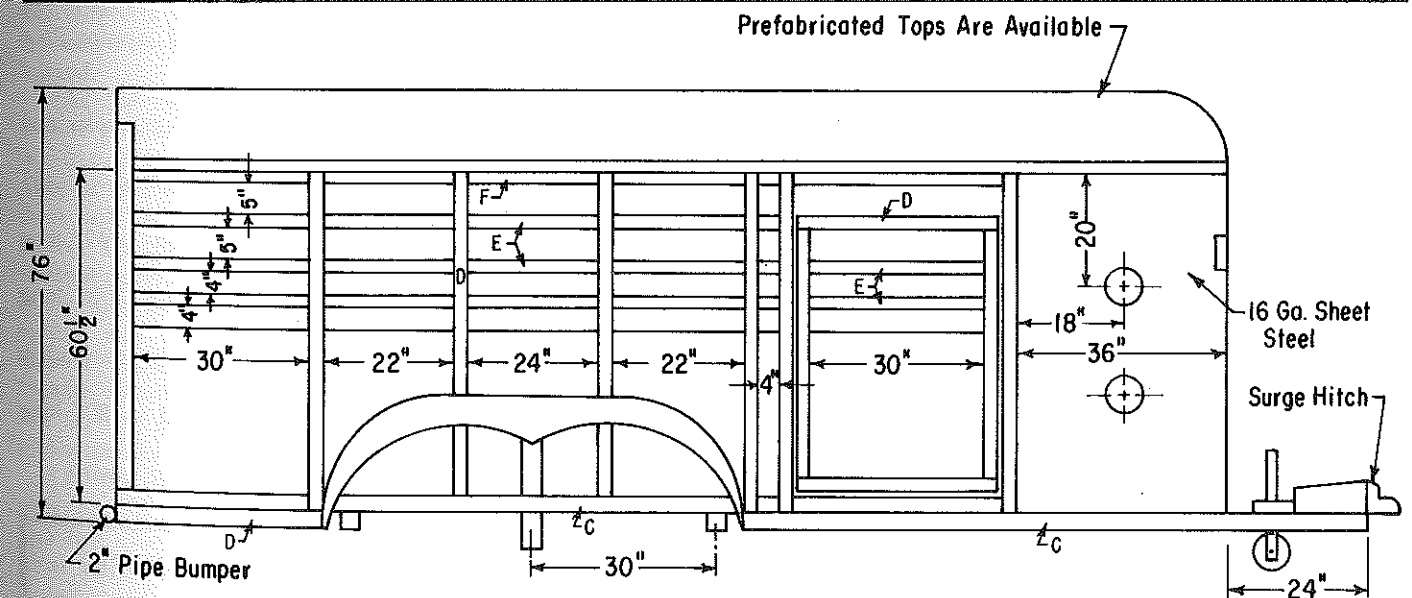
Mark boards underneath, turn over and cut to fit. Drop board in position spacing 1/2" between each board. Bolt in position with self tapping 1/4" floor screws.

- Pry front standards open in front. Slip 60" x 108" 16 gauge sheet behind angle 1" on one side, clamp in place. Bow sheet in middle, slip other side behind front standard. Use chain and small load binder to pull in position.

Pull against both top and lower circles. Weld with small intermittent weld 3/4" long on 12" centers. (Note: Do not overweld.)

Step #5 —

- Hitch and jack assembly
- Weld hitch in position.
 - Weld jack stand to hitch.
 - Weld 1/4" safety chain in position on each side of tongue. (Concluded on next page)



- C = 3" x 3" x 1/4" Steel Angle
D = 2" x 2" x 3/16" Steel Angle
E = 1" x 2" Rectangular Stru. Tubing
F = 1 1/2" x 2" x 1/8" Steel Angle

RIGHT SIDE VIEW - 16 Ft. STOCK TRAILER

CONTINUED 16' TANDEM STOCK TRAILER

Step #6 —

Side metal assembly

- A. Weld side metal in position, keeping all welds inside trailer or under fenders.
- B. Spot weld to standards.
- C. Locate and weld tubing or slats in position. Make all welds in vertical down position where possible. Avoid distortion at all times.

Step #7 —

Gates

- A. Build all gates according to prints.
- B. Hang gates in position and latch in position.
- C. Fill in gates with metal to correspond with sides. Level all metal with both sides.

Step #8 —

Assemble top

- A. Place 1" x 1" square tubing (16 gauge) pre-formed in position, 72" spacing from front to rear with one bow on center 36" in the middle.
- B. Work front to rear to locate bows. Front bow rear is same as radius of front crown. Measure around crown, locate center, then measure each way to locate front bow on top circle of trailer.
- C. Assemble top sheets (72" x 84", 20 gauge sheets) starting at rear of trailer to keep laps towards rear of trailer. Tack one side 1/2" down on top rail. Pull other side with come-along. Tack along bows, avoiding radius or circles on bows. Cut off excess sheet, clamp down 1/2" below top rail. Tack weld in position.

Step #9 —

Preparation for painting

- A. Grind all welds using angle hand grinder.
- B. Wipe trailer down with degreaser to remove oil on metal.
- C. Remove all burrs and spatter, use sand paper (coarse grit) on grinder.
- D. Metal preparation material is also recommended to prepare metal to hold primer and paint.
- E. After painting chrome, tail lights and vents are pop riveted on where desired.

**BILL OF MATERIALS
16' STOCK TRAILER**

1. 2 pcs. 3" x 3" x 1/4" steel angle — 13' long — side rails
2. 3 pcs. 3" x 3" x 1/4" steel angle — 81 1/2" long — cross pieces
3. 2 pcs. 3" x 3" x 1/4" steel angle — 110" long — tongue
4. 2 pcs. 3" x 3" x 1/4" steel angle — 54" long
5. 1 pc. 2" pipe — 81 1/2" long
6. 2 pcs. 2" x 2" x 1/8" steel angle — 60" long
7. 1 set tandem 6 leaf spring (shackles and hangers)
8. 1 — 74" 3500# brake axle
9. 1 — 74" 3500# drag axle
10. 2 pcs. 2" x 3" x 3/16" steel angle — back standards
11. 2 — 60" circles — rolled angles 1 1/2" x 1 1/2" x 1/8" steel angle
12. 1 pc. 16 gauge sheet 60" x 108" — nose sheet
13. 2 pcs. 2" x 2" x 1/8" steel angle — 59 1/2" long — standards
14. 2 pcs. 1" x 2" rectangular tubing — top rails
15. 1 set 72" x 10 3/4" tear drop fenders
16. 1 bulldog hitch — jack and 2" ball
17. 2 pcs. 1 1/2" x 2" x 3/16" steel angle — 55" long — center gate
18. 2 pcs. 1 1/2" x 2" x 3/16" steel angle — 47" long — center gate
19. 7 pcs. 1" x 2" rectangular tubing — 29" long — center gate
20. 7 pcs. 1" x 2" rectangular tubing — 26" long — center gate
21. 2 pcs. 1 1/2" x 2" x 3/16" steel angle — 51" long — rear gate
22. 1 pc. 16 gauge metal — 25 1/2" x 30"
23. 1 pc. 16 gauge metal — 23 1/2" x 30"
24. 1 pc. 16 gauge formed side — 33 1/2" x 120"
25. 1 pc. 16 gauge formed side — 33 1/2" x 156"
26. 1 pc. 16 gauge formed side — 30" x 28" — escape door
27. 2 pcs. 20 gauge top sheets — 72" x 84"
28. 1 pc. 20 gauge top sheet — 30" x 84"
29. 1 — 60" 20 gauge nose crown pre-fabricated
30. 7 — 1" x 1" tubing bows — 60" wide base — 14" height
31. 5 — 5" x 15" Ford car wheels — 8 hole
32. 5 — 670" x 15" 6 ply tires
33. 5 — baby moon hub caps
34. 2 flush mount tail lights
35. 6 amber clearance lights
36. 1 — 3 light cluster — rear of top
37. 8 U bolts — 4 plates — 16 9/16" nuts
38. 16' 1/2" electrical conduit for wires
39. 16' — 2 way brake wire
40. 25' — 3 way light wires
41. 40' — single strand light wire
42. 4 — 6" vents — chrome
43. 1 pc. 12" chrome — 106" long
44. 35' — 1 1/4" cabinet chrome — top
45. 28' — 1 1/2" sliding gate channel
46. 5 — 2" x 12" x 16' — flooring
47. 1 — 2" x 4" x 16' — flooring
48. 24 — 1/4" x 2 1/2" self tapping floor screws
49. 6' — 3/4" black pipe
50. 1 gal. white paint, 3 gal. color and thinner
51. 16 pcs. 1/2" black pipe — 2 1/2" long — latches
52. 4 pcs. 9/16" HR rod — 12" long — latches
53. 4 pcs. 9/16" HR rod — 9" long — latches
54. 4 pcs. 1 1/2" x 2" x 1/8" steel angle — 47" long — braces
55. 2 pcs. 9/16" HR rod — 30" long — latches
56. 2 — 12 gauge tail lite gussets



- LIKE THIS FEATURE?**
If so, nominate a friend who has plans, sketches, or photos of a project, facility or other item which should be shared.
Contact a regional editor or the editor — we will request them to submit it.

CONTINUED EDITORIAL — TECHNICAL EDUCATION . . .

- Floriculture
- Nursery Management
- Turf Grass Management
- Agricultural Chemicals
- Agricultural Mechanics
- Agricultural Communications
- Food Processing
- Grain Feed, Seed and Farm Supply
- Forestry
- Fisheries and Wildlife
- Park and Recreational Land Management
- Arboriculture
- Food Marketing

There is a growing awareness of the need for training for the semi-skilled, skilled, and technical positions. The post-secondary level can meet the needs for education and training for many students and adults. At this level, young people have the maturity to grasp learning experiences and also have the motivation for entry into occupational training. Agricultural educators have an opportunity and a commitment to provide the technical competencies needed to meet the productivity needs of agriculture.

Increasingly, we hear that we must double our production in the next eighteen to twenty years to keep up with population and economic trends. This type of increased productivity represents an expanding need for highly skilled, specialized and knowledgeable personnel in agriculture. Skilled technicians and professionals represent the hope and need in agriculture in the years ahead. There will be little room for the unskilled.

THE CHALLENGE

There is a need to recognize and more adequately accommodate different cognitive styles in learning. We need to look at students' previous experiences, their abilities, and their learning styles. We still tend to put everyone through the same "hoop," often repeating what they have previously learned.

As the agricultural industry continues its movement toward greater specialization, we need to be aware of this in our technical programs and alter them as the need arises. Also, as the world becomes more complex and specialized, there will be increased emphasis on educating the whole person. Thus, a meaningful proportion of the student's educational program must be in the general education areas of humanities, communications, social sciences, science, mathematics, and physical education. Students should be specialized enough to be knowledgeable but have enough breadth to be able to change as the specialization changes. We need to nurture an interest in lifelong learning and an understanding of the society in which one lives.

If we are to meet the challenge in offering technical programs in agriculture, we must have highly specialized facilities. One of the greatest mistakes we can make in technical education is to try to conduct a technical program

without proper facilities. We must have facilities that will allow our students to get "hands on" learning experiences.

INSTRUCTIONAL REQUIREMENTS

Properly trained faculty and supportive staff are absolute necessities if we are to be successful in offering technical programs in agriculture at the post-secondary level. It is necessary that an individual have the background to match occupational specialties. Some degree of occupational experience or employment is desirable for faculty in a technical agriculture program. This work experience, of course, should be related directly to the technical subject matter that is to be taught and also should be recent enough to reflect current business or industry practices.

The most important quality for teaching faculty is perhaps the most difficult to assess. This quality is a desire and ability to work with, relate to, and motivate students.

A technical, competent and experienced subject matter specialist without this quality is a liability to any instructional program.

Providing appropriate in-service educational experiences that will help keep technical educators up to date is one of the most formidable and crucial problems facing technical educators in agriculture.

Faculty must be kept current in their knowledge of scientific changes and the changes in the techniques, procedures, apparatus and equipment in their specialty within agriculture. This can be done by sabbatical leave, through formal coursework, attending workshops and conferences, participating in professional organizations, reading current literature, and a periodic return to industry in the field of one's specialization. Much work remains to be done in faculty development programs. Too many times, faculty members take courses merely for credits for promotion.

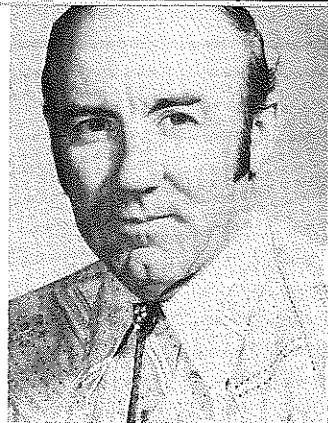
SUMMARY

Quality technical programs in agriculture at the post-secondary level offer a great diversity and open doors to many young people who can make a satisfying and worthwhile contribution as successful technicians or skilled workers in one of the many job opportunities in agriculture. Agriculture and its related businesses and the use of our natural resources is big business, which in some way, touches each and every life in the United States. Technical education in agriculture at the post-secondary level has an opportunity and a challenge to continue to prepare graduates for key positions in farm production, the processing and distribution of agricultural products, money management in our banks, in insurance, and the many other agricultural businesses supporting the agricultural industry. ♦♦♦

CONTINUED PROMOTING ARTICULATION . . .

- 5. Exchange of instructional materials and resource people between secondary and post-secondary instructors
 - 6. Area schools sponsoring contests for FFA members
 - 7. Area schools sponsoring in-service seminars for secondary and post-secondary instructors
- Communications. Activities to im-

prove communication between secondary and post-secondary instructors and programs were also observed. These activities included the following:
(Concluded on page 263)



Paul J. Callanan

Accountability In Adult Farmer Education

by
Paul J. Callanan
and
Dennis L. Jackson
Farm Mgmt. Instructors
Mankato Area Vo-Tech Institute
No. Mankato, MN

The word "accountability" has become very popular in education circles the past few years. Although some teachers consider it a threat, we feel it is an important aspect of adult education, as well as elementary, secondary and post-high levels of instruction.

To us, accountability means we are responsible for the educational needs of our students. It also means we must be able to determine whether or not we are meeting those needs. Indeed, if management education for farmers is important, then we as Farm Management instructors must be able to demonstrate accountability.

Normally, adult students don't take "standard" tests to measure what they have learned. Accountability has been difficult to measure at the adult level and the measures of the past have been woefully inadequate. As a result we have adopted and begun implementing and incorporating some ideas in our Farm Management program that should help measure accountability. Some of these ideas have been in use for years, others are being tried this year for the first time.

OFFICIAL MEASURES OF ACCOUNTABILITY

The only measure of program accountability for Farm Management Education in Minnesota has been the numbers game: "The Farm Management instructor must clock 1200 hours of instruction per year," or "How many farm units are enrolled in the program?" Indeed, the state is still promoting the "bigger is better" concept by passing legislation (during the last session) which sets the minimum number required to maintain a Farm Management program at 42 enrollees who have been in the program for less than six years. They have added the qualifier that 80% of the enrollees have their farm account analyzed.

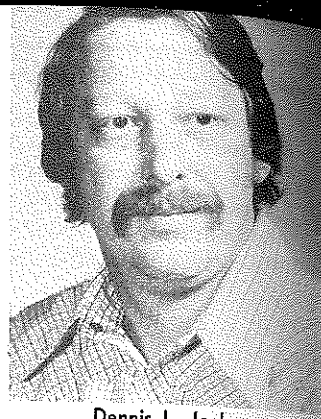
This measure of accountability may have merit as far as teachers being accountable to the State Department of Education. But in no way measures our accountability to the farm families enrolled in the program. Since we are dependent upon the state for partial funding of the program, we must "give Caesar what is Caesar's . . ." but we must also be accountable to our enrollees — and have a reliable means of measuring our effectiveness.

PAST MEASURES OF ACCOUNTABILITY ON THE LOCAL LEVEL

There are a number of measures of accountability which we have used in the past. For example, in recent years over 80% of the farm families enrolled in the local program have had their farm record analyzed. This could indicate that they have learned how to keep a proper farm account book which lends itself to analysis, and that they have learned to use the information supplied by the analysis. This might be indicated, but it is by no means proven.

Another measure of the value of the local program has been that at least 75% of the cooperators enroll year after year. This would indicate that enrollees feel that the program is worthwhile, and therefore it must be serving their needs. But is this a proper conclusion? Perhaps it is prestigious to be enrolled in such a group, or perhaps there are other reasons for joining.

A noticeable measure of accountability of the local Farm Management program in recent years has been the absence of bankruptcy among enrollees. Although we know we've had a broad cross-section of farmers in our program, critics might say that our farmers' success was due to the selection of top farmers for our group. So, although we may see this as a measure of success, it is not very concrete.



Dennis L. Jackson

A USEFUL, DEFENDABLE MEASURE OF ACCOUNTABILITY

One idea we have developed over the past year and have now begun to implement is the concept of testing. There are a number of reasons for developing such a program: 1) It gives us the assurance that our enrollees are learning, and if they have not learned a particular concept it can be re-emphasized during the next on-farm instructional visit. 2) It gives the farm family a feeling of accomplishment, both at the time the test is reviewed and at the end of the year when they receive their certificate for having successfully completed a year of Farm Management instruction. And, 3) although it has not yet been needed, it gives us a means of defending our program during this period of education cutbacks and increased regulations.

AREAS OF INSTRUCTION AND EVALUATION

As an example of how the testing procedure might work and to demonstrate its importance, let us consider the fact that the Farm Business Analysis is only as accurate as the record from which it came. Unless the record is excellent the value of the analysis as a basis for decision making is questionable. Therefore, we are first testing to insure that the enrollee knows how to keep good records. For example:

- 1) Does he understand the importance of accurate inventories for commodities, livestock, non-farm assets, etc?
- 2) Does he have a complete understanding of the proper way to enter transactions into the account book, both where and why?
- 3) Does he understand correct expense allocation to insure that each individual enterprise analysis will reflect exact results?

- 4) Does he understand the financial aspects of the account book, i.e.:
 - a) that the liabilities inventories, payments on debts and money borrowed must balance,
 - b) the importance of accurately recording the inventory of non-farm assets, household and personal expenditures, and non-farm investments, as these help show where money goes.

- 5) Does he understand and have the ability to maintain the depreciation schedule for his farm business? This includes:

- a) understanding the various methods of depreciation,
- b) being familiar with IRS rulings on depreciation,
- c) being able to balance the depreciation schedule at year's end.

- 6) Does he have the ability to close his own account book for analysis at the end of the business year? This indicates that he understands accounting procedures.

After we and the farmer are convinced that he has a thorough understanding of proper farm accounting, then we are assured that the analysis will be worthwhile and meaningful — something upon which the farmer can confidently base decisions pertaining to his farm operation.

Essentially, this covers the first year of instruction. In subsequent years the enrollee is tested on the other aspects of the program.

THE FARM BUSINESS ANALYSIS

The Minnesota Farm Business Analysis is a very detailed, complex analysis. This brings on a whole new group of testing possibilities. Do enrollees understand the financial tables, ratios, crop and livestock enterprise analyses? Do they know where these figures come from, how they are determined, and what they mean? Specifically, can the enrollee make valid decisions about his farm operation based upon analysis information?

USE OF THE SUMMARY BOOK

We have developed a 10-year analysis summary book as an aid to decision making. Simple in design, the transferring of numbers from the analysis to the summary each year develops a

graphic picture of trends in the farm business. By studying the direction these trends have taken over a period of years, it is easier to determine what steps should be taken to improve the farm business. The fact that a farmer maintains his summary book and refers to it frequently is a good indication of its usefulness and the value of the program. It also shows that, because he trusts the accuracy of his records, he has faith in the analysis and the trends that develop.

INCOME TAX MANAGEMENT EDUCATION

Today taxes are a very visible and important part of the successful farmer's expense picture. It is important that the farmer have a clear understanding of "net cash farm income," how it is determined and how it can be adjusted. Because we feel taxes are so important, we have a tax planning session late in the year and a tax planning farm instructional visit as part of the regular program. We also have a special series on income tax management for those farmers who want more in-depth information on the subject. The Farm Management instructor, who is already familiar with the farmer's situation, is in a logical position to make tax management education an important part of the course of study.

Tax management education has three aspects:

- 1) Determination of the "present" tax situation, near the end of the year by using the 1040F and the current depreciation schedule.
- 2) A decision of where the farmer wants to be — generally trying to level tax liability from year to year.
- 3) Instruction in the use of various tools (i.e., depreciation methods for new purchases, increasing the income or expense level for the balance of the year, Keogh investments, etc.) to adjust the net cash farm income to the desired level.

As a measure of accountability, the first year enrollee should be able to prepare a form 1040F and balance his current depreciation schedule. In future years he should be able to complete the tax planning form we have developed, make decisions on the method of depreciation to be used on new purchases, and eventually do his own tax form preparation.

BUDGETING AND CASH FLOW PLANNING

We strongly support cash flow planning by farmers — not only because farm lenders like it, but because it is a very useful tool for determining marketing strategy, capital purchases, and credit needs in advance. Whether or not the farmer is contemplating a major purchase or change in his farm business, cash flow planning can help map out the upcoming year. Because of the value of cash flow planning, we have developed an uncomplicated cash flow planning form, and we encourage enrollees to use it. After the first year, the enrollee (by using the past year's actual cash flow, market predictions, and production plans) should be able to prepare a fairly accurate cash flow for the year ahead.

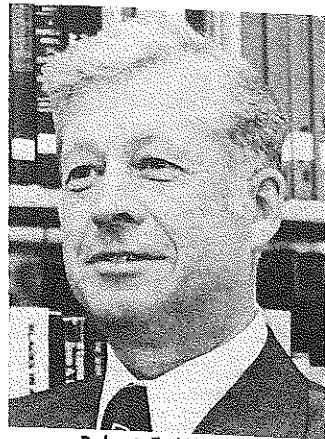
A question which often arises is "Can I afford . . .?" The item in question may be land, a large piece of machinery or a sophisticated livestock facility. By the use of his records, cash flow plan and previous analyses, he should be able to prepare a partial budget, projecting the anticipated effects such a purchase would have on the farm business. The evidence of our accountability would be: 1) Can he develop a budget? 2) Is his budget realistic, based on solid facts from his analyses? or, 3) Do we have to develop a budget for him, to demonstrate whether or not he can afford such a venture?

HOW DO WE TEST?

Since much of our instruction includes factual information and recognizable competencies, our tests usually take a standard objective format. Some concepts lend themselves better to subjective style, but in either case the tests are given to the farm family to be completed at home at their own speed using any resources they have available. Upon completion they mail the test back to school where it is graded by the instructor who then reviews the results with the family during the next farm visit.

We feel that such an addition to our program helps demonstrate our accountability to our clients. The results aid us in improving course content and method of instruction. Furthermore, if we know we have done a good job of instruction and our enrollees understand the concepts, our job is much easier. We avoid the pitfall of having to serve as a farm accountant during

(Concluded on page 261)



Robert E. Wingert

PARTNERS IN PROGRESS

by
Robert E. Wingert
Chmn., Div. of Ag. and Nat. Res.
SUNY, A&T College
Cobleskill, NY

Post-secondary Education in Agriculture is celebrating its sixty-second year at the State University of New York Agricultural and Technical College at Cobleskill, New York. Since its opening in 1916, agricultural education has been one of Cobleskill's missions, as it has at Cobleskill's five sister Agricultural and Technical Colleges scattered about the state.

During their history of training and preparing students to serve the needs of agriculture in the state, these colleges have undergone many changes in curriculum and program emphasis. Technological developments have demanded this of the colleges. We like to think our colleges have been a part of the technological development as well.

A majority of the changes have occurred in the last 30 years; these changes coincide with the technological explosion agriculture has experienced during this time. Enrollments have increased eight to tenfold. Curriculums have been revised completely and many new ones added.

As these apparent "in house" changes were being executed to meet the demands of an expanding agricultural industry, other less obvious but equally important developments were taking place. Each college was becoming aware of its interdependence on each other. Each college realized that it was but one of the partners in the agricultural education of the people of our state — the other partners being the vocational agriculture programs on the secondary level which blanket our state, and the land-grant college at Cornell, with its three emphases: teaching, research, and extension. This partnership, which emerged over the years in our state, has become stronger through cooperation and dedication on the part of the persons and institutions involved.

I would like to identify some of the activities and programs which have resulted from this partnership. They have proven to be of mutual benefit, not only to the agricultural education partners, but also to the students in agricultural education.

HIGH SCHOOL DAY

Each year several of the Agricultural and Technical Colleges invite vo-ag departments from high schools within a radius of 100 to 150 miles to their campuses to participate in a variety of judging contests. The contests serve to motivate students to develop their abilities to: identify seeds, plants, trees, machine parts, tools, bones; to judge soils, crops, livestock; to analyze a farm business or to compete in a tractor driving contest. Vo-ag instructors report this activity to be a valuable teaching process. We at the college view it as a training session for our students and as a recruitment tool, bringing a thousand interested young men and women to the campus for a day. Surveys of freshmen students reveal the High School Day event to be very influential in their decision to come to our college.

ARTICULATION

For the past several years an Articulation Conference has been convened by the Dean of the College of Agriculture and Life Sciences at Cornell. Participants from Cornell include the Dean, Admissions Staff, Director of Resident Instruction, and the Chairperson of the Department of Agricultural Education. The agricultural and technical colleges are represented by their respective presidents and agricultural division chairpersons. This conference has provided an opportunity for open discussion of course requirements for potential transfers as well as content of specific courses. This open line of communication between the colleges has provided better advising of agricultural and technical college transfer-oriented students. It also results in

greater flexibility for these students without affecting the primary objective of the technical college — which is to prepare students for job placement upon graduation. The results have been higher acceptance of agricultural and technical college graduates at Cornell, and greater academic success for those transferring. Cornell admission studies indicate that of the 485 agricultural and technical college graduates who have been accepted and enrolled at Cornell, 96% have graduated with a bachelors degree.

Articulation of courses and programs between high school vo-ag departments and the agricultural and technical colleges has not been as formal but the activities have provided good results.

ADVISORY COMMITTEES

Curriculum-oriented advisory committees at the college include representatives of the high school vo-ag programs. In some instances this vo-ag representative has been a vice president of their organization for that work area. I am sure one can readily sense the mutual benefits, including a greater knowledge of programs and curriculum, level of instruction, campus facilities, and placement opportunities.

AGRICULTURAL TEACHERS ASSOCIATION OF NEW YORK (ATANY)

Several of our faculty members are former vo-ag teachers and have continued to be active members of the state organization. At their annual meeting last year they amended their by-laws to include a representative of the agricultural and technical colleges as a member of the ATANY Board of Directors. Although liaison between the two faculty groups has been good, I feel this move will insure added strength and increased communication.

JOINT STAFF MEETINGS

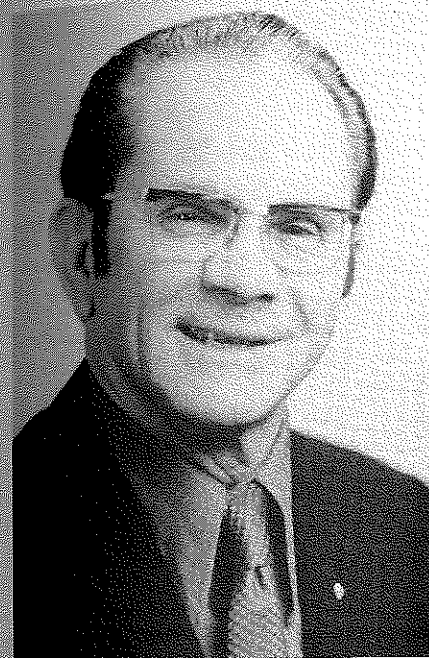
Within the state we have regular monthly meetings of the Agricultural Education joint staffs. Membership includes the staffs of the Bureau of Agricultural Education and the Department of Agricultural Education, the president of ATANY, and a representative of the agricultural and technical colleges.

(Concluded on page 261)

Leader in Agricultural Education:

WM. PAUL GRAY

by
Clarence E. Bundy*



Wm. Paul Gray retired as National Executive Secretary of the Future Farmers of America in December, 1976. He had served agricultural education for nearly 40 years; nearly 20 years of which were with the U.S. Office of Education as National Executive Secretary of the FFA. The FFA had been in existence only 29 years when he took office in 1957. Only three men had preceded him as Executive Secretary — Henry Groseclose during the organizational year 1928-29; W. A. Ross, 1929 to 1943; and Webster Tenney, from 1943 to 1947.

Mr. Gray was born in Missouri in 1911 but his family moved to Colorado in 1918. He received B.S. and M.S. degrees from the Colorado State University. He did additional graduate work at the Michigan State University.

He taught vocational agriculture in the high schools at Hillside, Wyoming, and at Saguache and Eaton, Colorado, for a total of 12 years.

Mr. Gray married the former Miss Edna May Glover of Center, Colorado, in 1941. They have now moved from their Arlington, Virginia, home to their cottage on the Patuxent River in Maryland.

During World War II Mr. Gray served as a flight instructor training army glider pilots and as an airline instructor for United Airlines. Following the war he trained Marine Engineers for the U.S. Army Transportation Corps. He returned to Eaton, Colorado,

to continue teaching vocational agriculture in 1946.

The writer first met Mr. Gray in 1951. The Eaton Chapter had received the Gold Emblem award twice in the national contest and the chapter program of work was used as a model in teacher preparation at Iowa State University. During the 1946 to 1952 period the Eaton Chapter received national recognition in Farm Safety, had four American Farmers, 22 State Farmers, and had three State FFA Officers.

Mr. Gray became Assistant State Supervisor of Agricultural Education in Colorado in January, 1952. He later moved to Colorado State University to become an assistant professor in agricultural education where he served until 1957.

The passage of the Vocational Education Acts of 1963 and 1968 brought about broadened and expanded vocational agriculture and FFA programs during Mr. Gray's tenure as National FFA Executive Secretary. Girls were admitted to vocational agriculture

programs and began to assume leadership roles. Instruction of students for employment in off-farm agricultural occupations necessitated changes and additions to the FFA constitution and the contest program. Personnel to administer the broadened FFA programs were expanded from three persons in 1957 to 10 in 1977.

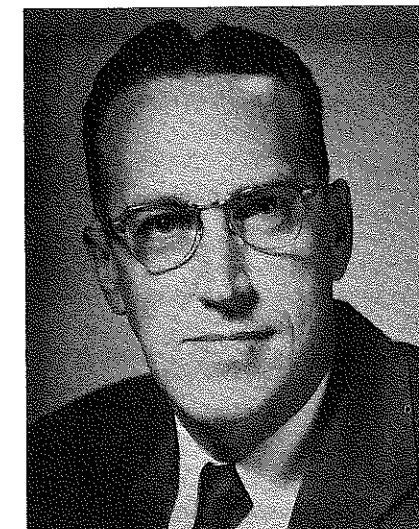
Under Mr. Gray's leadership, membership in FFA has grown from nearly 380,000 in 1957 to more than 500,000 in 1977. Mr. Gray organized and directed the first National FFA Leadership Conference in Washington, D.C., which has grown to involve nearly 1,000 FFA chapter officers across the nation. He also organized and conducted the FFA Fellowship Program for six years in cooperation with the University of Maryland.

Mr. Gray has provided effective leadership in promoting the establishment of Future Farmer Organizations in Japan, the Philippines, Thailand, and Colombia.

Paul Gray is best known for his leadership in planning and directing the National FFA Convention. He has demonstrated exceptional ability to develop the leadership potential of the National FFA officers and delegate to them convention responsibilities. Convention attendance has increased from less than 12,000 in 1957 to about 22,000 in 1977. The FFA Career Show, new staging techniques, pageants, the use of multi-screen visuals, and other innovations have greatly improved the convention programs.

Peers and co-workers have used many adjectives in describing Paul Gray and his contributions to those associated with agricultural education and the FFA. He has been a dedicated, industrious and dependable worker. He has understood the objectives of vocational agriculture and of the FFA and has

(Concluded on page 260)



*Clarence E. Bundy
Professor Emeritus
Department of Agricultural Education
Iowa State University
Ames, Iowa



Welch Barnett

Post-Secondary Programs in Ohio

by
Welch Barnett
Area Supervisor, Vocational Education
Agricultural Education Service
Columbus, OH

The two-year post-secondary technician programs in Ohio were developed to train technicians or paraprofessionals. Our manpower data shows that about 22 percent of our total work force in agriculture will be in this category. The program requires a minimum of 1650 contact hours, with at least 55 weeks of inschool instruction. Minimums for the total instruction in the technology program area are: 50 percent specialized laboratory experiences and related technical subjects, 15 percent basic laboratory or manipulative experiences, and 20 percent devoted to the development of skills in oral expression, written forms of communication, graphic forms of expression, human relations, supervisory techniques, and other leadership development skills. The remaining 15 percent, a maximum, must be distributed according to the needs of the area of instruction.

Internship is an integral part of the two-year post-secondary programs in Ohio. The length of the experience and the time it is scheduled is determined mainly by the agricultural industry where Associate Degree graduates will ultimately be employed and by members of the state staff. The student, to be successful, must be placed in the industry and supervised by personnel from the training institution. Across-the-board experiences in that industry for three to

seven months during "peak seasons" gives the student on-the-job experience and is enough for successful employability. A maximum of 275 contact hours can be earned through the internship program.

State Advisory Committees for each taxonomy area are utilized to determine the current manpower needs and where the various post-secondary programs should be established to meet these needs. Each local program has a taxonomy advisory committee meeting one or more times annually to review the entire program with recommendations for updating, deletions, or additions. ◆◆◆



A Horticulture student working in the storage room of the facility at ATI. The dried materials hanging from the ceiling were done by students.

CONTINUED LEADER

worked long hours in accomplishing his objectives. He has been an idea man. He is an innovator and gets things started.

National officers and his peers like to work with him. He knows what he wants and is willing to be tolerant and patient in accomplishing his goals. He has loved the FFA and each of the national officers with whom he has been associated. Many considered him their second dad.

Paul Gray has maintained interest in former students and national officers and in their families. He did some coaching while teaching in the high school and many still refer to him as "coach".

Dr. B. Harold Anderson, Head, Department of Vocational Education at Colorado State University at Ft. Col-

lins expresses the respect of many former students of Wm. Paul Gray in the following paragraphs:

"I remember Paul Gray as the type of person who was loved and respected not only by every student in the high school but by every parent in the community."

"Outside of my parents, I feel Paul Gray had more influence on my life than any other person. I will never forget his concern and interest for students and his untiring work for achievement for those who enrolled in his program."

Mr. Gray has coordinated many activities of other vocational education youth groups for the U.S. Office of Education, and has represented the FFA in many national farm and trade organizational meetings. He has been

very effective in providing promotional and public relations efforts.

He has served, for seven years as a member of the Board of Directors of the National Safety Congress and recently was presented the Distinguished Service Award by that organization. He was presented the FFA's VIP Citation for his many years of continuous service to the National FFA Organization at the 1977 convention.

Wm. Paul Gray has demonstrated outstanding leadership in agricultural education at all levels, local community, state and national. While he is an enthusiastic hunter and fisherman, we know that he will be where the action is in agricultural education following retirement. Your co-workers and peers extend to you, Paul and Mrs. Gray, our best wishes for a long and enjoyable period of retirement. ◆◆◆

CONTINUED POST-SECONDARY AG. ED. PROGRAMS . . .

FIELD LABORATORIES

In addition to the in-school classroom and laboratory facilities, most of these colleges have developed field laboratories where the students get practice in applying the lessons learned in the classroom in a very practical hands-on way. This, along with "on-the-job training," produces graduates who are able to compete successfully when they are employed.

Trident Technical College has an ornamental plant and turf area for an outside laboratory. Florence-Darlington Technical College uses the Pee Dee Experimental Station. Horry-Georgetown Technical College has the use of the several thousand acres of woodland owned by a paper company, several golf greens, and the use of a local golf course. Orangeburg-Calhoun Technical College has a small on-campus farm plus the use of farms in the area. Tri-County Technical College uses the Clemson Experimental Station. Sumter Area Technical College has a demonstration farm in cooperation with the Agriculture Extension Service and many organizations in the area. Spartanburg Technical College has an on-campus apple and peach orchard. Midlands Technical College has extensive greenhouse space plus an on-campus nursery.

QUALITY PROGRAMS THROUGH PARTNERSHIPS

Although South Carolina should be proud of the success of the post high school agriculture programs, it must be realized that these programs have not yet reached their full potential. The most important thing to be remembered is that quality programs produce quality graduates. As the agricultural industry moves into the future, it will require employees with more skills than ever. Those who are responsible for producing the workers who can make this powerful agricultural industry even more powerful must have the qualified instructors and equipment to do the job. This is true for the agriculture universities, and secondary vocational agriculture, as well as post secondary agriculture programs.

To accomplish these goals, it seems as though we have no choice but for all elements of agricultural education to work together in producing the quality workers needed by our industry. When this is accomplished, we can all pat ourselves on the back and say, "Indeed, we are truly partners." ◆◆◆

CONTINUED PARTNERS IN PROGRESS

Again, it is a communications tool whereby all segments of the agricultural education programs in the state can be informed of new policy and made aware of matters of mutual concern. These would include recruitment, in-service training, new programs and curriculum changes. It identifies areas where joint effort can help to resolve problems.

WORKSHOPS

Keeping up-to-date with the latest technology is always a concern to a faculty teaching in an industry that is changing as rapidly as agriculture. Representatives of the agricultural and technical colleges, in an effort to update staff members, submitted a proposal requesting a VEA grant to fund an in-service workshop for their faculties. The request, supported by the Bureau of Agricultural Education, was funded and the workshop was held on the Alfred Agri-

cultural and Technical College campus in June, 1976.

Several sessions were conducted by program specialists from the College of Agriculture at Cornell. Vice presidents of ATANY, representing each subject matter area, were also in attendance to serve as liaison with the vo-ag programs of the state. In evaluating the two-day event, participants were highly supportive of the program. A second such workshop is now being proposed and hopefully it can be held on the Cornell campus.

Agricultural and Technical College faculty have also responded to requests from vo-ag teachers and their bureau chief to conduct summer short courses for training and/or updating high school teachers in a variety of areas from mechanics to conservation to ornamentals. Occasionally such courses have been for credit, but more frequently are non-credit.

There are other events I could cite;

among these are judging clinics and tours, youth leadership programs, and open house days.

Agricultural education for the people of the State of New York is truly the result of a working partnership involving the high school vo-ag programs, the agricultural and technical colleges, and the College of Agriculture and Life Sciences. Each of us are educating and training our students to help them meet their individual needs — whether it is to continue their education or to enter the job market in an agricultural occupation.

There is no doubt in my mind but what this partnership has provided students in vocational agriculture with an opportunity for greater specialized training in a broader range of subject matter fields than ever before. The future for agriculture is bright and it is good to be a member of the partnership.

CONTINUED ACCOUNTABILITY . . .

the year, and end-of-the-year record closeout is simplified. Because the farmer himself has done the work, we do not have to hire additional help at closeout time, and the record remains a confidential account of the farmer's operation.

IN SUMMARY

The question is sometimes posed: Is
May 1978

an adult Farm Management program an educational program or a service program for farm families? We think the answer to that question should go something like this:

The Ag Man who does all the pencil pushing — accounting, tax form preparation, budgeting, cash flow planning — for his client is nothing more than a serviceman.

The Ag Man who teaches farmers how to keep farm accounts, how to use those accounts for tax purposes, and how to use his records and analyses to figure out answers for himself is an educator.

Furthermore, a true educator is accountable to his students and must have a comprehensive means of measuring his accountability. ◆◆◆

MODELS FOR ADULT EDUCATION

by Harold R. Cushman and Joe P. Bail, *Teacher Education, Cornell University, Ithaca, NY*

Many of us in Agricultural Education have been led to believe that there is one and only one effective way to organize and conduct a given adult education course. The authors of this article wish to take exception to that point of view. We will start by pointing out why options are important. Next we will describe the unique characteristics of three alternative models available to the teacher of any adult education course. Then we will close with suggestions for choosing the model that best fits you and your learners.

THE CASE FOR ALTERNATIVES

A standard prescription can only be valid for those adult education situations where the assumptions underlying the prescription are fulfilled. Such prescriptions in adult education are based on numerous assumptions concerning the teacher, his learners, and his available instructional resources. To cite a few examples, it is commonly assumed (1) that the teacher is knowledgeable and experienced in the occupation for which he is offering training, (2) that both the teacher and his learners share the purpose of the prescription writer, and (3) that the instructional resources (instructor's teaching ability, physical plant, tools and equipment, potential community inputs, etc.) are adequate to fulfill the prescription.

The fact is, however, that both teachers and learners may vary widely on almost any characteristic including subject matter competence, occupational experience, purpose for engaging in adult education, and ability to utilize various instructional resources. For this reason, standard prescriptions may be stifling at their best — or useless at their worst. Ideally, we need, over the long term, to learn how to design systems for organizing and conducting adult programs tailor-made to fit a given teacher, his learners, and his resources. Over the short term the very least we can do is to replace the standard prescription with viable alternatives. Three such options follow. They by no means exhaust the possibilities — but at least they are illustrative.

THE EMPLOYEE TRAINING MODEL

This model is a very useful tool for teaching adults how to improve their on-the-job performance. You will find it useful for learners who are seeking to upgrade or develop new skills or to develop greater understanding of work processes. It is used very widely in industry, business, and the military services.

The main purpose of employee training courses is to improve the competencies of the learners in a specific technical area related to their employment. Employees comprise the main clientele of such courses although prospective employees and others frequently participate. Recruitment is normally a coordinated undertaking of the teacher and employers. Sometimes professional or union organizations are active participants in the recruitment process. Personal contacts are heavily relied on: first, by the teacher to inform employers of likely benefits; and later by employers themselves in suggesting attendance by their employees.

Instructional needs are usually assessed by employers — and teachers announce course content to enrollees on a "tell them" basis. Job requirements provide the main focus of instruction. Subject matter is characteristically organized

and taught in an operational or procedural mode by the teacher. Firm teacher leadership and close attention to industrial standards are special features of employee training. Program evaluation is focused on continuous assessment of learner performance.

Examples of adult education offerings in agriculture typically utilizing the employee training model include: acetylene and arc welding, tractor mechanics training, small animal laboratory technician training, outboard engine repair, and landscape design.

THE BUSINESS MANAGEMENT MODEL

This model excels as a tool for teaching adults how to make decisions and solve problems. It is equally effective with business people, farmers, housewives, young people, or senior citizens — in fact, almost any group who have common problems. It is useful in all fields of occupational education and wherever else critical thinking is involved.

The main purpose of business management courses is to assist owner-operators or managers to become successfully established in a specific undertaking as an entrepreneur. This end is sought by teaching adult learners to analyze their businesses to discover weaknesses, identify major problems, and make intelligent decisions. The owner-operators and managers constituting the main clientele group are almost always recruited by the teacher using personal contacts.

The instructional needs of the learners are assessed by a joint effort of the teacher and individual enrollees using a "figure it out with them" approach. Some form of analysis of the business (or problem area) is nearly always made in order to identify high priority problems. Since the focus of instruction is on making management decisions, a problem-solving format is most useful for organizing the subject matter to be taught. On-job instruction is a special feature of the model. Association of the enrollees for activities other than instruction is an optional feature. The evaluation of business management courses focuses on the results of the program as evidenced by the progress of class members toward successful establishment as measured by appropriate yardsticks.

Although farm business management courses are the most common application of the model to adult education programs in agriculture, the possibilities are almost unlimited in courses involving entrepreneurs in Ornamental Horticulture, Forestry, Small Animal Science, Rural Recreation, and Agricultural Business.

THE SELF-FULFILLMENT MODEL

The main purpose of courses organized and conducted in the form and spirit of the self-fulfillment model is to assist the learners in the pursuit of interests that he or she believes will add meaning to their lives. The learner may see such interests as helping him or her advance *occupationally*, culturally, physically, politically, or spiritually. *As long as the interest being pursued in a given adult course is directly concerned with the occupational advancement of learners already engaged in or preparing for an agricultural occupation, administrators are reassured that the course qualifies for "vocational" or "occupational" funding.*

(Concluded on the next page)

Recruitment for self-fulfillment courses is affected by the adult education director. The persuasive powers of the mass media, and brochures in particular, are relied on to recruit from the general public, who constitute the clientele group.

Assessment of learners' instructional needs is focused on determining their felt needs using the "ask them" approach. Since the main focus of instruction is on topics and projects, subject matter is organized for teaching in the form of an outline of information to be presented (or procedures to follow). Informality and variability of learners are special features of the model. Program evaluation is most likely to focus on the appropriateness of the teacher's methods and the degree of satisfaction achieved by the learners.

This model has probably been used more frequently than any other in young and adult farmer classes and is currently the mode utilized in many adult offerings in flower arrangement, farm business records, gardening, income tax, conservation, etc. In fact, wherever the main focus is on supplying information to a clientele, you are likely to see the instruction being conducted on a self-fulfillment mode.

SELECTING THE BEST MODEL FOR A SPECIFIC COURSE

Intelligent choice of a model for a given adult course involves making at least three decisions. In each case it will

be necessary to weigh the available alternatives on each of the factors to be considered. Use the problem solving analysis below to guide your decision making process. When you finish, you should be able to justify why you chose a specific model.

MANAGERIAL ANALYSIS

Decisions to be Made

1. Which model best fits the purpose of the course?
2. Which model best fits the teacher?
3. Which model best fits the available instructional resources?

Factors to be Considered

1. Institutional purpose
2. Teacher's purpose
3. Learner's purpose
4. Purpose of each model
1. Teacher's experience with subject matter
2. Teacher's experience with models
3. Teacher's pride
4. Teacher's courage
5. Teacher's energy
1. Time
2. Physical resources of the school
3. Teacher resources
4. Community resources

CONTINUED PROMOTING ARTICULATION . . .

1. Area schools preparing program newsletter to share with secondary schools
2. Secondary and post-secondary instructors traveling together to meetings
3. Conducting joint secondary and post-secondary agriculture instructors social activities
4. Development of a communication system to keep secondary and post-secondary instructors informed of available in-service activities, activities for student leadership development and other pertinent information

SUMMARY

Efforts in Iowa to promote articulation between secondary and post-secondary vocational agriculture programs have included (1) conducting a workshop to develop guidelines for articulation, (2) completing research to identify articulation needs and (3) conducting a conference to plan articulation procedures. Positive results from these efforts are evident by the types of activities secondary and post-secondary educators have implemented to enhance articulation between the programs they represent. There is also a general feeling in Iowa that the three years of

articulation efforts have produced some unexpected but desirable benefits, including the following:

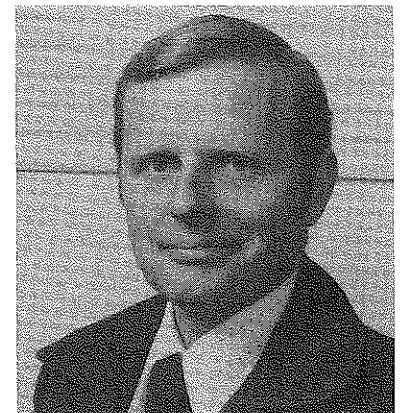
1. **Secondary and post-secondary instructors understand more fully the programs and problems faced by one another.**
2. **Communications between secondary and post-secondary instructors have improved.**
3. **A greater trust between secondary and post-secondary agriculture instructors has been developed.**
4. **A more professional and cooperative attitude now exists between secondary and post-secondary vocational agriculture instructors.**

*Bennie L. Byler was Associate Professor, Department of Agricultural Education, Iowa State University when this study was being completed.

REFERENCES

1. Byler, Bennie L. *Analysis of Factors Related to the Educational Plans of Iowa Vocational Agriculture Students*. Ames, Iowa: Agricultural Education Department, Iowa State University, 1975.
2. Byler, Bennie L. and David L. Williams. *Identification of Activities to Enhance Articulation Between Secondary and Post-secondary Vocational Agriculture Teachers*. Ames, Iowa: Agricultural Education Department, Iowa State University, 1977.
3. Byler, Bennie L. and David L. Williams. "A Study of Articulation Needs Between Secondary and Post-secondary Vocational Agriculture Programs" *The Journal of Vocational Education Research*, Summer, 1977.
4. Williams, David L. *A Study of Supervised Occupational Experience Programs of Iowa Vocational Agriculture Students*. Ames, Iowa: Agricultural Education Department, Iowa State University, 1977.

NEW PICTURE EDITOR



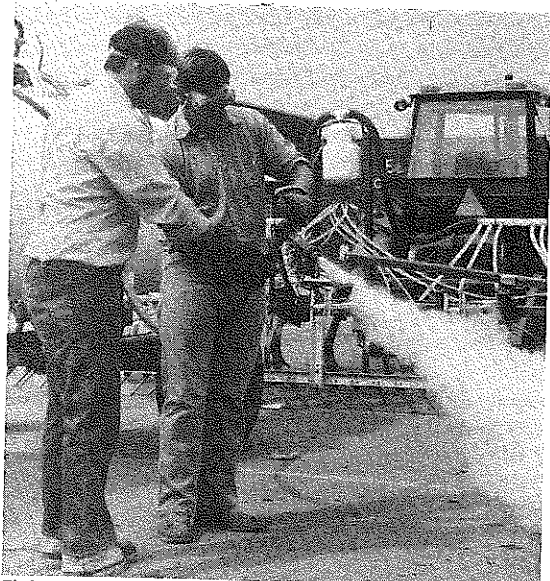
Joe Sabol

We would like to welcome Joe Sabol to the *Agricultural Education Magazine* editorial staff. Joe is a teacher educator at California Polytechnic State University at San Luis Obispo, California. He taught vocational agriculture eight years in California and has been at Cal Poly for six years. Joe is an energetic, enthusiastic teacher and will do his best to give us the best pictures possible in the *Magazine*. He will need all our support by sending him opportune photos any time and photos for a particular theme three months in advance.

We would like to extend our hearty thanks to Paul Newlin for a job well done in the past. We wish him well in his new position. — Ed.

STORIES IN PICTURES

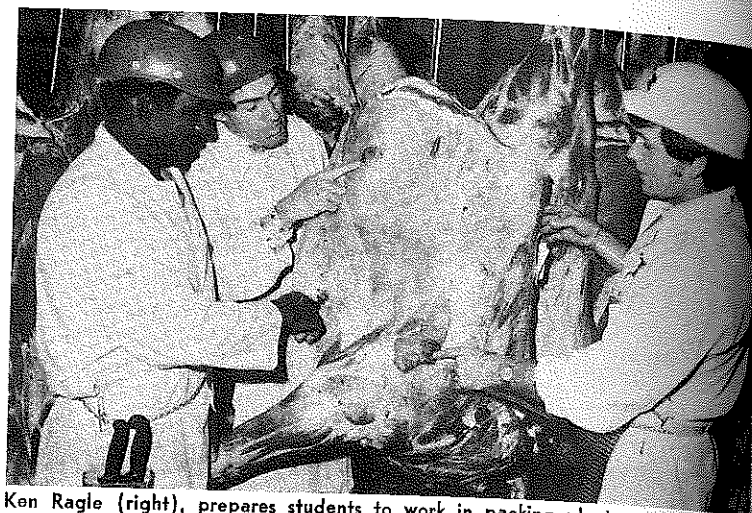
by
Joe
Sabol



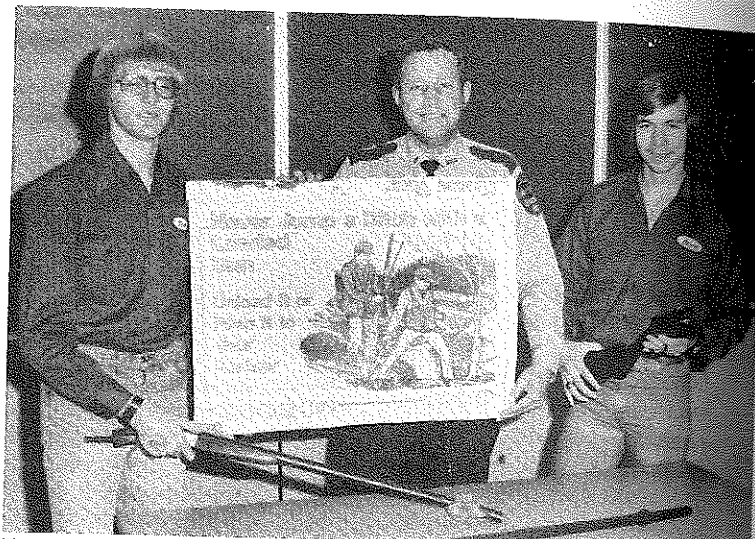
Elida Young Farmers Lindsey Faust and Jim Biery are shown demonstrating the freezing qualities of anhydrous ammonia. The rose was quick frozen and then shattered against the side of the tank. (Photo courtesy Don Breece, Vo-Ag Instructor, Elida, OH)



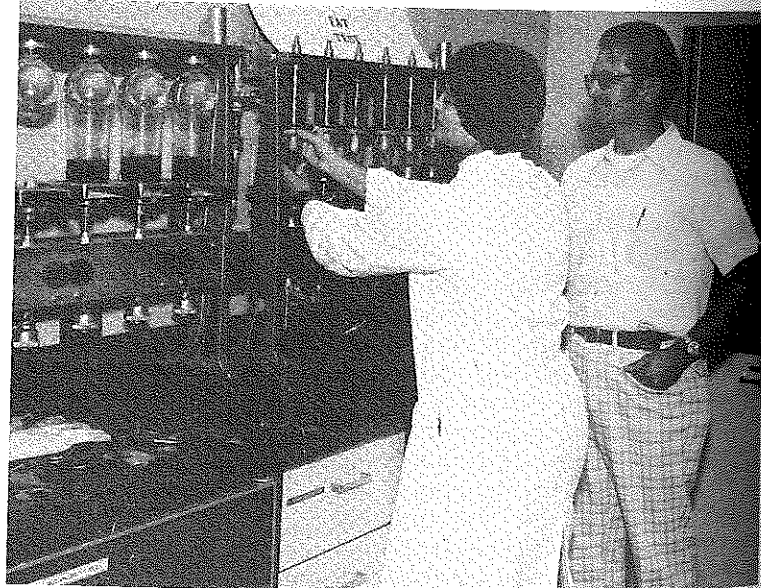
Gale Hagee of Indiana Hills Community College, Ottumwa, IN, discusses a research paper presented jointly with Bob Stewart of the University of Missouri at the Fourth National Agricultural Education Research Meeting held December, 1977, in Atlantic City. This is partnership in action. (Photo courtesy Bill Richardson, Purdue)



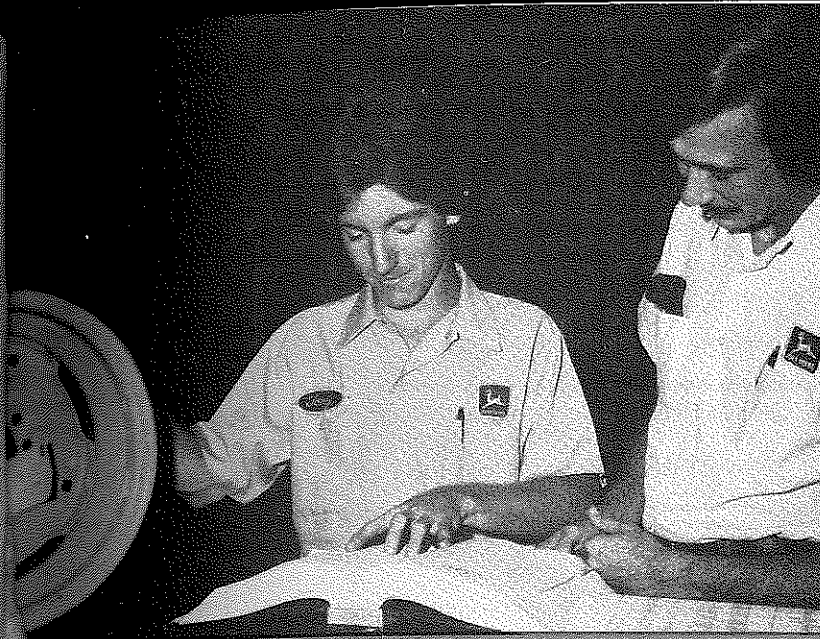
Ken Ragle (right), prepares students to work in packing plants, grocery stores or restaurants in the 36-week meat processing and marketing program at Texas State Technical Institute, Waco, TX. (Photo courtesy Ken Ragle and Carla Everett, TSTI, Waco)



Vo-Tech students from the Natural Resource Technician Program assist the State Dept. of Natural Resources in training 12-14 year olds in snowmobile safety operation and in the gun safety program. (Photos courtesy Elwood Westman, Vo. Tech. Instr., Brainerd, Minnesota — Related story on page 246)



Second year research student, Jessie Doerschuk, ATI, places a sample on the school's ether extraction unit. To her left, samples digest on the crude fiber apparatus. With her is Dr. Ronald Borton, Acting Chairman of the Animal Industries Program. (Photo courtesy Welch Barnett, Agricultural Education Service, Columbus, Ohio — Related story on page 260)



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Education in Agriculture
—Learning on the Job—**

