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Number 1

THEME
SOEP: Sales and Service

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EDITOR'S PAGE

Sales and Service: Generic

BY LARRY E. MILLER, EDITOR

(Dr. Miller is a Professor in the Department of Agricultural Education at The Ohio State University.)

Everyone is selling something. The sales person is selling a product. The service person is selling their knowledge and skill. The teacher is often selling a program. The administration is selling a school; the philosopher, a theory; the preacher, an ideology; the politician, a legislative concern, and the president, a country. Everyone sells!

The skills learned related to selling can readily be likened to learning logic. The frame of reference can serve one throughout a lifetime. The products to be sold are tremendously diverse in agribusiness as in other business areas. The skill, once obtained, can provide for a career; temporary employment; part-time, supplemental or moonlighting income.

Needed Skills

The sales and service option, with its accompanying SOEP, can provide students with abilities which they can utilize throughout their lifetime. The skills are readily transferable and can be exceedingly valuable even though they may be learned with a specific product or service in mind. The person adept at sales can acquire the necessary product/service knowledge through study and earn a living with these skills.

The sales and service option provides skills in marketing, distributing, advertising, displaying, and recordkeeping which makes the student marketable. All are noble challenges to vocational agriculture since they certainly provide students with employability options.

Nomenclature

There seems to be some confusion and disparity regarding what the profession is to call the training of the students in this area. Some call the options sales and service and some refer to it as agribusiness.

I prefer the nomenclature proposed by Lee (1979) in which he proposed that the umbrella is agri-industry encompassing production agriculture and agribusiness. Agribusiness is one segment of the agri-industry, as is production agriculture. Agribusiness is comprised of those areas which provide the supplies and service needed by production agriculture and handles the products produced by production agriculture.

One option, taxonomical area, of agribusiness is sales and service. The sales and service area is generic in the sense that it cuts across the many areas of plant and animal supplies provided to production agriculture and the products emanating from production agriculture. One can sell or provide a service in the areas related to horticulture, plant supplies/products, animal supplies/products, natural resources, small animal care, agricultural mechanics, etc. Sales and service are common components to each. Therefore, the area is termed generic.

Dealing with People

One area of sales and service is that of human relations. Teaching about human relations in the classroom provides some principles but not all of the practical experience necessary for mastery. Real life, firsthand experience is essential and effectively provided through SOE programs, which also provide essential affective training. The student who learns how to deal with people has obtained a valuable skill. The SOE program provides for not only the attitudinal component but an opportunity to exercise the psychomotor and cognitive as well.

Summary

While production agriculture constitutes less than three percent of the occupations in agri-industry, agribusiness provides in excess of twenty percent of the American workforce. Numerous technical areas in agriculture require expertise in sales and service. These can be taught in vocational agriculture and through the SOE program. Simultaneously, the SOEP will provide the necessary contact for articulation between business and education so badly needed in vocational agriculture.

Reference

Lee, Jasper S. PROGRAM PLANNING GUIDE, AGRIBUSINESS EDUCATION. New York: McGraw-Hill, 1979.

The Cover

Supervised occupational experiences in sales and service provide students with learning opportunities which they can utilize throughout their lifetime career.

THEME

SOE: Sales and Service — Now Is The Time!

DR. DAVID M. COFFEY, THEME EDITOR

(Editor's Note: Dr. Coffey is an Associate Professor in the Department of Agriculture at Western Kentucky University, Bowling Green, Kentucky 42101.)

Agriculture mechanics, sales and service, horticulture, forestry, production agriculture, natural resources . . . whatever the area of study implies, occupational experience in agriculture education is continuously being examined. Do the areas as dictated by the 1963 Vocational Education Amendments have a prominent place in contemporary agriculture education?

Consider the following facts:

— Rural population is increasing; however, rural farm and farmer numbers are decreasing.

— Youth unemployment continues to be a major national social problem.

— National, state and local administrative agencies are requiring more accountability in all programs.

— In some states, extended-day and extended summer employment for vocational agriculture teachers are victims of budget cutbacks.

— Citizens are demanding more excellence in education with increased emphasis in math, grammar and communications skills.

Can vocational agriculture change to meet the needs of contemporary America? If vocational agriculture is to meet its mission of training or retraining students for job entry levels in agriculture occupations, increased emphasis must be placed on alternatives to traditional production agriculture programs. Population movement has caused an almost overnight blossoming of suburbs, exurbs, and trailer parks on land that was recently in agriculture production. Vocational agriculture teachers commonly express concern for the role and future of the non-farm student in their program.

Sales and service provides a logical alternative to the traditional production agriculture program. The agribusiness industry offers many job opportunities for the non-production agriculture student. Essential to a good sales and service program is supervised occupational experience for all students. Like FFA, SOE is an integral part of a strong agriculture education program. SOE makes vocational agriculture vocational.

Few persons could argue against the benefits of SOE. Sutphin (1981) found that 98 percent of the experts in agriculture education believed that all students should conduct a SOE program. SOE provides opportunities for work, money, self-confidence, and responsibility. With a sales and service program, students with meaningful SOE gain actual experience coupled with acquired competencies in technical agriculture. SOE should include managerial, technical and skilled levels (Burnett and McCracken 1983). Human relations, work attitudes, career goals, and equipment management are molded through SOE in Sales and Service.

Teacher Responsibilities

The role of the teacher is essential in the establishment of maintenance of satisfactory SOE in sales and service. Vocational agriculture instructors are directly responsible for the following procedures:

— select a SOE which will develop skills and abilities and satisfy student-employer needs.

— plan how SOE will be carried out before it begins.

— plan class instruction to assure a positive experience.

— supervise

Effective SOEP should be an extension of classroom learning.

The development of positive human relations is an essential part of a quality SOE program in sales and service.

— evaluate the SOE and adjust plans to gain new and meaningful experiences and agribusiness competencies.

Four articles unique to SOEP: Sales and Service explore the following areas:

— securing and maintaining sales and service SOE in a rapidly urbanizing area.

— maintaining a positive relationship between administration and teacher as a key to successful SOE in sales and service programs.

— supervising a successful SOE program in post-secondary agriculture education.

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Burnett, Michael F. and McCracken, J. David (1983). "Task Inventory Analysis of Agribusiness Positions at Various Heirrarchial Levels", THE JOURNAL OF THE AMERICAN ASSOCIATION OF TEACHER EDUCATORS IN AGRICULTURE, 24, 4, p. 11.

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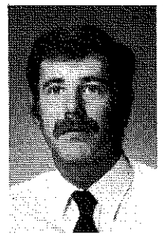
THEME

Meeting Rural Needs Through Sales and Service



BY BARRY Z. AREY

(Editor's Note: Mr. Arey is a Vocational Agriculture Instructor at Stonewall Jackson High School in Mt. Jackson, Virginia 22842.)

Vocational agriculture education programs in our high schools have constantly been changing in order to keep pace with the needs of the communities we serve. The present is no exception. If we as agriculture educators are to provide the training and skills that our students will need in obtaining jobs, we must first stop and examine what jobs will be in demand. I feel safe in stating that between 20-25 percent of the work force in the United States are employed in some field of agriculture. However, only 3-4 percent of those persons are actually farmers and all indications point to that percent decreasing in the future. This shift from production agriculture to other types of agricultural career opportunities should be reflected in the training our students receive.

One method of accomplishing this would be the development of sound sales and service programs in our curriculum. Granted, the basic principles and knowledge of production agriculture cannot be totally neglected. The first two years of the program should provide the production training, followed by two years of concentrated study in the diverse field of agribusiness. There are numerous high schools that have utilized the agribusiness option for several years. However, I believe that there are many other schools across the nation that would greatly benefit by the addition of this option to their existing programs.

Advantages of Sales and Service

The sales and service option provides training to meet current employment needs. From my experience as a teacher of sales and service, it also offers several other advantages:

1. Students are more motivated and interested in school because they can relate the classroom instruction to their on-the-job experiences.

2. Several students would have dropped out of school had it not been for the opportunity to enroll in the agribusiness option and work as well as going to school.

3. Many of the skills that the students learn while on-the-job could not have been taught at school.

4. The agribusiness option can assist the student in making a sound career choice.

5. The employer has a direct input into the training of students and provides them with the means of meeting their future employment needs.

6. The agribusiness option is a very cost effective method for the school to provide training as well as improving relations between the school and the community.

Getting Started

Just as in the case of many other new or untried ideas, the hardest thing to do is getting started. I would like to suggest a few steps that can be used in starting an agribusiness option. First, an assessment of the needs of your school and community should be made to determine if this option would be of benefit. A survey of agricultural business and employment needs should be conducted. Discuss the program with employers, school officials, young farmer members, and students in order to obtain their opinions and advice.

If your findings are favorable, the second step is to secure official school approval. This may well be the most critical step because many new programs have failed due to poor communication between the agricultural education department and school administration. In order to avoid this potential problem, you should be sure to meet with all necessary school officials. Normally this would include local guidance personnel, the school principal, the vocational director, and the division superintendent. Make sure that each of these individuals understand the sales and service option and try to secure the support of all concerned.

Once school approval has been granted, the third step

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Meeting Rural Needs Through Sales and Service

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involves developing guidelines and policies to be followed. Some of the policies found useful in the sales and service option are:

1. Only juniors and seniors who have completed at least two years of agriculture education classes are eligible.

2. Students are allotted either two or three periods of release time from school for on-the-job training.

3. All students are enrolled in a one period agribusiness class with a minimum of 2½ credits awarded to successful completion of the program.

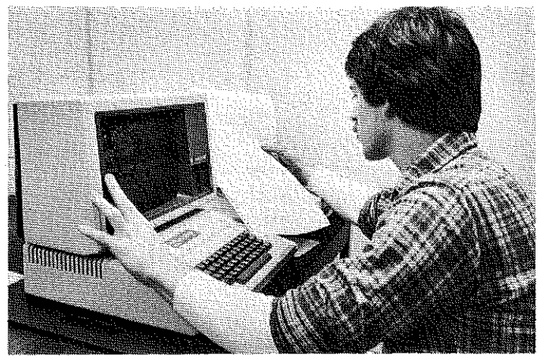
4. One period per day for the coordination and supervision of the on-the-job training is necessary.

5. A handbook outlining the specific responsibilities of the teacher, the student, the parents, and the employers was developed.

6. A curriculum guide was developed and necessary funds were secured in order to purchase needed teaching supplies and materials.

The fourth step is to secure the proper training stations. Although this is an on-going process, it is most essential at the start of a new program. All potential training stations should be located. Then the teacher should personally visit and discuss with the employer the purpose of the agribusiness option. I have found that most employers are very receptive toward the agribusiness program. They generally welcome the opportunity to provide training and skill development for students that relate directly to their business. It should be remembered that students need to gain experience in as many aspects of the business as possible and not used simply as "fill-in" labor. Stress that the primary purpose of the program is educational. Also discuss the employer's responsibilities and work out details concerning teacher visitation, student's work hours and salary, and a training plan. Again, the development of good work stations is one of the keys to a successful agribusiness program and should be of continuous concern to the teacher.

A final step in starting the program is the selection of students. As previously stated, the basic eligibility requirements are for a student to be either a junior or senior and have completed at least two years of agricultural education. I personally interview each interested student prior to their enrollment in the class. We discuss their career objectives, reasons for wanting to be in the program, and general attitudes toward work. I usually have had past experience with these students but in some cases find it necessary to contact other teachers and guidance personnel in order to obtain background information on potential students. They type of student allowed in the program is very important to the continued success of the agribusiness option.



Effective occupational experience in sales and service keeps one abreast with changing technology.

Maintaining the Program

After you have managed to get the program started, it then becomes a matter of maintaining and constantly trying to improve it.

1. Keep the in-school instruction basic to the needs of all students.

2. Place a major emphasis on such areas as current agricultural career opportunities, techniques on obtaining a job, human relation skills, good work attitudes, and general business procedures.

3. Use resource persons, field trips, and student involvement of on-the-job situations as teaching methods in keeping the class relevant and interesting.

4. Continue to locate new training stations and improve existing ones.

5. Remain flexible. During times of poor economic conditions and high unemployment, it may be necessary to provide some on-the-job training at school. I have attempted with some success to simulate an agribusiness at school by forming a student cooperative. Students have gained experience in such business areas as management, supervision, budgeting, salesmanship, advertising, and the actual production of agricultural products that could be made in the school.

6. Anticipate future trends.

Another current trend in our society is the increasing use of computers. If we can provide instruction in the use and operation of computers; hopefully, we can increase the student's career opportunities in a highly competitive job market.

On-the-job training may need to be provided at school particularly in times of poor economic conditions in a community. (Photograph courtesy of Brenda Schultz, Chisholm High School, Route 4, Box 88A, Enid, Oklahoma 73701.)

Summary

I have related some of my experiences and ideas on the development of a sales and service program. Now, more than ever, it is vital that we as agricultural educators justify the necessity of our program. Since the publication of the President's commission on public education, *A Nation at Risk*, I have seen the signs of a dramatic shift toward academic courses at the expense of vocational offerings. Students are being required to take additional courses in math and science which will make it increasingly difficult to fit vocational agriculture into their schedules. One of our most powerful justifications for opposing this development is the continued use and broading of the supervised occupational experience programs in all areas of agriculture.

THEME

Supervised Work Experience: A Must for Post Secondary Programs

By Robert M. Schneider

(Editor's Note: Dr. Schneider is a Professor of Agricultural Mechanization at Western Kentucky University, Bowling Green, Kentucky 42101.)

In 1972, Western Kentucky University agreed to cooperate with the Kentucky Farm Power and Equipment Dealers Association in the establishment of a post secondary agricultural mechanics educational program for the development of parts and service department midmanagement personnel. The parties agreed that it would be impossible for the University to provide all of the experiences the students would need. This started an educational partnership that has continued to grow for 12 years.

This partnership is a three phase educational program. The first phase consists of two semesters of classroom and laboratory instruction, in the University setting, on basic theory and skills development. The students also take introductory courses in business management and communications. The second phase is a 10 week supervised work experience period in which the students work in a dealership. The students are required to work a minimum of 40 hours per week for a minimum total of 400 hours. During this period, the students receive 4 hours of credit from the University and at least minimum wage from the employer. For the third and final phase, the students return to the University for two more semesters of formal instruction in diesel engine repair, transmission and final drive repair, farm machinery management and repair, and additional business management courses. Upon successful completion of all three phases, the students will have earned a minimum of 69 semester hours of university credit and an associate degree.

SOEP — A Major Strength

The supervised work experience phase has proven to be one of the major strengths of the program. During this 10 week period, the students have the opportunity to apply some of the skills developed at the University as well as learn new skills. As it is impossible for institutions to expose the students to all segments of a changing agricultural industry, the students are generally involved with many areas with which they are not familiar. This requires logical thinking, transfer of principles, and the development of new skills. It is during this phase that some students first learn to appreciate the basic skills and principles taught in their institution.

University courses covering the management of parts and service departments must be somewhat theoretical and hypothetical. While guest speakers and field trips to dealerships help to bring this component of the program into reality, none of these can fulfill the educational objectives as well as actual working experience in a parts or service department. Only as a student makes sales, writes sales tickets or enters the information into a computer system, reorders parts, stocks newly received parts, computes markup, services, warranties, and other sales activities can this student truly experience the interrelationship of this portion of a business to the total business operation.

Customer relationships and the importance of this in a business is another area that cannot be completely taught in a classroom or laboratory setting. Many of the students have farm backgrounds and thus have had experience with the immediate need for replacement parts for farm machinery. However, being placed on the other side of a parts counter and facing the dilemma of attempting to meet all customer's requests, yet maintaining a reasonable inventory, is a new and awakening experience for the students.

Securing Work Experience

Although faculty members are available to assist the students in obtaining work experience positions, they are encouraged to seek this employment on their own. This experience, in itself, is an educational activity. Prior to this period, several hours of seminar time are devoted to resume preparation, interviewing techniques and other job seeking activities.

In this program, the supervised work experience phase is

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at the mid-point of the student's formal education. Two semesters have been completed and two semesters remain to be completed. This sequence has proven to be an ideal time for each student to critically evaluate previously established professional goals.

While most find that the supervised work experience phase tends to confirm earlier decisions, some decide to make career changes. Several students have changed their goals to seek employment with the major farm machinery companies as a district or territorial manager. The majority of these positions require a 4-year B.S. degree. Therefore, the student, with the assistance of a faculty member, must modify his or her educational plan. Fortunately, in this program, all courses taken for the 2-year Associate Degree are applicable towards the 4-year degree.

Any educational program must be concerned about the placement of its graduates. While no long-range commitments are made between the employer and the student during the supervised work experience program, this has proven to be an ideal time for each party to evaluate the other for a possible long-range relationship following the last two semesters at the University. Even if no long-range employment does develop, the confidence and contacts the student has developed help significantly in future employment.

Another major value of the supervised work experience program becomes visible as the students enter the third phase of the program, the last two semesters at the University. Courses taken during this third phase become an extension of the activities and experiences the students had during phase two. In the technical skill area, the students may relate new skills to past experiences and, in some instances, demonstrate or explain to other class members how a specific problem was solved during the work experience phase. Advanced management classes may help explain why the manager made certain managerial decisions during the student's work experience program.

Routine maintenance is performed to reduce breakdowns and obtain efficient use. (Photograph courtesy of Ralph Odell.)

Supervision

During the 10 week supervisory work experience phase, each student is visited by a University faculty member at least three times. The first visit is normally during the first week of employment. This visit is used to complete all work agreement forms and to discuss the educational objectives of the period. The second visit is scheduled near the mid-point of the period. The final visit is normally near the end of the contract period. Although the faculty member normally visits with both the student and the employer during each trip, extra time is scheduled with the employer during the final visit to discuss the grade the student will receive for the 10 week period.

Rewards

This close working relationship between the agricultural equipment dealers and the University faculty has proven to be beneficial to both parties. The University professors benefit by being able to see current problems as they exist in the industry, are able to pick up trends taking place, and, in general, maintain current awareness of the agricultural equipment industry. The contacts made through supervised work experience supervision, advisory committees, and other contacts have enabled faculty members to attend specialized schools and workshops conducted by machinery companies. The University has also benefited through numerous contributions and donations made to the program by the industry. This includes scholarship funds, components of farm machinery for teaching aids, computers and computer software, microfiche readers and microfilm files, and financial assistance in the development of new teaching facilities.

In return, the liaison system resulting from the relationships of the supervised work experience phase has enabled the University to assist the industry in several ways. First, the industry has ready contacts for seeking new employees. In addition, several inservice schools have been conducted for current managers and/or employees of machinery dealerships. The combination of direct one-on-one dealership contacts and the advisory committee has provided an important avenue for the dealers to make valuable input into the curriculum of the program. Obsolescence is a problem to be faced by educators as well as by the agricultural industry.

Summary

The supervised work experience built into the post secondary agricultural mechanization program at Western Kentucky University has been essential to the success of the program. While initially developed to provide student experiences that were impossible or impractical for the University to provide, many other benefits have resulted. As University budgets of post secondary and higher education institutions remain tight and agricultural technology continues to change, supervised work experience programs will continue to play an increasingly significant role in the education of the young men and women for the agricultural industry.

ARTICLE

Business and Vocational Education . . . Marriage For The Future!

By John A. Conrads

(Editor's Note: Mr. Conrads is General Service Manager for Deere and Company, John Deere Road, Moline, Illinois 61265. This is an edited speech given to the Agricultural Division of AVA in Anaheim, California, on December 3, 1983.)

I am, indeed, pleased to be here this morning . . . to be among friends. We are all involved in America's biggest and most important business . . . farming. This fact is often overlooked by otherwise well informed people. Last night someone related to me that someone in our government in Washington had remarked that he couldn't see all the importance of farming because he could buy all the food he wanted at the Safeway Store. That man has real problems with the understanding of logistics . . . sad!

This man . . . and many more like him . . . also doesn't understand that our farm exports go a long way toward our balance of trade. With diminishing exports in almost every other sector, our farm exports take on ever greater importance.

So much for a preface to our main topic . . . partnership between vocational training and business. I believe this partnership is vital to both business and the vocational training function. The most intimate partnership in this world is marriage. I, therefore, want you to think with me in terms of a "marriage" between business and vocational training and I will take on the role of a marriage counselor.

We all know that marriage partners repeat marriage vows and those important words "I do!". But, in a "real world" situation each partner also makes another unspoken vow that goes something like this: "Now that we are married, I am going to change certain things about him/her." This seemingly harmless approach always leads to conflict. But marriages were not made to produce conflict. Marriages were made to resolve conflicts and provide a maximum of support of one partner to the other to give mutual benefits. It is my company's policy that all dealings with employees, dealers, customers, suppliers, and other organizations must be one of mutual benefit.

Obviously, I cannot hope to resolve all issues today, but I will make an honest and frank attempt at relating some thoughts on the ingredients for a successful marriage between business and vocational education. First of all, we have to acknowledge that the United States is the only industrialized nation in the world that does not have a government mandated apprenticeship or vocational training requirement for skilled trades. Certainly, I am not clamoring for more government control. All I am trying to say is that our voluntary system has the ingredients for duplication of support, and problems with proper image. Peter Drucker has properly observed that "We educate too many, and train too few." Yet, the need for trained individuals is enormous.

Let's then analyze the mission and function of vocational training. First of all, we must educate and train members of our communities to acquire skills that are desired by business and industry. These skills must be at a level that enables the graduated student to get and hold a job. Second, we must be prepared for more adult education . . . to train and retrain members of the nation's workforce that no longer have the skills in a rapidly changing job market.

This leads me to the age-old discussion of the difference between education and training. Here are my definitions: Training is the development of certain skills that require a great deal of physicial activity or dexterity. Education is the instilling of knowledge that serves as a background for adequate perception and understanding of a multitude of functions, but it generally doesn't require a continuous acting out. Good examples would be studies in history, geography, philosophy, etc.

Most vocational schooling is a combination of both, and adequate education is a vital prerequisite for training. Flaws in education in grade schools or junior high schools will adversely affect the effectiveness of vocational schooling. The technician in the agricultural mechanics program, for example, needs both education and training. To be able to dismantle an engine and put it back together would require only training. But to be able to diagnose problems and make proper decisions on the reasons for failure require extensive education in the function and operation of an engine. Similar combinations of training and education are required in the schooling of nurses, secretaries, etc. Other trades — like typing, bricklaying, welding, etc. — require, primarily, training with only little specific education beyond that which was already acquired in previous schools.

All of these assumptions are only valid if proper educational groundwork was laid in grade schools and junior high schools. Of course, some of us have some doubts about the quality of basic education. All too often vocational schooling is adversely affected by "holes" in basic education, and is called upon to provide remedial math, reading and writing. This is a sad state of affairs; both costly and totally unnecessary. Perhaps Peter Drucker was right when he remarked that "only a very rich nation can afford this wasteful educational system."

I believe we need to make our voices heard to help correct these deficiencies so you will have more time available for truly vocational subjects. Recent studies conducted on the proficiency of students aged 10-16 revealed that Japanese children rated no. 1 and U.S.

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children rated no. 17! That should give us food for thought; but not only food for thought, more importantly, a national will to change and improve.

Now, let us look at the expectations that business has. Obviously, marriage partners always have high expectations of each other. The ideal service you can provide to business and industry is to prepare students in such a way that they can fill a vacancy in business without additional training. I am enough of a realist to know this is not always possible, but your graduates must be sufficiently schooled to become productive members of the skilled workforce in a relatively short time.

As an example, let us again address the agricultural machinery technician. It is just not enough to teach him/her to troubleshoot and repair a machine. The student must also be taught that the real world expects him/her to be punctual, tidy, friendly, cooperative, organized, well-groomed, etc. and, there are two more very important points — he/she must learn that the customer must be treated with courtesy and respect, and that work must be completed expertly and in as short a time as possible. In short, business wants an employee who can, and will, perform at a high skill level and a high personal (character) level. I believe that most managers would agree with me that the personal conviction and experience that has prompted me to say on numerous occasions: "Give me an employee that has character, and I can teach him/her the rest." Also, a person with good character traits is a good candidate for good wages and future promotions.

I believe Will Rogers knew something about the value of character when he said, "You never get a second chance at making a good first impression." It's important that your students clearly understand this.

Now, let's turn the tables for a moment. What should vocational schooling expect from business and industry? I believe business should be involved on advisory boards to provide guidance on curriculum. Business should offer training opportunities for vocational instructors. This year I have advised all ten regional Deere training centers to provide at least one week of training for vocational instructors. Already, there has been an excellent response to this approach.

Business should also have an open-door to allow vocational classes to visit business and get a first-hand view of what business is all about. Business should provide speakers or workshop leaders to work with vocational educators toward common goals and mutual benefits.

Business should also concern itself with the high cost of training equipment and provide expensive training aids at reduced prices or on a loan/lease basis. Deere has made extensive efforts to provide reasonably priced training material, and is also making numerous donations of machinery components. We will further review our policies to provide even greater assistance.

Business, through its local dealers or distributors, must provide opportunities for work-study programs for students. Business also has the responsibility to provide honest feedback on the performance of former students. This gives the vocational teacher some good tips that may lead to changes and improvements in the curriculum.

Business must also make every reasonable effort to support vocational training through business associations and their actions and resolutions. Through the good offices of our executive vice president, Mr. Boyd Bartlett, the following resolution was set forth by F.I.E.I. (Farm Industrial Equipment Institute):

"Be it resolved that the Farm & Industrial Equipment Institute strongly supports education and training of persons at community colleges and vocational technical schools in the general field of agricultural mechanization. The graduates of these programs often become valued employees of dealerships and are essential to maintaining the productivity of agriculture and construction industries. Further, we strongly endorse and encourage representatives from our member companies to continue to serve on the boards of the schools, help recruit people to attend, provide or assist in obtaining training materials, actively seek public endorsement of the agricultural mechanization programs, and to promote funding (private and government) of these schools, as a means of providing technically qualified manpower to fill the many job opportunities afforded by our industries."

Resolutions in themselves are not action, but they underscore the sincerity of effort, and we need sincere concern for the future of vocational education and training.

Above all, just like in a healthy marriage, we have to talk to each other to understand each other better. We have to work together toward positive results that are of mutual benefit. We have to learn to build flexibility into our relationships. There has to be "give and take," and healthy compromise that still assures progress.

Vocational training institutions and their administrators and instructors have to be alert to scientific, technological and societal changes. The mission of vocational training is constantly changing and at an ever increasing rate. Often, new demands seem to come from all sides and we can ill afford to fall behind. Mr. Fred Hileman, former director of service of Deere & Company, made the following statement over ten years ago — "To service today's product with yesterday's methods means a doubtful tomorrow." That wisdom holds true today.

One of the changes that is coming at us in the retraining of adults who have to acquire new skills due to changing job market demands. Dr. Otto, the head of German vocational education, confirmed that 30 percent of their efforts are directed to the retraining of adults that are displaced because their previous skills are no longer in demand. This new trend dictates innovative approaches to teaching and learning. Highly specific course content is needed, and it must be accompanied by highly efficient and effective teaching methods. This obviously demands that teachers keep their skills honed at all times. "A teacher who is behind can't lead his/her students ahead."

Let us look at more changes. Our statistics reveal that over 20,000,000 American adults are functionally illiterate. That's a sad statistic which cannot be justified. But, we are seeing another similar form of illiteracy: some of our prime employees have been bypassed by emerging technology, more specifically, by the advent of the computer.

For a while we have called this age "The Space Age." That may well be true. But, space exploration has a minimal effect on the average American. More important are the effects of the "computer age." In the computer age, changes come on with lightning speed and little warning.

Let us look at the graphics and printing trade. Since Johann Gutenberg invented printing about 400 years ago, there has not been a real breakthrough in printing technology. To be sure, machines have taken over where human labor was once required, but typesetting was by and large a hand operation, and cut-and-paste methods of manuscript preparation were the rule. Within a few short years, this business has been completely revolutionized by the computer. At Deere & Company we saw this technology develop, and we got in on the ground floor by investing over $2-million in highly sophisticated print make-ready equipment. In less than three years, our entire publication business changed and left some of our valuable older employees temporarily out of touch.

Schools have to anticipate these changes with us, and get prepared in time. Not only do vocational schools have to teach computer application, they have to embrace computer-aided instruction as a means of enhancing both teaching and learning efficiency. I know that many of you are already using computer-aided instruction, but I believe we have to do more of it.

The airlines are actively using control data's "Plato" system to keep flight crews up-to-date, and to test their knowledge and skill. We have to head into the same direction. Deere is actively investigating where we can be of assistance. You will hear of our activity within the next year, providing the farm equipment business improves.

I will be first to caution you that the computer is not for everything and everybody. We must not become computer addicts (a new and real disease). Much evaluation and management is needed to effectively employ computer power. Let us not fall into a trap like we did with modern math.

I am sure you are aware that computers can pose a real threat to managers and teachers alike, particularly those who find change a difficult process. I have even felt intimidated by the computer. In fact, when we implemented our computerized publication system I could truthfully say that this was the first time where I managed a group of people and I did not really know what they were doing! Maybe that is a bit overstated, but there is a lot of truth in it at the same time.

We know that businesses go broke when they fail to embrace systems that improve efficiency. Schools will likewise go broke, lose support and funding, if they continue to use archaic methods that do not produce a graduate for today's job environment. I believe that good computer programs will allow students to learn better and faster by interaction in computer exercises. The computer may even be considered less threatening and more friendly for the marginal or shy student. "Fascination may lead to real motivation."

The computer will also free the teacher from many routine chores, and provide opportunity for more personal attention to students who need a little extra help. In John Naisbitt's book, *Megatrends*, there is a chapter on "High Tech — High Touch." The idea is that high technology has a tendency to alienate people. Therefore, "High Touch," the personal involvement, is required to provide proper balance.

The computer will also open a whole new era of student and teacher evaluation. We can all agree on evaluating the student, but teacher evaluation may make some teachers a bit nervous. But, believe me, those of you who are in touch with reality and are constantly working on self-improvement need not fear teacher evaluation. I am reasonably certain, however, that school boards will demand that teachers on their payrolls are effective. Businesses are constantly evaluating their managers. Why shouldn't school boards or school administrations do the same for their teaching staff?

I believe that improvement of our entire educational system has to start with each of us individually. Perhaps John Ruskin, the British writer, summed it up best when he remarked: "If you want to rid the world of one rascal, improve yourself."

It is definitely a time of change. But changes bode well for vocational education in general. The requirement for well-trained people will increase. Also, keep in mind that over 80 percent of all operators of small businesses do not have a college education, but all of them could benefit from vocational education. The requirement for well-trained technicians will remain high, particularly in view of the ever-growing complexity of equipment and the introduction of more electronic functions. John Naisbitt points out that so much modern electronic equipment stands idle because we don't have the service expertise in the marketplace.

We all know that the post World War II era was characterized by a trend to send everybody to college. The trend has peaked, but many parents still push their children toward college because a college education supposedly opens the door to the good life. The reality of the job market is far different, and many college-trained people are looking for a job while skilled trade positions cannot be filled.

A few years ago there was an article in *Reader's Digest*, under the title of "My Son, the Carpenter." This most interesting article portrayed a family of college-trained individuals. Much to the horror of his parents, one of the sons refused to go to college. He wanted to become a carpenter. The family was crushed, and there were inferences that the carpenter son was bringing shame to the family. The story has a happy ending because the family has to admit that the carpenter son has found his niche in life. He is well adjusted and noticeably happier than some of his college-trained siblings. That real-life story has a message. We have to work as partners to make skilled trades a respectable occupation — yes, a vocation . . . a calling.

Quoting Peter Drucker one more time, "All of us can do only one thing very well." Yes, we can do some things reasonable well. Isn't it a shame if parents force a child to become a doctor — probably a poor and frustrated one — when the same individual could have become a happy carpenter, or fertilizer salesperson, or an expert agricultural machinery technician. There is a quote that goes something like this: "A society that admires philosophy because it is a lofty profession, and despises plumbing because it is a lowly trade, will probably have shoddy philosophy and all their pipes will leak." I guess that's pretty well put.

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Business and Vocational Education . . . Marriage For The Future!

(Continued from page 11)

Let me leave with you one more challenge. We have to work toward a degree of standardization in vocational training. I believe it would be a real advantage if students from Delaware to California, and all the states in between, would be trained to a similar standard of proficiency. I strongly believe that it would serve our mutual cause.

Well, we are in this together. Together we can rise or fall, live or die, succeed or fail; and we never want to fail. The secret to our mutual success may well lie in the way we feel about each other. We need to feel comfortable with each other. So, let's stay in touch.

On my way to this meeting, I saw a bumper sticker on a car in the Disneyland parking lot with the well-known question: "Have you hugged your kid today?" It may seem trite, but I'll ask you anyway! "Educators, have you hugged your businessperson today?" "Businesspeople, have you hugged your vocational educator today?"

I firmly believe we can succeed in our efforts if we are in touch with each other every day; people talking to people. That's what it's all about. That leads to mutual benefit. Let's make ours a successful and long-lasting marriage!

THEME

Organizing Placement Programs

By Rick Foster, Randy Connot and Sue Register

(Editor's Note: Dr. Foster is an Associate Professor and Ms. Register is a Graduate Assistant in the Agricultural Education Department at the University of Nebraska; and Mr. Connot is a Vocational Agriculture Instructor at Lincoln Northeast High School, Lincoln, Nebraska 68583.)

Any baseball player will tell you, you can not score a run unless you have touched all the bases. So it is with the placement program in the local vocational agriculture department. If all the planning and coordination bases are not tagged in implementing the placement experience, the chance for student success can be greatly reduced.

Approximately 23 percent of the nation's workforce is actively employed in the agricultural industry. Since less than three percent are in farming and ranching, the other 20 percent are employed in the various supply, service, and processing occupations that support production agriculture. It is this area that will continue to expand as our actual on-farm population continues to decline.

Many of our vocational agriculture programs have been (and still are) production oriented, so less thought and preparation has gone into effective planning for placement in agribusiness programs. However, when one looks at the opportunities available in production agriculture and those available in agribusiness, it is obvious more attention needs to be given to placement in agriculture and agribusiness as a viable alternative for a supervised occupational experience program. A placement program is also an excellent way to show students not raised on a farm or ranch how vocational agriculture can be relevant to them.

The bases that should be covered to maximize the chances for a successful placement experience are described below and in the accompanying photographs. The key people involved are the student, the employer, the parents, and the vocational agriculture instructor.

The Process

The first step is always the establishment of a strong classroom program of vocational agriculture. There is no substitute for an enthusiastic and knowledgeable instructor. Though the instructor has to teach more than cows and sows, a solid background in production agriculture is needed by students interested in agribusiness so they can speak the farmer's language. Curriculum emphasis on agribusiness, management, and skills for getting employment should be included to make students aware of the opportunities available, as well as how to prepare for entry into employment. Several curriculum guides on employment in agribusiness are available to assist the instructor.

A placement program solely for the purpose of earning money is certainly not a supervised occupational experience program. Career counseling is essential. The instructor needs to be aware of the occupational goals of the student if proper classroom content is to be taught and proper placement opportunities are to be made available. This can be accomplished through interviews with the student and parents and through interest surveys and aptitude test administered by the school counselor. By addressing career interests and goals, the placement experience becomes individualized and truly vocational to that student.

Many times, the businesses utilized as training stations are those that have supported the vocational agriculture program all along. The instructor's initial contact with the manager/owner usually secures the site as a possible placement center. The instructor will generally describe what the vocational agriculture placement program is about and explain the role of the business as an educational arm of the school system. The instructor will also describe the role of the employer in the hiring/interviewing process as well as the actual training responsibilities. The instructor must be sure the employer understands the legal implications and the supervisory function of the manager of the business and the vocational agriculture instructor. An understanding must be reached that the student is there to learn and a prescribed plan of gaining quality employment experiences must be followed. The student will not be there to simply push a broom for an entire semester. Naturally, the employer needs, above all, to positively reinforce the student while on-the-job.

The Training Plan

The student must assume the responsibility of preparing for the job interview and securing the position. After the placement has been arranged, the formulation of a training plan is the next step. The student, through close collaboration with the instructor and the employer, should formulate a realistic training plan. The student needs to realize that the employer will probably be much less sympathetic to the student's extra-curricular activities than if the student worked at home.

The plan should be comprehensive in scope and represent a wide range of employment skills and responsibilities. The employer should provide input about which of the training plan items are possible on-the-job and which may be obtained in school. The instructor and the employer need to be aware of the safety of the student as the training plan is developed. Parents need to be informed of the training plan development and given opportunity for input.

When the training plan is complete; the student, parents, employer and the instructor should review the final document and sign an agreement listing the conditions of employment so there will be no misunderstanding at a later time. The student should also keep and maintain an approved set of employment records indicating wages and expenses associated with the job, as well as employment experiences and achievements. Records of SOE placement programs are just as important as records kept for SOE production programs.

Learning/Evaluation

As the student starts to work, the instructor must provide related classroom instruction or provide a means for the student to gain additional information that supplements on-the-job training. Instructor supervision is extremely important as well. Supervisory visits to the placement center need to be coordinated with the employer so they do not disturb the normal business of the training station. Periodic employer-student-instructor conference will prove valuable in addressing any problems or misunderstandings as they arise.

Evaluation should be carried out both during and after the training experience. The employer should evaluate the entire placement experience and provide the instructor suggestions for improving the program. The instructor and the employer should evaluate the progress and performance of the student during the entire experience, not only to identify additional career related experiences that would be beneficial to the student, but also for the assignment of a grade and for subsequent letters of recommendations for employment. The student will evaluate the placement center and offer a recommendation regarding the use of that placement center in the future.

Another important component of any placement program is the inclusion of leadership and achievement incentives through the FFA. Several opportunities exist for awards and recognition on the local, state and national level. Students should be encouraged to apply the wide variety of FFA Proficiency Awards that are specifically designed for agribusiness SOE programs. They should also be encouraged to apply for advanced degree programs such as State Agribusiness Degrees and American Agribusiness Degrees and participate in leadership contests that might be beneficial in meeting their career preparation goals.

Successful placement experience depends on the completion of each of the component steps. To effectively implement such a program of experiences requires full cooperation and understanding of all parties involved. If one party or one step in the process is left out, the placement experience loses some of its chances for success. Vocational agriculture students can gain big dividends through the placement SOEP if these important considerations are followed.

Pre-placement interviews with employers allows the instructor to clearly define the program as well as the role of the placement center. (Photograph courtesy of Sue Register, University of Nebraska)

A well prepared student will find the employment interview a rewarding experience. (Photograph courtesy of Sue Register, University of Nebraska)

ARTICLE

Agribusiness Placement Students — What Are They Like?

By David A. Pilgrim
and David L. Williams

(Editor's Note: Mr. Pilgrim is a Graduate Research Assistant and Dr. Williams is a Professor in the Department of Agricultural Education at Iowa State University, Ames, Iowa 50011.)

Vocational agriculture is unique to education in that specific methods are employed to make learning more efficient and meaningful for students. Classroom-laboratory instruction, the Future Farmers of America (FFA), and supervised occupational experience (SOE) are components of a vocational agriculture program used as teaching tools in helping students achieve their occupational objectives. Through the use of these teaching tools, students have the opportunity to gain real-life experiences through hands-on activities (Supervised Occupational Experience Handbook, 1982).

The teaching method that has been specifically designed for the needs of students seeking practical experience in agriculture other than farm-oriented occupations is agribusiness placement SOE. These programs are often known as cooperative vocational education in agriculture and involve the employment of high school students in agribusinesses within their chosen occupational fields. Typically, students participating in agribusiness placement SOE programs spend a half day in vocational agriculture and other classes at school and a half day at their employment training stations.

Vocational agriculture students may choose from a number of experiential learning options. Why students elect to enroll in agribusiness placement SOE programs led to the formulation of the following questions: 1) What are the characteristics of Iowa vocational agriculture students selecting agribusiness placement SOE programs? and 2) What are the environmental and programmatic characteristics of agribusiness placement SOE programs as conducted by these students? The answers to these and other questions were sought as part of a research project conducted at Iowa State University (Pilgrim, 1983).

Procedures

Through teacher contact, a random sample of 150 high school students, representing all Iowa vocational agriculture departments with at least six junior and/or seniors participating in non-farm agribusiness placement SOE programs during the 1981-82 school year was identified. All teachers from the twenty-two schools meeting the population criteria participated in the study by administering the research instruments as part of their regular vocational agriculture curricula.

Upon inspecting the returned questionnaries, it became evident that many vocational agriculture teachers had failed to distinguish between farm placement and non-farm placement students during the identification process. Since the study had been designed specifically for students with non-farm agribusiness placement SOE programs, instruments from other students were discarded. Improperly completed instruments were also discarded. The remaining seventy-eight instruments (52 percent) were used in the analysis.

Findings

Students were involved in several different general areas within the agribusiness industry. Their choices of placement within these areas may have been influenced by their introductory occupational experiences. Ninety-one percent of the responding students had an SOE program of another type prior to their participation in an agribusiness placement SOE program. The remaining nine percent indicated that they did not have prior formal occupational experience in vocational agriculture.

Previous Types of Student SOE

Table 1 shows the number and percentage of students who participated in different types of SOE prior to their participation in agribusiness placement SOE. Many of the students participated in more than one type of SOE while enrolled in vocational agriculture. Slightly over half of the students had SOE programs involving the raising of animals and/or crops. Similarily, fifty-three percent of the students worked on a farm other than their home farm. School laboratories were used by forty-four percent of the students to obtain occupational experience at some time in their vocational agriculture education. Interviewing and observing people working in agriculture and other types of exploratory experience accounted for eighteen percent.

Table 1. Types of SOE students participated in prior to agribusiness placement SOE

Previous Types of SOE	No.	%
Farming Programs	44	56
Farm Placement	41	53
Laboratory Experience	34	44
Exploratory Experience	14	18
No SOE	7	9

Characteristics of Agribusiness Placement SOE Programs

In seeking occupational experience, students were placed with agribusinesses that ranged from feed mills and implement dealers to veterinary clinics and agricultural media. Table 2 presents the number and percentage of students participating in agribusiness placement SOE according to type. The largest percentage of students (thirty percent) were placed in agribusinesses classified as agricultural sales and service. Those firms engaged in agricultural mechanization were a close second with twenty-eight percent of the student participants. The third place position was not so closely contested as the category of other agriculture involved nineteen percent of the students. Agriculture products and horticulture completed the list with fourteen and nine percent respectively. It should be mentioned, however, that no horticulture participants were placed in the area of floriculture. The remaining categories of natural resources and forestry were unrepresented.

Table 2. Characteristics of agribusiness placement SOE

Characteristics	No.	%
Type of Agribusiness Placement SOE	23	30
Agriculture Sales and Service	22	28
Agriculture Mechanics	22	28
Agriculture Products	11	14
Horticulture	7	9
Other Agriculture (Professional)	15	19
How Ag. Bus. SOE Obtained:		
With teacher assistance	27	35
Without teacher assistance	51	65
Mean No. of Months in Ag. Bus. SOE:		
With present employer	15	—
With all employers	17	—

Other characteristics of students agribusiness placement SOE programs that should be considered include how students obtained their agribusiness placement SOE programs and the length of their participation in such programs. Approximately two out of every three students obtained the training station for their agribusiness placement SOE program without the assistance of their vocational agriculture teacher. Most students had worked for only one firm as the mean number of months that they had been with their present employer (fifteen months) was only two less than the mean number of months for involvement with all employers (seventeen months).

Personal Charcteristics of the Students

Table 3 summarizes additional information about the research participants which should be considered in a study of students' agribusiness placement SOE programs. Only thirty-seven percent of the students lived on a farm. Over seventy percent of them completed at least three years of vocational agriculture and ninety-four percent were Future Farmers of American (FFA) members. At least the chapter farmer degree had been earned by nine out of every ten students. In addition, thirty-two percent had received an award for the success of their agribusiness placement SOE program. Star agribusiness and proficiency areas made up the majority of these awards. Very few awards for judging contests were listed by students.

Over three-fourths of the students eventually planned to enter an agricultural occupation. Among the fifty-one percent with a future interest in agribusiness, at least four out of every ten reported that employment in an area of agricultural mechanics was their occupational choice. Although it was shown earlier that thirty-seven percent of the students lived on farms, only thirteen percent of all the students planned on farming. Those students who were undecided or planned to enter a non-agricultural occupation accounted for almost one-fourth of the respondents.

Table 3. Personal characteristics of students

Characteristics	No.	%
Home Location:		
Farm	29	37
Not on farm	49	63
Years Enrolled in Vo-Ag		
Less than three years	23	29
Three years or more	55	71
FFA Participation		
Highest FFA Degree Earned:		
Iowa Farmer	10	13
Chapter Farmer	60	77
Greenhand	7	9
No FFA degree earned	1	1
FFA Award for Ag. Bus. SOE	25	32
Future Occupational Plans:		
Agribusiness	40	51
Unspecified area of agriculture	11	14
Farming	10	13
Non-agriculture or undecided	17	22
Immediate Post-High School Plans:		
Attend four-year college	32	41
Attend area school or community college	15	19
Work for present ag. bus. employer	16	21
Farming	3	4
Other employment or self-employment	12	15

A majority of the students (sixty percent) indicated they planned to pursue additional formal education immediately after high school. Of these juniors and seniors, about two out of every three planned to attend a four-year college or university. Among the group of students planning on immediate employment or self-employment after high school, slightly over one half anticipated that they would continue working for their present agribusiness placement SOE employers. Only four percent of all the students planned on entering farming after high school graduation.

Conclusions and Implications

1. Only thirty-seven percent of the students lived on a farm and a mere thirteen percent planned on eventually entering farming. In situations of this nature, agribusiness placement SOE should be emphasized in the vocational agriculture curriculum. Accordingly, the fact that over half of the students had supervised farming and/or farm placement programs as previous types of SOE might be mistaken as an indication of poor occupational guidance. However, since many students seeking employment in agribusiness will interact with farmers, vocational agriculture teachers should continue to encourage their students to obtain production agriculture experiences prior to participation in agribusiness placement SOE programs.

2. Supervised laboratory experience prior to participation in agribusiness placement SOE was reported by forty-four percent of the participants. This finding suggests a need for teachers to activate non-school community resources for student preparation or that resources needed to accommodate students' interests are not readily available in the community and must be provided by the school.

3. Almost one-fourth of the students were undecided about their occupational plans or planned to enter a non-agricultural occupation. Eighteen percent of the students participated in supervised exploratory experience in vocational agriculture and nine percent had no previous SOE. Enrollment in vocational agriculture for less than three years included twenty-nine percent of the participants. This information suggests a need for vocational agriculture teachers and guidance personnel to help students set occupational goals and develop the educational plans to reach them.

4. Four out of the seven general types of agribusiness placement SOE were represented by ninety-one percent of the students. No students were placed in natual resources or forestry occupations. Perhaps this indicates the distribution and/or the knowledge of employment opportunities within these areas. Vocational agriculture teachers should assist students planning on participation in agribusiness placement

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SOE in determining the training stations available in their own communities that correspond as closely as possible to students' occupational interests.

5. Almost two-thirds of the participants located the training stations for their agribusiness placement SOE programs without the assistance of a vocational agriculture teacher. The majority of them were placed with only one employer. The average number of months for training with all employers was seventeen. Information of this nature suggests that vocational agriculture teachers need to take more active roles in assisting students in achieving variety of experiences and perspectives in their occupational areas over sufficient periods of time.

6. Virtually without exception, students participating in agribusiness placement SOE programs were members of the FFA. In addition, ninety percent had earned at least the chapter farmer degree. This indicates that the integral relationship of the FFA and agribusiness placement SOE is recognized by teachers and students. Approximately one-third of the students had received an FFA award for success in an agribusiness placement SOE program. Although this amount of recognition might appear to be appropriate, star agribusiness and proficiency areas made up the overwhelming majority of awards. Increased participation in judging and other contests related to their agribusiness placement SOE programs would provide even greater numbers of students opportunities for learning and recognition.

7. Almost one-fourth of the students planned on eventual employment within the area of agricultural mechanics. This figure is fairly consistent with the number of students participating in agribusiness placement SOE programs related to this area. Unfortunately, no evidence for this type of balance was present in other agribusiness areas. A close relationship between type of agribusiness placement SOE and occupational plans is needed in providing optimum occupational preparation for all students.

8. Seventy-eight percent of the research participants planned to enter an agricultural occupation. Six out of every ten students reported that they would seek additional formal education immediately after high school. Therefore, it is imperative that agribusiness placement SOE and other components of the vocational agriculture program be utilized to prepare students with such occupational and educational plans for entering employment at the post-secondary educational level.

SOE is an integral part of vocational agriculture. Students should have the opportunity to gain supervised experience in performing tasks and accepting responsibilities that prepare them for the agricultural occupations of tomorrow. Up-to-date approaches in making SOE reflect the nature of the present and future agricultural industry must be utilized. Students participating in agribusiness placement SOE are only one source of information in establishing effective agribusiness placement SOE programs.

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ARTICLE

SOEP — Making A Good Tool Better

Experience programs are powerful teachers. Israelsen (1979) found Utah teachers were not emphasizing the content that farmers said was essential or important. Utah senior vocational agriculture students who had supervised farming projects, however, were up-to-date. These students scored well on multiple choice questions focused on content that the farmers had rated highly. Farm background and college preparation were not sufficient insurance against teacher obsolescence in spite of an active in-service program. Students with supervised experience programs apparently gained significantly more practical knowledge than those without projects. How many vocational agricultural students enjoy this advantage?

By Gilbert A. Long

(Editor's Note: Dr. Long is Head of the Department of Agricultural Education at Utah State University, Logan, Utah 84322.)

Present Status

Almost one-half of the Utah teachers surveyed indicated that fewer than 75 percent of their students had SOE programs in 1982. Iverson and Brown (1979) found that nearly two-thirds of the vocational agriculture graduates in the South had not had occupational experience programs in any of the three years they were registered in vocational agriculture.

Heavier student loads, an increasingly diverse student population, a lack of commitment to experience programs on the part of some teachers, and the teacher union pressure for "extras" to be reimbursed have all been suggested as reasons for low levels of participation.

Dunham's Utah status study (1982) found significant relationships between percentage of student participation and: (1) teacher visits, (2) teacher tenure, (3) whether SOEP's were required, and (4) if they were graded. These four factors measure instructional commitment and are largely within the control of the teacher. None of these factors, however, totally controls student SOEP participation. The level of placement opportunities certainly affects student interest. Lack of continuity in state supervisor positions has eroded administrative support of experience programs. Utah is probably typical of most states in having a standard that calls for projects for students in vocational agriculture. The standard, however, is without teeth.

Career Choice

Of the 20 percent of Utah students who did not have a project, 58.3 percent indicated that they had no agricultural career goal. This is contrary to a Vocational State Board Program Standard in Utah. Teacher enforcement of mandatory SOEPs would eliminate students not preparing for an agricultural job. This would reduce teachers' load levels and enable them to give more help to sincerely interested students. The present compromise results in more dollars for the local district but erodes the unique contribution that experience programs can make in educating students for work.

A Discrepancy Between Goals and Opportunities

Eleven percent of 1977 Utah vocational agriculture graduates found full-time employment in production agriculture. Yet, 50 percent of the enrollees in 1982 had production projects. Realistic appraisals of job opportunities could help make experience programs more useful to students.

SOEPs Prepare Students for Work

Many of the students who most need vocational training require a competitive edge to obtain agricultural employment. Production agriculture cannot offer employment opportunities to all. Agribusiness opportunities are more numerous, but they often require prior experience. Participation in supervised occupational experience programs can then be a help in obtaining employment. An SOEP in work directly related to the student's career and occupational choice is much more valuable than any project in and of itself.

The interpersonal skills so crucial to success in any business are difficult, if not impossible, to teach. Simulation efforts, however, can approach reality. While experience within the specific industry that represents the student's career choice is ideal for learning interpersonal and other skills, there often are not enough good quality training stations.

A program that validly simulates experience programs needs to be tested, refined, and implemented. Only then can all students be sure of receiving job-relevant preparation for work. Simulations of greenhouses, land and animal laboratories, parts departments, and agricultural sales are needed.

Distributive educators habitually rely upon simulations rather than poor-quality training stations. It is time that agricultural educators explore this mechanism. Perhaps certain technical skills can be better learned through simulation than in a job setting. We need to treat training stations as a limited resource and a capstone in the total program.

Strategies to Improve SOEP

The capacity to think critically is developed, at least in part, by having students participate in the planning and organizing of their own learning. I suggest a more active role for each student in preparing objectives for his/her training plan. Too many students and too little teacher time limit the quality of many SOEPs in a way that can be ameliorated by more student input.

Teachers need to be aggressive in negotiating project management opportunities for students with production projects and discrete responsibilities in the case of agribusiness placements. Without such intervention, students from full-time farms often fail to have the management responsibilities characteristic of students from part-time farms, simply because the student's project enterprises are part of his/her parent's economic unit.

When and what to buy, ration decisions, breeding decisions, and health care decisions must be made by the students if they are to have a high-quality experience. Similarly, in agribusiness, teachers need to require SOEP participation (only 64% of Utah students surveyed in 1983 said they had been told of such a requirement) and grade the students. This is a more important issue than whether FFA should be required, and warrants more discussion than it has been given.

Supervisory emphasis upon released time for student experience program supervision should be renewed. Recent research strengthens our arguments for such supervision. Additional teacher time for SOEP development and supervision is especially necessary in urban vocational agriculture departments. Rural settings include home farms for large numbers of students. Good students who are active in FFA, from

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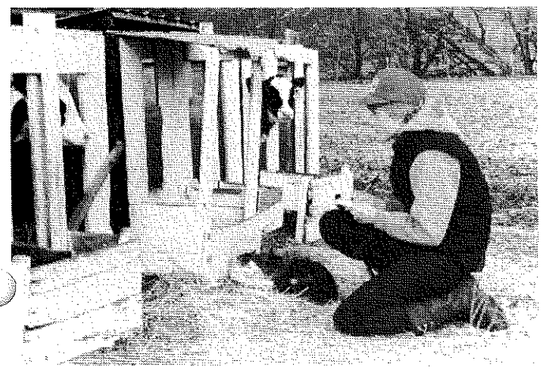

Animal management-health supervision requires SOEP experience.

Skill preparation begins in the classroom/laboratory for SOEP.

SOEP — Making A Good Tool Better

(Continued from page 17)

small communities whose parents are farmers, and who plan to go to college, have projects above a 90 percent level in Utah.

Less experienced students from cities, whose parents are not in agriculture have projects at a 60 percent level. Students from non-farm family backgrounds need laboratory experiences as a precursor to successfully obtain occupational experience. Too often they do not have that kind of simulation and training prior to their industry experience. Immature, inadequately prepared students sometimes cause a program to lose work stations.

Targeting Our Resources

I concur with the Northeast Region SOE Project recommendation that calls for definitive workload teacher expectations as an important precursor for strong SOE programs. Research in Utah indicates that more time and effort is required in urban settings if students are to attain participation levels that match those of rural programs. Administration personnel need to be made knowledgeable of that time differential.

A realistic teacher role together with sufficient laboratory space for entrepreneurial, group, and simulated experiences are essential if we are to provide supervised occupational experiences to all of the students who want them. Providing a quality experience for the typically heterogeneous group of students currently enrolled in secondary vocational agriculture programs is a challenge requiring teacher commitment, state staff support, and innovative use of laboratories, simulation, and work stations.

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ARTICLE

A Cooperative Learning Experience

By Ralph Odell

(Editor's Note: Dr. Odell is with the Thompson School of Applied Sciences at the University of New Hampshire, Durham, New Hampshire 03824.)

Education of young people is a challenging and often difficult job. Employability requires a proficiency of marketable skills, essential work habits and associated human development. Students today are faced with numerous personal, social, and physical limitations creating hindrances to their academic development. Educators are faced with greater obstacles such as limited financial resources and numerous time constraints. Innovative, cost-efficient ideas are needed to meet the educational needs of our future students.

Presently, 20 students (male and female) of the Thompson School of Applied Science cooperatively manage and operate a working farm with the income from the farm being used to decrease their living expenses. Students obtain practical experience, self-confidence and maturity, while obtaining an education. The long-range goal is to provide a living and learning experience for financially disadvantaged students, where they will receive a major portion of their college expenses. Students are able to apply classroom information to real life managerial problems and develop priceless skills.

The Thompson School of Applied Science is a two-year technical school offering Associate in Applied Science degrees in the areas of forestry, animal science, horticultural technology, food service management, business management, and civil technology. The Highland House Farm consists of 100 acres of which half are tillable and the remaining woodlands. The farm is broken into various enterprises with the students from each curricula in charge of daily and long-term management. The enterprises consist of cordwood which is cut and sold, horses which are boarded, livestock for student consumption, vegetables for sale and personal consumption, an orchard, hay for sale, maple syrup, Christmas trees, and several types of small fruits. The varying expertise of the students complements the production components of the farm.

The students live on the farm, prepare their own meals, do their own cleaning and as much maintenance and upkeep as possible. They shop for the best buys, can and freeze vegetables, and slaughter the animals from the farm. Energy conservation is a primary concern with wood heat, a windmill for supplementary electricity, and numerous water-saving devices. Soil/land conservation is practiced to its utmost in order to retain long-term financial benefits for the land.

Management

There is no outside funding for the project or budgeted income from the school. The farm is financially self-sufficient with the income from the farm being plowed back into farm improvement. The project is not a show place but a realistic working farm with financial pinches just like real life. Second-hand equipment is purchased and repaired rather than buying new. The best buy is always a goal, proper care and maintenance creates maximum return on our purchases.

The farm enterprises are directed by the seniors of the farm who in turn provide organization and basic instruction to the freshman. Farm problems are discussed with a farm supervisor who coordinates all farm activities and members of the school faculty. This organization provides basic instruction plus specific technical problems as they arise.

Weekly meetings are held by the students to discuss the needs of the farm and their living unit. It is an opportunity to find out what others are doing and their problems. Decisions need to be made, students must prioritize their efforts on the farm, their personal desires, and compromises made. The needs and desires of fellow students, customers, and the general public are voiced with decisions made by a majority.

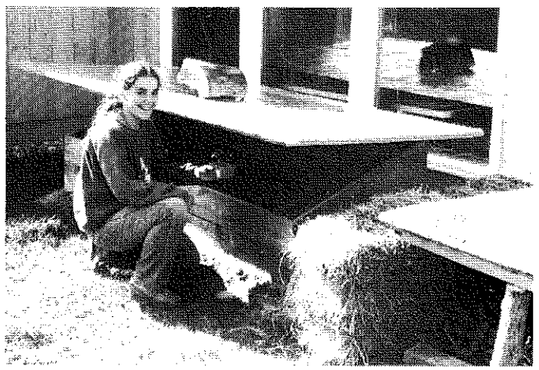
Benefits

There are numerous benefits to this experiential program. The most noticeable are the managerial and personal skills developed by the students. They obtain several hundred hours of practical hands-on experience and develop job related skills. Irreplaceable managerial experience is obtained in a very realistic atmosphere.

They are motivated to see their project continue as they are saving approximately $1400/year from their living cost. But students also find out that it is often cold at 6:00 a.m. feeding animals during our New England winters or that you need to make a personal sacrifice or two for the other 19 people. The project is not a burden on the educational programs of the school but a complementary and economical learning experience for twenty select students.

The human development and personal skills which are developed may be the greatest benefit of the program. The cooperative living and learning concept of Highland House has many benefits as we look for increased student proficiency and increasing budgetary constraints.

Student applied herbicide with a wick applicator next to a plastic row cover used to extend the growing season of numerous vegetables.



Low cost cold frame was built and maintained by students to reduce the cost of bedding plants.

ARTICLE

Using Microcomputers for SOEP Records

By William G. Camp
and Betty Heath

(Editor's Note: Dr. Camp is an Assistant Professor of Agricultural Education and Dr. Heath is an Assistant Professor of Marketing Education in the Division of Vocational and Technical Education at Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.)

From the earliest days of vocational agriculture, our teachers have stressed the importance of the project approach and "Learning by Doing." One of the most important contributions of this time-honored approach to teaching is that it places the student into a problem situation requiring real management decisions. Making ongoing management decisions in problem-solving situations in the classroom as well as in later life requires that the student have access to accurate records. It is for this and other reasons that SOEP recordkeeping has long been an essential part of a complete program of instruction in vocational agriculture.

With the advent of the computer age after World War II, big business found it possible to maintain more accurate and detailed records. These records provided information that enabled management to make more data-based and, therefore, better decisions. The computer age came to agriculture at the same time, but only to the largest farms and to researchers at research universities. Later, with the development of remote terminals with telecommunications capabilities, more and more farmers and many agricultural extension agents gained telephone access to those big mainframe computers and the advantages that those machines could provide in decision making. Only since 1976 has the development of relatively inexpensive microcomputers and applicable software brought similar advantages to the small farmer and the agriculture teacher as well. The microcomputers and their respective software have enabled these individuals to keep records with a self-contained unit which eliminates the expense of tying into a mainframe. Future agribusiness persons could learn to use these microcomputers and programs through their entrepreneurship projects. Let us take a look at records that agriculture students could maintain on their SOE programs.

Types of Records

There are basically two types of records that could be used for SOE programs: spreadsheet records and data management information. Each requires a different type of software and each serves a different purpose. For each type there are a number of both specialized and general purpose programs available. The following discussion will give you a brief overview of those two types of software.

Spreadsheets

When we think of SOEP recordkeeping, we typically think of spreadsheet records. This type of data consists of rows and columns of information. For instance, an expense record or income record represents spreadsheet data. Essentially all accounting and most financial records are maintained on spreadsheets as are most enterprise records.

General purpose spreadsheets. General purpose spreadsheets are well suited to the task of maintaining and analyzing such records. The industry leaders in this area are: VisiCalc, MagiCalc, Lotus 1-2-3, Multiplan, and SuperCalc II. These programs range in price from about $150 to $400. Spreadsheets of this type consist of a grid of rows and columns that can be set up to handle basically any purposes the user chooses. All of them require you to learn a set of commands and to master a series of operations before you can use them effectively. Once you have set up the formulas for the rows and columns, it is simply a matter of plugging in the data just as you would for a regular recordbook.

The major advantage of the electronic spreadsheet over the paper recordbook is that all subtotals and totals are calculated automatically by the program. In addition, if you decide to change an entry, all of the subtotals and totals are automatically recalculated. The major disadvantage is that the user must spend time to become proficient in the use of the spreadsheet.

On the average, it will take you approximately four hours to learn the basics of an electronic spreadsheet and approximately 15 hours to completely master the program. Truly a small investment of time for many saved hours of labor not only for yourself, but also for others. Whenever a user sets up a spreadsheet to serve his or her specific purpose, the resulting spreadsheet can be used as a template for other persons with the same specific purpose. As an example, an SOEP recordbook can be set up for one student's records and the same template can then be duplicated over and over for use by other students who have the same recordbook. Each student simply enters his or her enterprises and the data in the appropriate blanks on the template and the program does the rest.

This leads to another simplification. A whole industry has emerged in the development of specialized templates for literally thousands of different uses. Templates have already been developed and field tested for several of the state SOEP recordbooks. This means that once the teacher has a microcomputer and a spreadsheet software package such as VisiCalc, there may already be a set of templates available for his or her students' recordbooks. If not, there almost certainly will be in the next year or two. An enterprising teacher could even arrange with other teachers to cooperatively develop templates to use in group trading.

Special purpose spreadsheets. Currently, the software industry is the fastest growing business in the country. There are over 40,000 commercial software packages available now and hundreds more are being produced each month. Specialized accounting programs are plentiful for all major brands of microcomputers and range in price from less that $300 to as much as several thousand dollars.

The principles of accounting are the same in agriculture as they are in any business and most of these general accounting systems would be quite adequate for farm recordkeeping. Their shortcomings are similar to those of general purpose spreadsheets. To be useful in SOEP recordkeeping, they must be adapted to the individual project setup and that could be very time consuming. Beyond that, these types of programs are really little more than very detailed templates with the spreadsheet program built in. Moreover they are generally more expensive than spreadsheets and templates. Finally, the programmers make it very difficult if not impossible to duplicate them for use on multiple students' records. In fact, they are almost always protected by copyright laws from duplication.

Thus, the use of most special purpose accounting software for maintaining student SOEP records may be too costly for most vocational agriculture departments. The same shortcomings are true for specialized agricultural accounting packages. This is unfortunate, since these are the types of programs that future agribusiness persons need to learn to use in order to successfully manage their business. Perhaps the use of generic spreadsheets and templates can serve as a suitable compromise. The student learns how to use the microcomputer as a management tool and the cost is maintained at an acceptable level.

Data Management

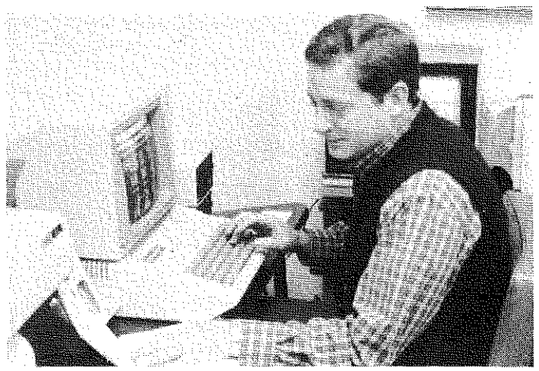
A secondary type of recordkeeping that can be important is what is loosely referred to as data management. This type of program allows the user to maintain and retrieve information that would ordinarily be kept on any sort of form and in a file. An example is breeding information on each cow in a dairy herd. Another example would be maintenance records on farm, greenhouse, or shop equipment.

As in spreadsheet programs, there are general purpose (generic) data management packages and special purpose packages. Let's look at both types of software.

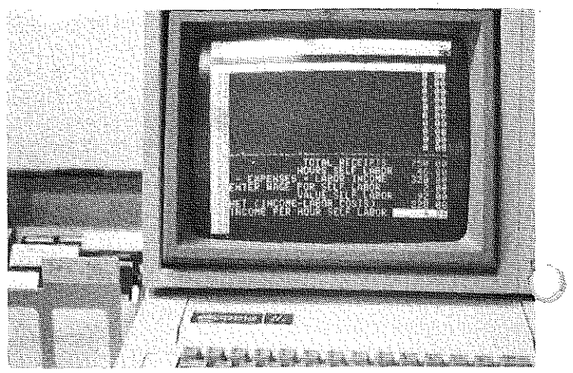
General purpose data management. In terms of general purpose data management software, some of the industry leaders are: PFS: FILE, PSF: REPORT, Lotus 1-2-3, dBase II, and VisiFile. They range in cost from about $125 to $400. Software packages such as these allow the user to create almost any sort of form that could be developed on paper. The blank form is then saved on a diskette and the blank is used as many times as needed.

Imagine a 3" x 5" card file on your students' SOE programs. Each card

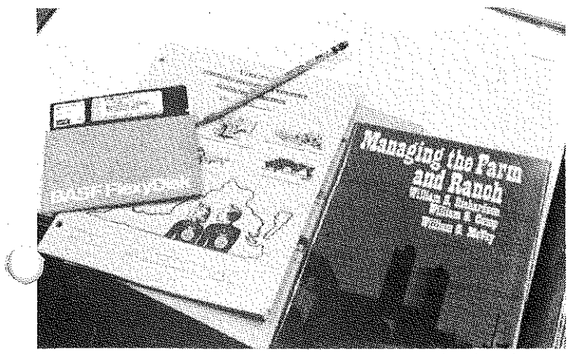
(Continued on page 22)



Preparing templates for the Virginia recordbook.



VisiCalc template with sample data entered.



Farm Management requires records that can best be analyzed on the computer.

Instruction should emphasize a "hands on" approach for students.

Using Microcomputers for SOEP Records

(Continued from page 21)

could list one student's enterprises by scope and year. If you want to identify all the students who have home gardens as projects, you sort through the cards and make a list. A data management package computerizes the deck of cards and does all of your sorting, selecting, printing and summarizing for you. The same capabilities could be very useful for many types of students' SOEP management records.

Learning a typical data management program is relatively simple. For instance, PFS: FILE can usually be completely mastered in less than two hours. It can then be used for as many different forms as you and your students can imagine.

Specialized data management. There are, of course, any number of specialized data management systems available for agriculture. Dairy herd management software, feeder hog data programs, and inventory systems are just a few of the many systems on the market. In reality, most systems are little more than a collection of very detailed predesigned forms with a built in data management program. One advantage of these special purpose data management systems is that the user does not have to learn how to create his or her own forms. A second advantage is that less time is needed to customize existing forms than to develop new ones.

There are several advantages that general purpose data management packages have over the specialized ones. First, the general purpose package can be used for more than a single purpose. This gives the user great flexibility. Second, they are generally less expensive. General purpose software has a bigger market and so can be produced at a lower per-unit cost. Third, special purpose data management software is usually designed for use by a single farm or other business. This means that each student might need his or her own set; an obviously expensive proposition. With general purpose packages, multiple uses are intended, so there is no problem.

Recommendations

From the foregoing discussion, two recommendations emerge. The first is that vocational agriculture students should be taught how to maintain their SOEP records on microcomputers. More specifically, financial spreadsheet records and data management information should be included in this activity. Moreover, the routine maintenance and analysis of those records on microcomputers should be encouraged.

The second recommendation is that general purpose software be purchased for use by the agriculture program. We further recommend that the first priority for purchase and mastery by the teacher be given to a spreadsheet package such as VisiCalc, SuperCalc II, Multiplan, or Lotus 1-2-3.

Once that program is in hand and in use, the second priority should go to the purchase and mastery of a data management system. If the PFS series is used, both PFS: FILE and PFS: REPORT would be better than PFS: FILE alone, although the latter is adequate for most purposes. If you use Lotus 1-2-3- for the spreadsheet, the data management program is included, so it would not have to be purchased separately.

Conclusion

Computers can be a great help to us in our homes, schools, and jobs. Agriculture teachers should be especially concerned with two of those places: the school and the job. We must take every avenue to insure that our graduates are computer literate in our field. There is no better way to accomplish that goal than to provide practical hands on experience for our students through their Supervised Occupational Experience Programs.

BOOK REVIEW

UNDERSTANDING CROP PRODUCTION, by Neal C. Stoskopf. Reston, Virginia: Reston Publishing Company, Inc., 1981, 433 pp., price not listed.

Understanding Crop Production grew out of an introductory crop production course at the Ontario Agricultural College, University of Guelph, taught by the author. Neal Stoskopf purposely avoids what he calls the "recipe approach" of conventional textbooks, the "rate, date, and depth of seeding approach." Since such texts are not necessarily applicable to particular situations, Stoskopf stresses understanding of principles, which will not go out of date like current recommendations. The book is intended for introductory college students and farmers.

Stoskopf treats crop production from the standpoint of factors affecting yield, with the basic premise that photosynthesis is the basis of all crop yield. The nineteen chapters include: The Basis of all Crop Yield; The Botany of Crop Production; Yield — Progress, Problems, and Prospects; Yield and Duration of Photosynthesis; Net Assimilation Rate; Leaf Area and Plant Architecture; Photosynthesis, Row Width, Plant Architecture, and Plant Population; Economic Yield, Biological Yield, and Harvest Index; Carbon Dioxide and Yield; Application of Photosynthethic Concepts; Crop Mixtures, Monocultures, and Yield; Biological Nitrogen Fixation; Cropping Programs and Soil Productivity; Cropping Practices in an Agroecosystem; Cultural Energy and Crop Production; Preservation and Storage; Branch or Tiller Development in Crop Plants; Crop Lodging; and Root Growth, Seedling Development, and Crop Production.

Terms defined in the glossary are printed in boldface type the first time they appear in the text. Both metric and U.S./imperial measurements are used, with conversion information presented in appendices. Appendices also include tables indicating capacity of upright and horizontal silos.

Conclusions appear at the end of each chapter, but many are inadequate. A wealth of references following each chapter indicate a very thorough review of crop production research. The text contains numerous tables summarizing data of crop response to treatments.

Even college level readers need a good background in biology before studying **Understanding Crop Production.** Numerous questions at the end of each chapter are very challenging, many requiring interpretation of data and application of principles. No answers are provided.

Overall, the book is comprehensive without addressing the subject crop by crop. Especially strong is the coverage of forage crop production and storage. Unfortunately, little information on weed control is included. The text addresses energy in terms of input/output.

Understanding Crop Production is a good reference book for vocational agriculture teachers and an excellent text for college level crop production classes.

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THE MYTH OF THE FAMILY FARM: AGRIBUSINESS DOMINANCE OF U.S. AGRICULTURE by Ingolf Vogeler, Boulder, Colorado: Westview Press, 1981, 352 pages.

This very factual and well-documented book contains historical and recent events that have adversely effected the family farm. An FFA speech based upon this reference would be very different from the usual ones. The author documents how nearly every piece of farm legislation supposedly has been for the purpose of helping the family farm, yet the legislation has been much more helpful to large farms and agribusiness. The author is not a Capitalist. Neither is he an extreme environmentalist. He wants the smaller and medium size farms to survive and be profitable without exploitation by agribusiness. Exploitation of farm workers on large farms is also a topic of the book.

Agrarian democracy and social justice is the theme of the book, Chapter titles are:

The Myth of the Family Farm
What is a Family Farm?
Consequences of Federal Land and Water Policies
The Market Economy and Agribusiness
Federal Subsidies to Agribusiness
Rural Consequences of Agribusiness
Agrarian Democracy or Agrarian Capitalism?

The book would best be used as a reference in departmental libraries.

Martin B. McMillion
Teacher Education
Virginia Tech

National Collegiate Workshop Held

Front Row: Dr. Rick Foster - University of Nebraska, Holly Stickle - Ohio State University, Sharon Aldrete - Tarleton State University, Keith Westervelt - Kansas State University, Joe Teel - Oklahoma State University, David Trotter - Penn State, Mark Halsted - University of Arkansas.

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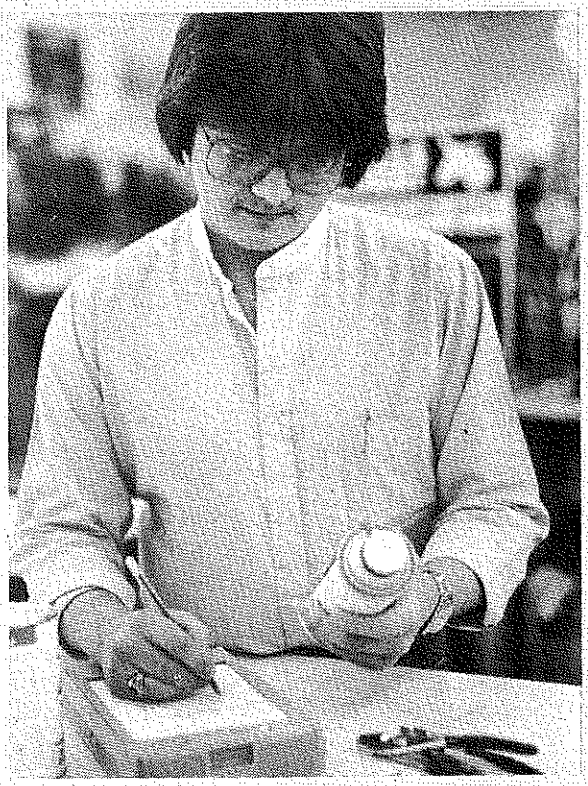
(Photograph courtesy of James D. White, Department of Agricultural Education, Oklahoma State University, Stillwater, Oklahoma 74078.)

Stories in Pictures



Animal Supplies

Plant Supplies

Agricultural Mechanics

Human Relations

TECHNICAL SKILLS + HUMAN RELATIONS + BUSINESS PROCEDURES = LEARNING

(Photographs courtesy of Warren Central High School, Vocational Agriculture Department, Bowling Green, Kentucky.)