Theme — TEACHER ORGANIZATIONS AND PROFESSIONALISM

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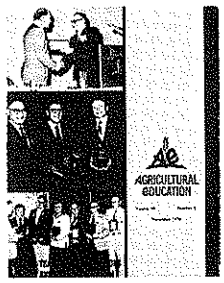

The cover photographs show three areas of involvement for the National Vocational Agriculture Teachers' Association. At the top, Luther Lalum, past president, is presenting the NVATA Honorary Life Membership Award to Robert Lyon, Manager of Marketing Information, A. O. Smith Harvestore Products, Inc. The center photo shows Luther Lalum presenting the NVATA Outstanding Service and Cooperation Award to representatives of the National Livestock and Meat Board (George Strathan, right) and National Agricultural Chemical Association (Jim Mills, center). The bottom photo shows the regional winners of the 1975 NVATA Agribusiness Career Exploration Award sponsored by Sperry-New Holland. (Photographs from Sam Stenzel, NVATA)

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GUEST EDITORIAL

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Jim Guilinger

NEW LEADERSHIP RESPONSIBILITIES FOR NVATA AND STATE ASSOCIATIONS

Jim Guilinger
NVATA Region IV Vice President
Sycamore, Illinois

Vocational Agriculture Education has made many changes in the past few years after the passage of the 1973 Amendments to the Vocational Education Acts of 1968. Prior history of Vocational Agriculture Education in many high schools was pictured by single agriculture instructors teaching production oriented class subjects to an average group of forty to fifty students. We are all very much aware of the dramatic student number increases which have occurred since the legislative enactment opened the doors to a much larger student group.

Most of these agriculture instructors were graduates of their state university which was, in general, the only institution within a state qualified to train agriculture teachers.

The structure of most state supervisory staffs within each of these states demonstrated a strong structure with area supervisors calling on local departments a number of times during each year. These visits were helpful to the beginning teacher who received valuable assistance and guidance in developing his local program under the state requirements to fully qualify for funding.

The local agriculture instructor who might be lax in his duties as a teacher and FFA advisor was encouraged by the supervisor to change his course and become involved in the activities in his local area.

The general rule was to encourage and counsel first, then if this was ineffective, to resort to sterner measures. The state supervisory unit and the teacher education staff met often together with some involvement of the state agriculture teacher association officers at different times. In most states the three groups worked very well together, with each feeling their inputs were effective. Also, in most states, the teacher organization met once a year at the state university that trained all agriculture teachers in an annual conference called by the head of the state supervisory unit. Program was developed by the supervisory and teacher education personnel with minor inputs in many cases from the teachers' professional membership.

Significant and dramatic change has occurred in the past few years which has altered these previous conditions which I have referred to. The legislation reversed centralized concepts giving almost total responsibility of developing vocational education and agriculture programs to the local school district. It altered the role of the supervisory unit from a regulatory group to a consultant group, with emphasis being placed on an advisory and suggestive position.

Budget cutbacks, reallocation of personnel and emphasis by uninformed teacher training administrative groups concerning the continuing and, in fact, expanding need of more and better-qualified agriculture instructors at both the secondary and newly emerging post-secondary two-year agriculture programs seriously affected the teacher training staffs in fully developing the needs of filling teacher vacancies in the field.

These events should not be misconstrued by the reader as being totally adverse for Agricultural Education. In reality, it gave Agricultural Education a much larger and fuller responsibility than ever before. The shock occurred in the sudden enactment without sufficient time to implement the new legislation in an orderly fashion.

There were also changes caused by this new direction which caused a gradual change of the position of the state agriculture teachers' professional organizations' inputs in the area of program development, funding and staffing in Agriculture Education in relationship to the total concept.

Today it is apparent that the state agriculture teachers' associations and the NVATA are emerging as the most important voice involving inputs into the picture of Agriculture Education. The professional organizations, through their memberships, can exert a very great influence upon governmental leadership in the area of state and federal funding, teacher certification, allocation of funds and development of new standards and criteria of achievement and many other areas of vocational education in agriculture.

The most significant reason for this demonstration occurring is simply the fact that the local school districts, informed individual teachers, taxpayers and interested agricultural business people who now greatly shape Vocational Agriculture programs with informative and constructive inputs for state consultants can achieve goals without fear

(Continued on next page)

The local teacher working through his agriculture teachers' association is not directly affected by the politics of job security which are many times found in higher levels of state and national government.

of reprisal. The local teacher, in particular, working through his agriculture teachers' association is not directly affected by the politics of job security which are many times found in higher levels of state and national government.

Legislators must listen now to their local constituents if they are to remain in office and, therefore, their actions are regulated to a greater degree by local people. In previous years, a great deal of Vocational Education legislation was developed through discussions with a relatively few people located at higher levels of state government.

It, therefore, becomes more apparent that state agriculture teachers' associations and the NVATA, in cooperation within their respective state and national vocational associations, must accept a much greater responsibility than ever before.

Agriculture Education is and should remain a full three-way relationship with inputs from consultant and teacher education staffs with the large total numbers of secondary and post-secondary agriculture teachers. The power base is, however, now in the area of the large numbers of local teachers.

The question immediately arises, "Can the teacher group develop and organize into an effective force to carry this leadership responsibility?" My answer is emphatically "Yes!" It will develop in one of two manners. Individually strong local teachers will rise within the teacher group who will accept the leadership and time requirements needed to perform this task.

I further will argue that this development will occur whether state consultant or agriculture education training staffs encourage or, hopefully, do not discourage its movement. The only difference which I believe will affect this movement is the rapidity in which the development occurs.

With constructive and supportive inputs by consultant and teacher education staff, the speed of development and strength of that organization will be much more effective in accomplishing the goals of what hopefully all of us believe is vital to agriculture and the FFA.

Opposition by any group or segment, I contend, will only impede the ultimate decision without giving direction, which is so important to Vocational Agriculture Education. Because of this new direction and the burdens placed on the state agriculture teachers' associations, many new challenges have come about.

The state teachers' organizations must be prepared for a reorganization of their structures with reason to listen intently to its membership inputs far greater than in previous years. The state organization must develop its structure to encourage participation by teachers of specialized areas such as mechanics, horticulture, agriculture sales and others which are emerging. A larger number of state officer executive meetings to shape joint direction in cooperation with consultant and teacher educator staff will be necessary. An increase in communications to the total membership and increased officer visitations with small group meetings will occur. Costs of operation of the state associations will increase due to the need for greater mail, telephone and personal communication. An investigation of these areas across the nation will bear out these arguments.

Some states, such as Illinois and Texas, have employed full-time staff to carry out these extensive new responsibilities. Other states have employed retired or part-time personnel to carry the responsibility. Others have allocated more funds for their officers to travel and more fully represent the local teachers in representing the state associations responsibilities.

Legislative action at the state and national level now involves a much larger number of people. It requires a much more effective communications system to keep membership informed as to the direction and positions taken by governmental and professional organizations' decisions.

Dues to the agriculture and professional associations have increased and probably will continue to increase to some degree, dependent upon the membership's desires to be represented by a total organization.

The local member keeps himself more informed than

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COMING ISSUES COMING ISSUES COMING ISSUES

COMING ISSUES

JANUARY — Production Agriculture — Preparing to Feed the World

FEBRUARY — FFA — The Intracurricular Activity

MARCH — Agricultural Mechanics — Keeping the Wheels Turning

APRIL — Supervised Experience Programs — Learning by Doing

MAY — Agricultural Products — Preparing Agricultural Processors

JUNE — Camping and Summer Activities

JULY — Facilities — Planning, Maintenance and Improvement

AUGUST — In-service Education and Teacher Conferences

SEPTEMBER — Fairs, Shows and Contests — Competition, Practice and Motivation

OCTOBER — Preparation for Agricultural Resources and Forestry Occuptions

COMING ISSUES

TEACHER PREPARATION—TELL IT LIKE IT IS

*Robert D. Herr, Chairman**
Agriculture Department
New Holland, Pennsylvania

Vocational Agriculture is in trouble! At a time when the whole field of agriculture is more exciting and demanding than any time in the past, many Vocational Agriculture departments are closing or reducing in size. The alive and growing departments, particularly in the Eastern United States, are the exception rather than the rule. Many reasons are cited for these losses — tight money, budget cuts, changing nature of communities, inadequate supply of teachers, etc. But the main underlying reason probably is inadequate teacher preparation and supervision, with colleges and experienced teachers sharing the blame. This problem has developed over a period of several years and can be attributed to these factors:

1. Agriculture has changed.
2. Young people entering the Vocational Agriculture teaching field have changed.
3. Teacher training programs *have not* changed enough.

The changes in agriculture are very evident in most areas. The importance of agriculture is on the increase, and in the next several years no phase of our economy will be more vital to the well-being of the world than the agricultural phase. More and more demands will be made on farmers and agri-businessmen to become even more efficient and productive. In many areas, the nature of agriculture is changing from larger general farms to more intensive and specialized farming. Areas of the poultry and livestock industry have become dramatically different, and newer areas such as turf management, horticulture and floriculture are demanding skills and knowledge not routinely required 10 or 15 years ago. Investments required to begin farming are astronomical and many young people simply cannot afford to farm. Their goals and expectations in relation to agriculture have not changed, but the skills, values, and energy that formerly were devoted to farming must find other useful outlets, hopefully within the agricultural industry.

Teaching vocational agriculture means devoting full time to a demanding job and not having many other projects on the side.

Regular use of teachers in the field for various courses would add meaning and value to the course offerings.

These changes in agriculture have attracted to the teaching field many young people who do not have an agricultural background. Many have totally urban and suburban backgrounds. Their interest in agriculture is genuine and sincere but they are disadvantaged as Vocational Agriculture teachers because they do not have the basic skills and knowledge for the job and very little in their training has prepared them for the problems they will encounter.

Every teacher of Vocational Agriculture must understand that he or she is involved with an elective program, partially funded by the Federal government but implemented and controlled at the local level. The program that meets the needs and expectations of the community will succeed and unresponsive ones will fail sooner or later. Three main areas of inadequacies in young teachers have been observed by more experienced teachers as they work with them. They include: a lack of practical agricultural knowledge and mechanical skills; an unwillingness to devote the extra time to visitation of projects on a year-round basis and other aspects of the program necessary for success; and the inability of young teachers to use their ingenuity and the community's resources to supplement the materials and supplies not covered by the budget.

These shortcomings are not insurmountable, and indeed many young teachers do not even realize these are problem areas because no supervisor has pointed them out (they either hate to stir up bad feelings or they are too busy with their second or third job). And the problem areas have not been part of their preparation. The indifference and lack of response of the community is frustrating to young teachers as they move into a community and try to get a program off the ground. Usually this frustration along with community indifference is fatal to a program. *Inadequate preparation for the job is the crux of the problem.*

Obviously no teacher training institution sets about to do less than an adequate job of preparing teachers, and those in supervisory positions working with young teachers want them to succeed. But perhaps they have not taken enough time to analyze the changing situations and even more important, perhaps they do not consult with the experienced teachers within their state or region often

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*Dr. Herr is chairman of the largest comprehensive agriculture department in the United States offering agriculture from K through Adult and employing nine certified teachers of Vocational Agriculture. This Agriculture Department was started in 1959 with 17 full-time students.

enough to ascertain the concerns and problems being encountered out in the schools and communities. In their quest to solve the perennial budget problems and liven up their course offerings, most colleges and universities have overlooked one prime source of reasonable, up-to-date and relevant teaching resource — the experienced teacher of Vocational Agriculture. Traditionally colleges and universities have skimmed off the top of the teaching profession when vacancies appear but even the best teacher in the field loses touch with the situation after a few years on the college level. This is why regular use of teachers in the field for various courses would add meaning and value to the course offerings.

In evaluating their course offerings, it is important that teacher training personnel take into consideration the changing situation in agriculture and in the young people entering agricultural fields, particularly teaching. More basic knowledge courses, or experience in the field (not teaching, but hands on agricultural experience) must be required to provide an adequate background for the non-agricultural student. This may mean cooperating with other departments in the college to have basic courses or experiences available. It may mean the development of a summer practicum similar to that required in some veterinary programs for their non-farm students. It may mean the development of an instrument to evaluate the agricultural background of the prospective teacher so that a meaningful course program can be developed for those students deficient in various agriculturally related areas.

Vocational Agriculture is intimately tied to the community. Indeed there are four basic elements necessary to any successful program. They are 1) an understanding school administration, 2) a cooperative guidance department, 3) students and parents that care, and 4) support of the agri-businesses. All are part of the community, and it seems that it is essential that prospective teachers need to understand something about power and the power structures that function within communities to work most effectively with the school and the community. Power is a fact of life. A lack of understanding about power and its uses is basic to the failure of many Vocational Agriculture departments.

The almighty grade a student teacher will receive puts additional pressure on the cooperating teacher, and all too often the capabilities of the student are never shared with the teacher trainer.

Every Vocational Agriculture department exists within a community. That community may be subdivided into other communities related to specific areas such as education, economics, religion, etc. Every teacher involved with a successful Vocational Agriculture program has consciously or unconsciously studied at least two facets of the community carefully, the educational power structure and the power structure related to agricultural interests. Additionally, the teacher has a pretty fair idea about the overall power structure of the community served by the school. Everyone knows, "It's not what you know, but who you know that counts." The study of power structures and the uses of power within the community should be a requirement for each and every teacher whose job is ultimately dependent upon meeting the needs and keeping the good will of the community.

Vocational Agriculture departments must respond to needs and wants within the community, and therefore the teacher must have some means of discovering what these needs and wants are initially and eventually finding out if they are indeed being met by the program. Teachers who involve the educational power structure as well as the community power structure in the development and implementation of the Vocational Agriculture program will have many allies, cooperators, and participators in the various phases of their program. They will better understand the values and concerns of the community as they relate to agriculture because they have lines of communication. And they will find many ready sources of the information and assistance that may be lacking in their background and training. If the right people are approached in the right way, there will be continuing support and cooperation with the program. The people in the community want to be a part of the program and it is just a matter of knowing which person can help most in any given situation. An understanding of power structure and the use of power can provide many valuable insights for the beginning and even the experienced teacher.

Finally the supervision given young teachers during their student teaching experience and during the first years of teaching it not adequate. The cooperating teacher is often reluctant to make use of constructive criticism to help the fledgling teacher overcome problem areas. The almighty grade a student will receive puts additional pressure on the cooperating teacher and all too often the doubts he may have about the capabilities of the student are never shared with the teacher trainer. It must be remembered that not only the livelihood of the prospective teacher must be considered but the potential for success or failure. There are times when it must be simply stated that being a Vocational Agriculture teacher is time-consuming, hard, frustrating, demanding, certainly not for the individual who plans to come in at 8:00 a.m. and leave at 3:00 p.m. It means dealing diplomatically with people who have worked very hard all their lives, are very independent, seldom wrong, and don't hold much with foolishness and high-flown conversation. It means dealing with young men and women who want common sense answers and ideas, practical projects, and information which will help them function in today's demanding agricultural industry. It means devoting full time to a demanding job and not having many other projects on the side. Experienced teachers and teacher trainers are remiss if they fail to acquaint prospective teachers with these facts.

Vocational Agriculture is an exciting and challenging field. It holds much promise for the young person willing to work at it. The opportunities are unlimited and the demands for teachers outstrip the supply. However, we should recognize that not everyone is cut out to be a Vo-Ag teacher and even though the demand is strong, quality control is very much a necessary part of our teacher education program. ◆

Teaching Ag Careers in Colorado

Pat Donnelly, NVATA Region II
Sperry-New Holland Award Winner
Liberty High School
Joes, Colorado

Liberty High School is a consolidated school supporting only 55 high school students between the two towns of Kirk and Joes who's total combined population is less than 150. It is very much rural with 40 miles to the nearest town. Every student enrolled in vocational agriculture comes from a farm. Why then should Liberty have an agribusiness program? Not all students are going to be farmers regardless of their farming background. All students enrolled in vocational agriculture do, however, have an occupational objective in production agriculture or an agricultural related field of work.

When a student enters vo-ag, he is screened by the guidance counselor and myself to determine his needs. Through Agriculture I, II, and III students are made aware of careers other than just production agriculture. The use of guest speakers from the ag industry as well as field trips have been very beneficial. These people are more than willing to visit your classes and talk with the students. They are very receptive to allowing an ag class to tour their facility also. These are two tools available to any ag department and should be used.

Another method I have used is an assignment where a student will interview an established individual in the ag industry in a field that is of interest to the student. In this way the student can establish information that will acquaint him with the requirements of his chosen field.

I initiated the agribusiness program two years ago. Through the use of my advisory council, we were able to develop enough training stations to place the first seven students in the program. When a student is a senior, he has the option of production ag (Vo-Ag IV) or entering Agribusiness. The agribusiness program meets for 60 minutes a day for in-class instruction and to deal with individual problems. After lunch, students are released to work at their training stations. They are placed as closely as possible to the related area that they want to enter, but because of our location this can be somewhat limiting.

The employer at the training station, the student and myself will develop a training program that will provide the student with the training skills necessary to meet his occupational objective. Involving the student's parents in the program is also very important. This could be pointed out as possibly the major factor to the program's success.

In Ag IV (production agriculture), I still use career materials and place students out on the job in production agriculture as I do in the agribusiness course.

Pat Donnelly, the author, presents the Outstanding Agri-businessman Award to Russell Liming at the Parent and Member Banquet. Russell later received State Star Agribusinessman and State Proficiency in Ag Sales and/or Service. He was placed at Cope Gas and Equipment where he is training for management. After graduation he was employed full time at Cope Gas where he is working with fertilizers in a management role.

The FFA is used extensively in the program also. It is a very good tool to use for orientation, public relations and motivation through awards programs.

Established FFA members in Ag IV and Agribusiness are used as a panel to meet and discuss vocational agriculture with potential Ag I students. This year they also gave a program to the elementary grades on careers in agriculture.

For public relations, the FFA can be used to inform the community of the vocational agriculture program and its accomplishments. Through different FFA activities people will become better acquainted with the program and in time gain more support toward it.

The teaching of careers has been successful. In the follow up that I recently completed, over 80 percent of the students in vocational agriculture were placed on the job in ag related fields or in production agriculture.

There are many problems that need yet to be solved with the agribusiness program, but it is off the ground, it is working and it is a step toward meeting the needs of those students interested in ag related occupations. ◆◆◆

Learning to Do and Doing to Learn

Cayce Scarborough
Auburn University

Glen Shinn
University of Missouri

"Learning to do" and "doing to learn" has been more than a motto for all of vocational education through the years. In agriculture, we added to this idea and suggested to our students that "earning while learning brings prosperity." This was even set to music! We were then so bold as to suggest that FFA members not only learned to do but that they were "living to serve."

What has happened? We are suggesting that while emphasizing other goals in other ways that the old idea of learning to do by doing has been neglected (we think!) or abandoned (we suspect!). This article will point out why we believe this to be the case in many high school programs of vocational agriculture in the 70's . . . and we are suggesting some alternatives to reverse the trend.

A Combination of Problems

One of the problems is the official occupational categories which are established as occupational goals for *all* students enrolled in vocational agriculture. Many may remember that these were originally developed as instructional areas not occupational categories. As instructional areas they helped to group subject matter into a more manageable and hopefully meaningful form. It should be remembered that the search for effective grouping of subject matter and related activities for best teaching has been going on for many years. Early grouping included *Field Crops, Animal Husbandry, Horticulture,* and *Farm Management.* When this was considered out-of-date, the arrangement of *Vo-Ag I, Vo-Ag II, Vo-Ag III* and *Vo-Ag IV* was adopted as the better grouping for more effective teaching. These groupings were welded into a curriculum, using *supervised practice, farm shop,* and after 1928, the *FFA.* So, when a national committee developed the instructional areas of *Agricultural Production, Ag Mechanics, Horticulture,* etc., they were recommending still another, possibly more refined, grouping of instructional efforts.

However, when these same groupings suddenly became occupational categories, of which one would be the stated goal of each student, problems arose. This policy caused a forced choice of a specific occupation for the student with little or no flexibility. This is another one of those problems that has been around since the Smith-Hughes days of 1917 but was swept under the rug for many years by assuming that everyone enrolling in vocational agriculture was headed for farming as a life's occupation. This was a myth, of course, and teachers of vocational agriculture did not let this worry them as they went about their work of helping each enrolled student develop in whatever ways he could. One of these was encouraging many of us to leave the crowded home farm for ag college and a career as teachers of vocational agriculture. Many in leadership roles today, education as well as agriculture, owe their beginning in the career to the start in vocational agriculture back in high school and a teacher who was interested in helping them develop their talents. This did not keep that perceptive ag teacher from helping those who had a chance and wanted to become established in farming.

We suggest that some of the occupational categories must remain as instructional areas if we are to do an effective job of helping students prepare for an agriculture career occupation. For example, *Agricultural Mechanics,* as opposed to Agricultural Mechanization, is an instructional area that must (we believe) be a part of the program of each student every year that he/she is enrolled in vocational agriculture. Certainly the learning of mechanical skills and understanding of today's technology can be defended as instruction whether or not the student eventually enters an occupation that might be classified as agricultural mechanics. Similarly, a case can be made for *agricultural production,* as an instructional area for learning and doing by each student enrolled. In a little different way, but just as important, a case can be made for *horticulture,* as an instructional area for all students. Just as in mechanics, many of the abilities learned in horticulture can be of great importance, to complement the life of any person regardless of how she/he earns a living.

The Age of Specialization

Another complication of today's curriculum is in seeing specialization only during the 11th and 12th grades. Theoretically this sounds good. As one supervisor explained to teachers, "You don't want a student specializing until he is sure that's what he wants to do." Well, if you follow this far enough you arrive at the old cliche, "Don't go in the water until you know how to swim." We suggest that the practical implication of this late specialization is that it may be too little too late! The student from the poultry farm has been in a very specialized program as long as he can remember. Likewise for the son of the tree farmer or the feed and seed store manager or the truck crops farmer. An extreme example is that of an 11th grade applicant for Forestry Proficiency Award who had hauled enough "extra" pulpwood to pay for his own truck but he had not yet studied forestry in his Vo-Ag classes because it came in the 12th grade. That doesn't seem to make much sense to a youngster involved in the business.

Career Choices

The basic concept of a career choice relies heavily on work as a key part

(Continued on next page)

Rather than a "waiting until he decides" attitude, we need to substitute a "working to help decide" in the area of career choice.

The fact that a person *may* move does not change the need for relating vocational instruction to the local situation *now*.

of the understanding and selection process. Even in kindergarten, hands-on experiences are built into an effective program of career exploration. Rather than a "waiting until he decides" attitude, we need to substitute a "working to help decide" in the area of career choice. Not only does a work situation offer life-like opportunity to learn about possible careers, but it also offers a much-needed chance for the student (of any age) to learn more about himself/herself in relation to work and the complex human relation skills. This is another key point in career education, and is especially important when the home situation may not offer an opportunity for good work experience. The more one knows about the way things really are, the better his chances of being happy and successful in his work role.

Manpower Data

Still another problem in developing a local program of vocational agriculture is deciding on how to interpret and use the manpower data which is available. Much effort has been put into developing such data in the broad field of agriculture and agribusiness at both the national and state level. It is easy to make a case for the use of these data in initiating any type of vocational education program. But when we take a close look at the *local community situation* problems may arise. The meaning which state or national manpower data has for a local program may be difficult to interpret for local use. Students may ask exactly where the "openings" are. Can I get to them? What are the requirements for entry? Can I get one of these jobs? Will it pay if I must move to get it? These and many related questions arise before manpower data, other than local, has any real meaning for students enrolled in vocational agriculture. Somehow we must tell the student that this is "the best guess" and not an absolute. This is not a new question, in the days when the establishment in farming was seen as the controlling purpose of vocational agriculture, it was very difficult to use the data of the replacement needs for farmers in helping a young man get established in farming.

So What?

But in spite of all these problems, aren't there some guides? Must we always "fly by the seat of our pants" and hope for the best? We believe that there are some guides for developing sound local programs of vocational agriculture. These guides are readily available to teachers and to local school leaders. Furthermore, these guides will result in programs that will help those enrolled develop their own careers while considering their own abilities and occupational aspirations. This is not a blueprint or a recipe but some guiding principles that can be applied to any program of vocational agriculture in any community.

First, see vocational agriculture as a *local school-community program.* It is extremely important to be a part of a nationwide and statewide program. However, the key is the local program! And that applies whether we are talking about leadership, shop, supervised experiences or any other phase of the program. In fact, there will be no state or national program if we do not have a strong local program. One of the reasons that emphasis on the local community situation has been neglected is the argument that we have become a mobile society and the young person is more likely to work outside the local community than he was a generation ago. This is certainly true for some people. However, the fact that a person may move does not change the need for relating vocational instruction to the local situation *now.* Only recently a labor leader, Kenneth Edwards, in discussing the ways in which vocational education could better meet the manpower needs of the future, said that the best chance that Vocational Education had to better contribute to solving the nation's manpower problems is through better communication with local leaders. "Vocational education must learn to address itself to the community in which it operates."[1] This is true whether it is in program development or in the identification of competencies for a cluster of occupations. In addition to relatedness and relevance, emphasis on the local situation has the built-in advantage of being up-to-date.

Second, look more closely at the real vocational aspects of the program *now!* What will that individual who enrolls in vocational agriculture *know?* What will he be able to *do?* And, possibly most important, what *attitude* will he develop about agriculture as a result of enrolling in vocational agriculture?

The Approach

With the above two areas of emphasis keying on the *local community* and more *doing to learn,* we believe that the local program of vocational agriculture would offer those enrolled a better basis for a career choice and self-development than the present approach of choosing an occupational category and being evaluated (along with the entire program) on whether the individual did indeed get a job within the chosen category. More specifically, the local program would develop with the characteristics indicated above by following these guidelines:

1. Enrollment in vocational agriculture is based upon a desire to develop knowledge and skills in the broad field of agriculture.
2. The student would agree to *work* in one or more areas of agriculture or agribusiness beginning at the time of enrollment. Further development should be a requirement for continuing beyond the first year.
3. Learning to do by doing (SOE) would be planned by each student, parent and teacher beginning wherever the student is and moving through some area of production agriculture and agribusi-

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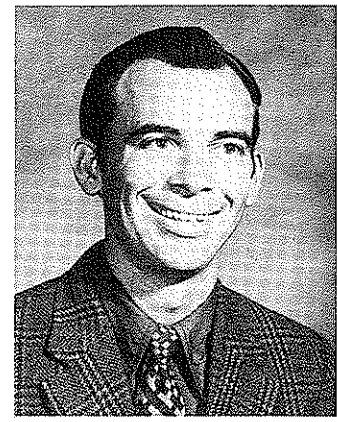
[1]Kenneth Edwards, Director of Skill Improvement Training, International Brotherhood of Electrical Workers, Washington, D.C., report in *Manpower and Vocational Education Weekly,* November 5, 1975.

Industry Experience in Natural Resources

Nathan L. Moore
Vo-Ag Teacher
Mesa, Arizona



Nathan L. Moore

My father has a favorite saying: "experience is the best teacher." After teaching vocational agriculture in two different states for seven and a half years, I believe I finally understand the impact of his proverb. He is a great believer in learning by doing.

Once a vocational agriculture instructor has completed his formal training, he has just begun to learn. He can then focus on deficient areas in which he needs improvement. Just as student teaching prepares one well for the practical side of agricultural education, a teacher should attempt to expand his field knowledge as much as possible once he begins to teach.

Sir Walter Raleigh expressed his belief in education during the 1600's when he said: "Knowledge is not always being born or dying; it is a tree which pushes out new branches while others wither and drop. We have to be on our guard against dead and petrified knowledge bequested to us by former generations."[1] Certainly today's truths are offered to us by the toils and experiences of our ancestors. Vocational agriculture teachers have a vast reservoir of community resources from which additional skills and competencies can be learned.

Upon moving from the Midwest to Arizona in July, 1973, I was thrust into a unique teaching challenge. Having been trained in general agriculture, my new assignment of teaching agricultural resources offered a real opportunity to grow and broaden my agricultural skills and competencies. Fortunately, my adjustment was eased by the welcomed guidance from the other three vocational agricultural instructors at Westwood High School. However, I still felt I needed more on-the-job experience in the ag resources area.

During the summer of 1975, I enrolled in a course at the University of Arizona called "internship." The rationale for offering an on-the-job training course is based on the same underlying principle of high school Co-Op programs. It is an opportunity for one to learn by doing.

My specific experiences in the agricultural resources area involved the Mesa District of the Tonto National Forest. Under the direction of Bill Leonard, Mesa District Forest Ranger, my on-the-job experience provided an outstanding opportunity for practical application of national forest land management principles. Eighty-six hours allowed for my activities in Forest Service administration, range management, soils, recreation management, fire behavior, wildlife habitats, mining, and miscellaneous areas.

These skills and competencies that I gained have already and will continue to add background information to my instruction of two conservation classes. The units within the course are careers in agricultural resources, range management, wildlife conservation, fish management, soil and water conservation, forestry, and ecology.

With my general farming background, I particularly needed the range management aspects of the Forest Service. Clay Withrow, range management specialist for the Mesa District of the Tonto National Forest, showed me numerous field methods of determining range utilization, range condition, species composition, and plant succession. Many of these techniques I have incorporated into my range management unit.

Working under the supervision of the District Ranger, I was assigned to a specialist each day. During the days that I worked with the range manager, we estimated forage production and determined the carrying capacity of a grazing allotment. Several new species of grasses, forbs, shrubs, and trees were brought to my attention. Brush control methods were discussed, and I witnessed several watersheds over which mechanical, chemical, and prescriptive burning methods were being researched.

One 12-hour Saturday was spent with Ron Burraychek, wildlife habitat manager for the entire Tonto National Forest. He made it clear that the National Forests are interested in habitat management rather than management of the wildlife itself. He discussed the numerous species of important Arizona wildlife as related to his job as a habitat manager.

For a couple of days we scouted for fire and discussed suppression techniques, costs, manpower requirements, and equipment. Mr. M. L. Kumpe is a veteran fire officer with the Forest Service. Under his guidance I witnessed the suppression of several dry lightening fires. Control ranged from a shovel to a B-17 bomber filled with slurrie, a fire retardant. A unique system of radio communications is utilized with trained personnel in preventing, detecting, and suppressing a forest fire.

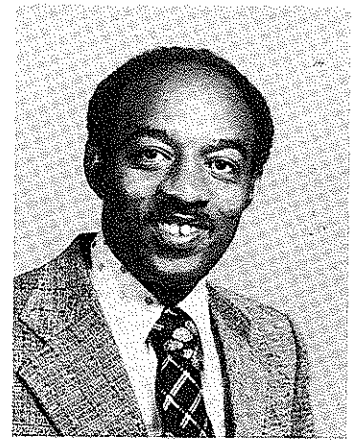
Recreation management is a vital facet in the Mesa District of the Tonto. Dick O'Connell, recreation specialist, says it is primarily due to the vast Phoenix metropolitan area immediately west of the district. The nearly 900,000 persons living in the Salt River Valley use the Salt River and its lakes fre-

(Concluded on page 114)

[1]Hughes, Harold D.; Henson, Edwin R.; Metcalfe, Darrel S.; and Johnson, Iver J. *Crop Production,* revised edition. New York: The MacMillan Company, 1957, p. 167.

Guidance, Counseling and Placement: The Teacher's Responsibility

Raymond Q. Lawing, Jr.
Teacher of Agriculture
Dillwyn, Virginia



Ray Lawing, Jr.

Knowing the individual child and his special problems and abilities is merely a preliminary step in carrying out your professional responsibility to him. Your ultimate contribution centers around the question of what you can do to help him identify desirable goals that are within his reach. And, having identified the goals, you must determine how much guidance you can and should give him in attaining them.

In recent years, working with the individual child has developed into a professional specialty called "child guidance and counseling." Actually, the trend is for all teachers to become more and more competent in using the specialized techniques appropriate in this work. Nearly all school counselors, even those who devote full time to counseling, are former teachers who have found that work with the individual child is particularly rewarding. Their initial interest in working with the individual child has led them to seek more and more training in diagnostic and counseling procedures.

There are three general types of counseling interview: educational, vocational, and personal. They are all closely related and sometimes all three take place concurrently as we discuss problems with the child. However, I shall consider them separately in order to see what each type has to offer.

Educational Counseling. Most of the time, we use indirect methods to guide the child's educational growth. We use assignments, examinations, and day-to-day appraisal to help him develop desirable objectives. But, sometimes the child may need more than this — he may need special individual help as he seeks to determine his goals and solve his individual educational problems. And that is when educational counseling enters the picture.

Suppose a child has a reading disability. First, we give him a diagnostic reading test to locate his specific weaknesses. Then if he is reasonably mature, we suggest certain procedures that will help him to overcome his disability. At the high-school or college level, educational counseling helps us to work with the many students of adequate ability who do not know how or when to study. An informal conference on effective study habits often helps them to see their problems and to correct them. For example, a high-school sophomore may need to work out a realistic study schedule or to identify specific vocabulary terms that interfere with his understanding of animal breeding. An eighth grade student may need help in mastering note taking, or preparing for examinations.

Sometimes it is more valuable for the child to work through to his own solutions during a counseling session. If you are skillful enough, you can lead him to evaluate his own progress in a particular course, or to decide for himself what he wants to accomplish in a given study program.

Since parents have a direct influence on how a child approaches his educational problems, you may wish to invite them to participate in an educational conference. Suppose the school feels that a child with a certain handicap needs the help offered in a special class or a special school. If the situation is explained to the child's parents in a straight forward, informal conference, they will realize that the school is offering a special opportunity and that it is not penalizing the child for his handicap. In a conference of this sort, the principal or the guidance director will assume major responsibility, but you, as a teacher, must be prepared to participate and to explain why you feel that the child is in need of special assistance.

Vocational Counseling. The forces that ultimately lead a child to his choice of a life career begin to operate during the early years of childhood. The guidance that you provide will have a strong influence on whether or not the child makes a wise choice. If he aspires to a level beyond his abilities, he is bound to suffer tensions before he finally makes a realistic adjustment of his goal. If he aims too low, he may find his life work uninteresting and unrewarding. If he has no vocational aim at all, he is likely to achieve far less than he is capable of achieving. And if he chooses a vocation solely on the basis of glamour, prestige, or financial reward, he may be disappointed and unhappy in his life's work.

How can you help the child to make a wise vocational choice? Primarily by seeing to it that he has access to all the information he needs on his own abilities and on the qualifications required by various vocations. A special vocational counselor can give him tests that will help him discover the occupations for which his interests and abilities best qualify him. But lacking a special counselor, the teaching team must cooperate in providing him with the necessary information.

You can contribute to this task in the regular instructional program. Children are studying the work done by the engineer, doctor, lawyer, teacher, postman, factory worker, and agriculturalist when they study geography, citizenship, and other social studies. And you are helping the child to prepare for his adult occupation when you

(Concluded on next page)

CONTINUED *GUIDANCE, COUNSELING AND . . .*

teach him to develop good work habits, to pay attention to the task at hand, and to appreciate the need, dignity, and rewards of work.

Beyond this general guidance, you can make available to the child specific information on the vocations that seem to catch his interest. You should not try to influence his final choice by emphasizing your own predispositions and interests. Instead, you must see to it that he has a chance to find out the training that various occupations require, the specific kinds of work done in each occupation and the rewards that these occupations give. Boys sometimes set their hearts on becoming a civil engineer because of a romantic notion that an engineer is someone who receives acclaim and prestige for somehow dreaming up beautiful bridges and monumental dams. They fail to see the mathematical proficiency that is required, the thousands of hours of training, and the months spent bending over a drawing board.

You have many resources for helping the child to get the vocational information that he needs. A visit to a university or high school occupational counseling center will give you an idea of the many publications that describe various vocations. Once you discover that a child is interested in a specific occupation, encourage him to talk to adults who are actively following that occupation. If you find that several children are interested in the same vocational area, suggest that they appoint a committee to interview qualified specialists in that area. You can help plan career days when representatives of different vocations are invited to the schools to meet with interested students. If there is a college in the vicinity, suggest that it send a counselor to talk to high school students about the different occupations for which the college offers training. Another possibility is to build a class project around the problem of making a wise vocational choice. Each child makes a tentative choice and then gathers information that he presents to the other class members.

Personal Counseling. In a sense, all counseling is personal counseling. But the term is used to refer specifically to the guidance you offer children in facing their day-to-day problems as members of a social group. Although personal counseling has become a highly specialized profession, you cannot pass all the responsibility along to the experts. Because of your intimate relationship with individual children in the classroom, much of the responsibility for wise counsel must be yours.

Finally, the task of helping the individual child reach his educational, vocational and personal goals is complex and demanding. It requires all the professional skill that you can bring into action. Your detailed knowledge of each child, developed through many hours of careful sympathetic observation, makes you the best qualified person to do the job. ◆◆◆

CONTINUED *NEW LEADERSHIP RESPONSIBILITIES . . .*

in past years and rightfully demands what he is getting for his dues inputs. He sees this primarily in the role of how these dues inputs affect his local situation. Will it improve it, and will he have a greater voice in the total meaning of Vocational Agriculture? Presently, on the average, the local teacher of agriculture is investing 3.3 cents in his state agriculture teachers' association, 2.2 cents in his state vocational association, 2.7 cents in the NVATA and 5.4 cents in the AVA for each day of the year. The total of 13.6 cents per day investment seems relatively low in comparison of such possible expenditures as 47 cents a day for cigarettes or 30 cents a day for a soft drink.

As stated previously, state leadership which will and has developed is affecting the NVATA and its responsiveness to the professional members.

As a member of the NVATA Executive Committee representing a six-state area and over 1,800 agriculture teachers, educators and consultants, those challenges are being reacted to by the appointment in July of this year of a National NVATA Study Committee to fully investigate all the ramifications of these emerging challenges. The NVATA must be ready to accept possible structural changes, membership representation, legislative responsibility, staff duty alterations and, yes, dues change recommendations which this committee hopefully will report to the voting delegates of all the state associations at the Houston, Texas convention in December 1976.

Personally, I feel the NVATA must provide greater communications with local membership, provide new and innovative state officer leadership conferences and materials, allow for greater representation of elected national officers and staff people working with state associations of agriculture teachers and other national agricultural and governmental groups. I see this affecting dues to individual members who must accept or reject these increased costs if they do expect more representation from their profession. Any dues increase must be used in response to memberships' clear-cut decisions.

The NVATA must develop both short and long range goals in National Agriculture Education leadership and legislative areas which the state associations may follow if desired in their respective states. These goals must be clearly visible to all the membership and revised on a regular basis to meet the desires of the membership. Change in all things is a constant and on-going concept. The state professional organizations and the NVATA will meet change in a constructive and affirmative manner or cease to be strong and representative of its membership.

The local member will either achieve his desires or turn another direction if the leadership of the elected officers or staff employees within the organization are not receptive to these membership desires.

As an organization which prides itself in local teacher direction through state association inputs and from my previous experience as an officer in the Illinois Association of Vocational Agriculture Teachers and now representing all six states of Region IV NVATA on the Executive Committee over the past six years, I firmly believe the professional state associations and the NVATA will meet these challenges and, yes, develop Vocational Agriculture and the FFA to new heights. ◆◆◆

Career Studies at Linganore Junior-Senior High School

Carroll L. Shry, Jr.
NVATA Region VI
Sperry-New Holland Award Winner
Woodsboro, Maryland

Carroll L. Shry, Jr.

Linganore Junior-Senior High School, Frederick County, Maryland, is a comprehensive high school of fourteen hundred students (grades eight to twelve) serving a rural agricultural area. The seven vocational areas in the school are Vocational Agriculture, Horticulture, Business Education, Building Trades, Auto Body Repairs, Electricity, Electronics, and Home Economics.

Before entering the program, students fill out a self-concept form and the Ohio Vocational Interest Test. Guidance counselors assist students with self-analysis from the tests. All eighth grade students rotate through Music, Vocational Agriculture, Metal Shop, Art, Mechanical Drawing and Home Economics to analyze possible career opportunities and to attempt basic and/or typical tasks in each area. Ninth grade students continue the process through other vocational areas.

To orient for the "World of Work" is the goal of the eighth grade career program at Linganore. An explanation of the careers program in Vocational Agriculture follows. Each student spends sixteen days in agriculture. Exploration of the broad field of agricultural production, processing and marketing is conducted through direct contact with people and businesses involved in agriculture in the county. Topics touched include agribusiness, ornamental horticulture, animal science, dairy science, poultry science, agronomy, ecology, wildlife conservation, agricultural mechanics, the FFA and its leadership role.

Interest in the areas is developed through a hands-on policy or field trips to actual agribusiness sites. Laboratory activities such as egg candling and grading, greenhouse seeding, observing germination rates, transplanting, labeling and watering greenhouse plants, simple asexual methods of propagation and simple ag related shop projects are conducted. Many other similar activities have been used or are considered, but the limitation of time makes it difficult to do many skills. However, it is hoped that a few activities in each area will help the eighth grade students make more knowledgeable decisions about their future educational directions.

In each agricultural area touched, emphasis is always placed on the career opportunities available and the typical educational requirements. The pressure of world population and the need to dramatically increase agricultural production in the near future is also emphasized.

The ninth and tenth grade agriculture students are introduced to the career areas of agriculture in relationship to the courses in which they have enrolled. Vocational agriculture is involved with production agriculture, exploring careers in animal science, dairy science, government services, agricultural mechanics and agricultural sales and service. Horticulture has played a vital role in vocational agriculture. Students at Linganore can explore career opportunities in floriculture, landscape design and basic horticulture.

In conjunction with the eleventh grade students' regular agriculture and horticulture classes, the students elect to study a career of their particular interest. This is accomplished by going out on the job for a day and observing the daily operation of the business. The local businesses in Frederick County have supported this program very well.

The work experience program in agriculture is conducted in conjunction with the work-study program for all students in their senior year. In agriculture, the instructor works with the work-study coordinator on the selection of job sites and students for a particular job.

During the school day our administration has made it possible to have one hour for the supervision of ag student projects. This places the instructor on a one-to-one basis in the discussion of student career goals and FFA projects. At the present time Linganore Junior-Senior High School is the only school in Maryland that provides teacher time for supervision during the school day.

The FFA Alumni has been a wonderful help in the career orientation at Linganore. Many of the Alumni members sponsor demonstration days in beef, sheep, dairy, and horticulture enterprises.

In our area there are two granges—Linganore Grange and New Market Grange. They are a vital part of the Vocational Agriculture Program. Each year the members and students sponsor the Annual Community Show. It is deemed successful because each learns from the other, thus making a better community and school.

The key for the success of this entire program (grades eight through twelve) is the total support of our administration. They help to perpetuate the career program so all students have exposure to the myriad of careers in vocational agriculture.

In summary the writer feels that the following elements have helped make a strong program:

1. All students have exposure to agriculture as well as several other fields to aid them in career choices.

(Concluded on page 111)

Teacher Time—Factors Related to Its Use

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University of Nebraska-Lincoln

Forty Nebraska vocational agriculture teachers recorded the time they spent for one year, July 1, 1975 through June 30, 1976, in twenty-seven duty categories. This is the first of two articles that will report the results of several questions asked in a study*, the answers to which may be very helpful to the agriculture teacher and teacher educator in examining the use of time by todays vocational agriculture teacher.

Between 1967 and 1976, enrollment in secondary vocational agriculture programs in Nebraska grew from 5,097 to 8,460 students. In the same period, the number of agriculture teachers increased by only thirty-four, from 117 to 151. In 1975-1976 there were sixty-five secondary school vocational agriculture departments in Nebraska with over 60 students enrolled, and only three of these sixty-five departments had two teachers. Expanding programs were stretching the teacher's use of time far beyond the school day and five-day school week.

The Findings

Average hours worked per month by the 40 teachers was 221, with an annual average of 2,652 hours. The range was from 1,833 to 4,633 hours. Table 1 shows the annual average hours in each duty category for the forty teachers. A study of the table shows that 1) 31 per cent of the time was devoted to "planning and teaching day vocational agricultural classes," 2) "advising and supervising FFA activities" accounted for 11 per cent of time used, 3) "curriculum planning" accounted for 8 percent, and 4) "supervising occupational experience programs" for 6 per cent. The remaining 44 per cent was devoted to community activities, adult teaching, and department management in the remaining twenty-three duty categories.

Table 2 shows the average hours reported, by month, for the 40 teachers. The peak workload was reached in March, with an average of 301 hours per teacher.

TABLE 1
AVERAGE HOURS WORKED BY 40 NEBRASKA VOCATIONAL AGRICULTURE TEACHERS, BY DUTY CATEGORY

Duty Category	Average Hours Per Year
1. Plan & teach day agriculture classes	834.17
2. Plan & teach non-agriculture day classes	82.80
3. Plan & conduct young farmer classes	14.20
4. Plan & conduct adult classes	26.40
5. Conferences with students	81.72
6. Supervise study halls	58.97
7. Supervise occupational experience programs	167.67
8. Scheduling & upkeep of facilities	111.07
9. Advising and supervising FFA activities	302.20
10. Training judging teams	90.17
11. Completing official reports	29.20
12. Other school responsibilities	77.80
13. Budgeting, requisitioning & inventorying	45.25
14. Public Relations for the department	48.37
15. Participation in community activities and responsibilities	57.82
16. Participation in state, regional or national professional organizations	76.30
17. Recruitment for the department	11.22
18. Curriculum planning	201.35
19. Completing award applications	27.55
20. Preparing for and participation in fairs	86.20
21. Organizing and using advisory committees	6.62
22. Attending local school teacher staff meetings	29.95
23. Teaching & supervision in post-high agriculture vocational programs	6.42
24. Participation in young farmer association activities	5.27
25. Class sponsor	7.25
26. Participation in other agriculture organizations	16.32
27. Other activities conducted on a regular basis	149.87
Total Annual Hours	2,652.20

TABLE 2
AVERAGE HOURS WORKED PER MONTH BY FORTY NEBRASKA VOCATIONAL AGRICULTURE TEACHERS
from July 1, 1975—June 30, 1976

Month	Average Hours Per Month
July	190.62
August	197.35
September	271.35
October	214.67
November	194.65
December	205.92
January	233.52
February	235.15
March	301.27
April	204.60
May	270.77
June	132.30
TOTAL HOURS PER YEAR	2,652.20

Does marital status make a difference?

Thirty-four married teachers worked an average of 216 hours per month while the six single teachers worked an average of 244 hours. There was no significant difference in hours worked per month between married and single teachers.

Only one of the twenty-seven duty category tests based on marital status was significant. The single teacher devoted significantly higher hours per month to public relations for the department.

Does age of teacher make a difference?

Teachers were placed into eight age groups. Table 3 shows the distribution and average hours worked by month for each age group.

Does achieving a master's degree make a difference?

Table 4 shows the average hours worked by teachers who held the bachelor's and master's degrees. There was no overall significant difference found in the test based on professional degree held. There were, however, significant differences found in three of the duty categories. Teachers who held a master's degree recorded significantly higher average hours worked per month in (1) completing official reports, (2) participation in community activities and responsibilities, and (3) participation in state and national professional associations.

Does using a school owned vehicle for professional travel make a difference?

Table 5 shows that twenty-six of the forty teachers used a school owned vehicle for their professional travel. The difference test showed that these twenty-six teachers worked significantly higher average hours per month compared to those 14 teachers who used personal vehicles. In addition, teachers who used school owned vehicles devoted significantly higher average hours per month toward advising and supervising FFA activities, compared to those using personal vehicles.

TABLE 3
AVERAGE HOURS WORKED PER MONTH BY FORTY NEBRASKA VOCATIONAL AGRICULTURE TEACHERS BY AGE GROUP

Age Group	Number of Teachers	Average Hours Per Month
1. 20-25	14	241
2. 26-30	17	225
3. 31-35	2	185
4. 36-40	2	212
5. 41-45	0	0
6. 46-50	2	178
7. 51-55	1	245
8. 56-60	2	176
TOTAL	40	

TABLE 4
COMPARISON OF AVERAGE HOURS WORKED PER MONTH BY FORTY NEBRASKA VOCATIONAL AGRICULTURAL TEACHERS BASED ON PROFESSIONAL DEGREE HELD

Degree Held	Number of Teachers	Mean Hours Worked Per Month
B.S.	34	218
M.S.	6	234
TOTAL	40	

TABLE 5
A COMPARISON OF AVERAGE HOURS WORKED PER MONTH BY FORTY NEBRASKA VOCATIONAL AGRICULTURE TEACHERS BASED ON WHETHER A SCHOOL-OWNED OR PERSONAL VEHICLE WAS USED FOR PROFESSIONAL TRAVEL

Type of Vehicle Used	Number of Teachers	Mean Hours Per Month
School-owned	26	233[a]
Personal	14	197
TOTAL	40	

[a]Significant at the .05 level

SUMMARY

Forty Nebraska vocational agriculture teachers worked an average of 2,652 hours per year, or 221 hours per month. Marital status was not a factor in amount of total hours worked, except that single teachers devoted more time to public relations activities than married teachers. The teacher's age did make a difference; teachers aged 20-30, 36-40, and 51-55 worked more hours than other age groups. Also, the older teacher tended to spend more time in community activities and responsibilities. Those teachers with Master's degrees spent more time in community activities, professional organizations, and completing reports. Teachers who used school owned vehicles worked more hours than those who used personal vehicles, especially for advising and supervising FFA activities.

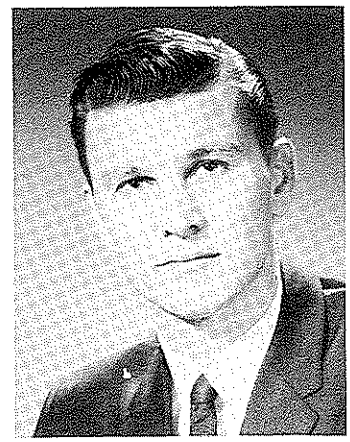
*Published as Paper No. 5197, Journal Series, Nebraska Agricultural Experiment Station.

CONTINUED CAREER STUDIES AT LINGANORE . . .

2. The entire industry of agriculture, its importance to the nation and the career opportunities are emphasized.
3. Hands-on experiences are sought in the various areas of agriculture and are supplemented with laboratory and/or field trip activities.
4. Though the major goal of the program is to assist in career development for the students, it also assists in recruitment and as an orientation device for the existing secondary program of vocational agriculture.
5. The FFA Alumni plays a major role in the development of the total agriculture program.
6. Project supervision should be provided during the school day to help strengthen vocational agriculture and FFA programs and projects.
7. Involvement of community organizations are necessary to create better community and school relationships.
8. The instructor needs the total support of the school administration to have a successful career orientation program.

New Training Methods Fight Teacher Rust

Joseph G. Cvancara
Head, Agricultural Education
Washington State University



Joe Cvancara

You're probably going back to school. Rapid changes in technology and science are going to make that necessary — otherwise, most of us will get obsolete long before our careers are over.

Programs in vocational agriculture throughout the United States are undergoing many changes. Teachers of vocational agriculture are adapting to these changes by keeping current with federal and state legislation and by participating in national, state, and local meetings and workshops. Teachers are also finding it necessary to become more involved through in-service educational programs.

Vocational agriculture training has served a tremendous need by preparing youth and adults for occupations in agriculture, mainly production agriculture. The challenges and past efforts in vocational agriculture have been fruitful and rewarding. But, the circumstances that existed in 1946 do not exist in 1976. As a result of changes in the agricultural sector, vocational agriculture must serve a broader segment of the labor force. Vocational agriculture teachers cannot afford to rest on past laurels, as change is necessary.

It is hard for a teacher to stay proficient. One of the best ways to keep current with the times is through in-service education. Agricultural technology changes so fast that a teacher must regularly secure additional instruction if he/she is to properly serve those with whom he/she works.

Regardless of how thorough the preservice curriculum may have been before the degree was awarded, a teacher never is able to take all the courses needed. Often, courses taught by vocational teachers, such as forestry or horticulture, were not required in the preservice program. The need for in-service training becomes increasingly more important as awareness of these deficiencies grows.

In-service education programs for teachers of vocational agriculture have been generally accepted as a means of trying to keep teachers up-to-date, especially in subject areas. It is impractical to try to use one approach for meeting in-service education needs. On-campus graduate courses at the state university do not meet one of our great needs, as many teachers are seeking information, and not degrees. Likewise, six to eight weeks of in-service training during the summer is out of the question for most teachers on extended contracts.

In Washington, the traditional methods of in-service education include:

1. Regular summer courses, 6-8 weeks in length. Primarily professional education offerings.
2. General Extension courses — Offered off-campus normally over an extended period. Primarily professional education offerings.
3. Special Problems — By arrangement with students usually of a professional nature towards an advanced degree.
4. Workshops — Usually one week for undergraduate credit or for no credit. Either professional or technical agriculture offering.

In 1974, two new approaches were developed to supplement the in-service education program at Washington State University. They were the two-week summer school and the two-day mini-courses. Both educational programs have become extremely popular with 51 teachers enrolled for credit during the two-week session and 130 teachers enrolled for credit in the mini-courses in 1975.

The two week summer school — Students are enrolled in two courses in residence for two weeks beginning the first day of summer school in June. Additional course requirements for the two courses may extend over the entire 8 week summer session, but teachers are on campus for only the two week period. Courses are developed specifically for vocational agriculture teachers and county extension personnel and are typically technical agriculture courses taught by staff members in the College of Agriculture. Professional Agricultural Education courses are also available during this period. Teachers can receive up to four credits of undergraduate or graduate credit during this period.

The two day mini courses — two days or 16 hours of time were devoted at the state teachers' conference, where technical subject matter was provided for approximately 175 teachers. The mini-courses were designed to meet immediate needs of teachers and arrangements were made through the University to use teachers of vocational agriculture and other agriculture specialists for some of the training. This was an extremely successful approach because competence in both methods of teaching and subject areas was needed. The mini-course approach using teachers of agriculture accomplished both purposes. The mini-courses offered the last two years included: Methods of Teaching Forestry; Methods of Teaching Horticulture; Methods in Teaching Agricultural Mechanics; Methods in Teaching Production; and Methods in Teaching Special Education. Under each head-

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TOOL INVENTORY AND REPLACEMENT

W. Forrest Bear
University of Minnesota
St. Paul, Minnesota

When vocational agriculture instructors are asked about the tool inventory and replacement programs for their school district, a puzzled expression is registered. Either the school doesn't have one or I'm conversing with the wrong individuals. I hear about industries and business firms that lay aside funds for such purpose, so why not our schools?

Tools and equipment will wear out and need replacement; therefore, it should not come as a complete surprise. Schools have a line budget item called Capital Expenditure Fund. Reserves should be established and maintained within Capital Expenditure Fund which will be used for this purpose. If this cannot be mandated, it should be developed and maintained on a voluntary basis under the General Fund such as:

(a) Instructional Equipment
(b) Operational and Maintenance Equipment, and
(c) Replacement Equipment

WHY?

Tools and equipment are needed to conduct instructional programs. These instructional programs are hopefully sensitive to the modern world of work rather than a curriculum from the archives of the museum. Preparation for employment and career development is verbalized in the front office but when the staff on the firing line wants curriculum changes involving dollars for software, hardware and new facilities the "fast shuffle" is dealt. How many of you have heard, "Make all the changes necessary as long as it doesn't involve new staff or any expenditures"? This is not meant to imply that all administrators wear *black hats;* however, they are in the position to develop the proper administrative and budgetary procedures.

LET'S SUPPOSE!

Let's suppose you were called in by the administration and given this request, "Please supply me with a listing of all your shop tools with a description, anticipated life, annual repair expense, replacement cost and a projected purchase plan for the next five years based on educational and instructional needs." That would be a pleasant surprise but after the initial shock what could you produce from your files?

INVENTORY RECORDS!

You could answer the request if you had the following data on each power tool or major piece of equipment in the instructional program. Evaluate this proposed inventory card.

TOOL INVENTORY

TOOL NAME	P.O. DATE	P.O. NO.	VENDER
BID	DESCRIPTION	MAKE	MODEL

ACCESSORIES AND COSTS

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Mfg. Serial No.	Year of Mfg.	Amt. Yrs. Life	Inv. Ident. No.

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Initial Cost Analysis		Disposal Record	
Basic Unit		Sales Value	
Accessories		Trade-In Value	
Transporation		Scrap Value	
Total		Other: (Fire-Flood)	
Reimbursement Amt.		Recipient	
		Date	

REPAIR & MAINTENANCE

Date	Item	Cost

With the above information, reimbursement forms can be completed if the item is classified as reimbursable. Reimbursement requirements have probably tightened more record keeping procedures than any other factor. How many records are enough records is another question and will not be discussed. With this inventory record, a more accurate net worth of the tools and equipment can be determined.

Evaluate your curriculum offerings, the new trends in business and industry, and develop the master tool purchase plan over a three to five year schedule.

HOW MANY DOLLARS?

One administrator told me, "Don't make such a fuss over a few shop tools." He was also unable to list the types of tools in the shop area (agriculture and industrial education), nor could he estimate the dollar value invested. If you are equipping a shop in 1976 the initial investment for tools and equipment should be in the $35,000-$45,000 range. Local conditions might warrant greater expenditures. Monies for annual replacement of tools and equipment should be 10 percent of the initial investment or $3,500-$4,000. With the advent of the fee statement laws the consumable supply budget takes on a new perspective. At a recent meeting of U.S. Agricultural Teacher Educators, the value of $40.00

(Concluded on next page)

CONTINUED TOOL INVENTORY . . .

per student per year for consumable supplies was considered modest by several educators but prohibitive by others. If you aren't regularly involved with ordering tools, equipment and supplies you have a surprise coming. How many dollars are enough is a tough question because of community and curriculum differences. However, if we are going to provide our students with experiences that resemble the world of work there must be dollars committed.

BLACK HAT, WHITE HAT

Why must you teachers always be critical of the administration and blame them? Should they be expected to follow you around suggesting curriculum changes and forcing purchase orders into your mailbox? Isn't it easier for you to be critical than constructive? Why don't you be the leader and plan your purchase needs? Tell the administration what's needed because, after all, aren't you the most knowledgeable person on the staff relative to your program?

If you are prepared with a sound tool and equipment purchased program based on economic and educational logic, and *if* results still don't occur it will then be easier to determine who should be wearing the white or black hat. ◆◆◆

CONTINUED LEARNING TO DO . . .

ness including a cooperative placement program during the last two years of high school.

4. A planned program of skill development in the agricultural mechanics area which would be a part of the program for each person enrolled and for each year enrolled.
5. Class instruction would be closely related and sequenced to the supervised occupational experiences and other projects by individuals in the classes and the class as a whole.
6. Active participation in some phase of the FFA program would be a requirement for membership. Emphasis on doing here too rather than on total number of members. Encourage a strong participation in proficiency awards by members of each class each year.
7. Highly individualize the program for each person within the above framework. This would include managerial experiences for those ready for entrepreneurship.

For many in the vo-ag program, this will be the last of their full-time formal education. We must take advantage of these years in helping, as one student put it, "get it all together!" ◆◆◆

CONTINUED INDUSTRY EXPERIENCE IN . . .

quently, especially during the summer. Monitoring safe boating limits on the lakes, maintaining recreational facilities, and enforcing Forest Service rules and regulations are much more challenging than I first thought.

I sincerely appreciated the interest of the staff, and felt that each employee knew my training plan objectives. If other internships help me as much as the Forest Service did to become a better vocational agriculture teacher, I will definitely enroll in more.

Having completed the internship, I have enjoyed firsthand experience in the management of agricultural resources. As I teach, I can expand the motivation part of the lesson by offering more varied examples. I understand, not simply recognize, many of the problems of conservation. My students now have more guidance in specifying possible solutions to conservation challenges.

The noted leader Lindly C. Baxter once wrote, "What is done in our classrooms today will be reflected in the success or failures of civilization tomorrow."[2] Let us, the vocational agriculture instructors, keep ourselves as well prepared as possible to maintain our precedence of excellence in education. ◆◆◆

[2]Hughes, p. 331.

CONTINUED . . . TEACHER RUST

ing, specific subject matter was also taught.

One undergraduate credit was available for those teachers who enrolled and paid fees.

The opportunity has been provided for Washington teachers of agriculture to receive in-service education on a college credit or a noncredit basis. Many teachers have taken advantage of the in-service opportunities available to keep abreast of changes in the agricultural education program and in technical agriculture. In-service programs provide a time for learning and also a time for sharing ideas with other instructors and other persons in the field of agriculture and administration.

Establishing a similar program in your state based on the last two in-service approaches may take some doing. You may have to break some long-standing traditions, including institutional red tape. Your reputation for high academic standards may even be questioned. However, if you believe in vocational agriculture and want the best possible program for teachers, the results are well worth the risk.

After all, the measure of effective teacher education — either preservice or in-service — is the quality of teaching that takes place in the schools.

It may not be possible for a teacher to participate in all in-service opportunities in one year, but over a period of years, an alert teacher should want to be involved in many of the events that were discussed. ◆◆◆

Leader in Agricultural Education:

HAROLD D. GARVER

*by George A. Robinson**

Local classroom teachers are largely responsible for many of the honors accruing to a state's Vo-Ag and FFA program. These unsung heroes of the day-to-day routine of planning and teaching in the classroom and laboratory, supervising students on the farm or other places where occupational experience programs are implemented, and advising a myriad of FFA activities are the very heart of vocational agriculture across the United States and its territories. One such teacher was Harold D. Garver.

Harold Garver did not begin his career in agriculture as a teacher of vocational agriculture He graduated from high school and entered Kansas State Agricultural College at a time when World War I was imminent. Completion of college was interrupted by military service and the operation of the home dairy farm near Abilene, Kansas, for seven years.

The decision to leave farming coincided with a teaching vacancy in the Shawnee Mission Rural High School at Merriam, Kansas. Since he was the only available and qualified "Smith-Hughes" teacher, Professor A. P. (Davy) Davidson at Kansas State promised Mr. Garver a "good school" the next year if he would just finish the school year at Shawnee Mission. That was during the 1928-29 school year. Thirty-three years later, in 1961, he related to "Davy" that he had waited long enough for that "good school" and that he was retiring.

FFA trips figured heavily in chapter activities at Shawnee Mission. During the winter of 1935-36, nine cars and six adults were used in taking 48 FFA members on a 4,200 mile trip to Homestead, Florida. In the spring of 1940, a total of 40 FFA members, eight adults and eight cars, went on a two week trip to Washington, D.C.

After World War II, the Chapter took to the air for trips to Cheyenne, Wyoming; Woodward, Oklahoma; and New Orleans. Shawnee Mission was one of the first (if not the first chapter) to take extended trips by either car or plane. Not one cent of the taxpayers' money was used for any trip or anything else strictly of FFA benefit. Donations were never solicited or accepted.

When referring to Harold Garver, Dr. A. W. Tenney (past National FFA advisor), had this to say, "He was a great teacher and a man who has always lived up to the high ideals of the FFA. I first met him in 1935 when he took the Shawnee Mission chapter to Florida. His chapter slept one night in my classroom at the P. K. Yonge Laboratory School at the University of Florida. When I became National Executive Secretary of the FFA, it was natural for me to turn to my friend at Shawnee Mission anytime I needed anything constructed for the FFA convention. Harold never seemed to learn how to say no to my requests. They built the big 'V' which was used for the pageant at the Victory Convention. It was so large it required three trucks to haul it to the auditorium."

George A. Robinson

*George A. Robinson is a teacher educator at Washington State University and a high school student of the man being honored.

For the Silver Anniversary Convention pageant, Harold's boys built a framework for a birthday cake which was large enough to hide 25 FFA members. When the cake was rolled into the arena, the lights were low. Bob Taylor, who was dressed as Uncle Sam, asked the National FFA chorus to gather around the cake and lead the members in singing Happy Birthday to the FFA. After singing he said, "A birthday isn't complete without candles. Candles come forth." At his command, 25 FFA members, one after the other, broke through the paper covering the cake. The audience broke into great applause. Harold's cake was a great success.

When Harold Garver referred to the various requests made of the Shawnee Mission chapter, he said, "I am not being modest when I disclaim any credit for what my boys have done. I did have the ability to recognize the natural ability of my boys. I just said, 'here is the job that someone expects us to do. Now, go ahead and do it.'"

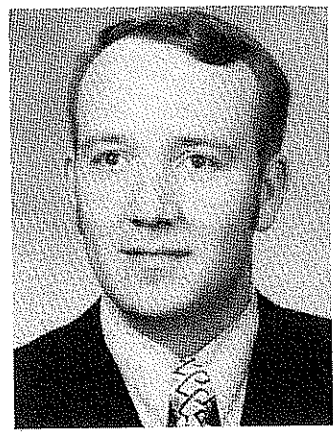
The Courtesy Corps, as FFA members know it today, was the outgrowth of voluntary service by members of the Shawnee Mission Chapter who carried messages, operated the mimeograph, and performed other tasks for the FFA Convention Headquarters.

Because of its nearness to Kansas City and the National FFA Convention site, as well as the American Royal, the

(Concluded on page 118)

Morale of Virginia Ag Teachers

Larry E. Miller
Teacher Education
University of Missouri



Larry E. Miller

Teachers have a great amount of influence upon those students that come under their tutelage. Therefore, if they are to train students for the working world, they must be aware of the image they are presenting to their students in terms of their own professional conduct. The overall morale of the teachers can present to students what they consider to be the way that employers are to conduct themselves.

"High morale is evident when there is interest in and enthusiasm for the job."[1] The question is, then, do the teachers that mold the young minds reflect the image of an employee that they would like their students to possess? Are they professional when professionalism denotes the enthusiastic pursuit of the worthy standards of a profession?

An interest in the morale of teachers prompted a study of teachers of Agricultural Education (Vocational Agriculture) in Virginia. According to Bently and Rempel, morale is considered to be the emotional and mental reaction of persons to their job. They note that morale is an imprecise although highly important term, and that morale is determined by how the needs of an individual are satisified. They further define morale as the professional interests and enthusiasm that a person displays toward the achievement of individual and group goals in a given job situation.[2] For the Virginia Study, morale was defined as the scores on the Purdue Teacher Opinionaire (PTO), an instrument which purports to measure morale. Professionalism and morale should have a direct relationship, according to the definitions.

The study attempted to discern if first year teachers differed in morale from experienced teachers, teachers with more than one year's experience. No statistically significant differences were found between the two groups.

A number of activities and professional responsibilities were selected to see if they correlated with the morale of teachers. Again, no significant correlation was found that would point to either high or low morale correlating with such variables as class size; periods taught per day; years of teaching experience; type of certificate held; length of contract; adult, young farmer or FFA work; home visitation or length of work week.

Perhaps the most interesting portion of the results of the study are found when looking at the scores of the teachers of Agricultural Education when compared with other teachers. Each of the 10 factors of the PTO is determined by a number of questions on the instrument. However, for the sake of brevity, only the total factor scores will be discussed. The scores of the Agricultural Education teachers were compared with two groups. The first is a norm group comprised of representative junior and senior high school teachers and in the second is all who make up the total normative data for the PTO.

The following describes the factors of the PTO[3]:

1. *Teacher rapport with principal* deals with the teachers' feelings about the principal.
2. *Satisfaction with teaching* pertains to teacher relationships with students and feelings of satisfaction with teaching.
3. *Rapport among teachers* focuses on the teachers' relationships with other teachers.
4. *Teacher salary* pertains primarily to the teachers' feelings about salaries and salary policies.
5. *Teacher load* deals with such matters as record keeping, clerical work, community demands, extra-curricular load, and keeping up to date professionally.
6. *Curriculum issues* solicits teacher reactions to the adequacy of the school program in meeting student needs and in preparing students for effective citizenship.
7. *Teacher status* samples feelings about prestige, security and benefits afforded by teaching.
8. *Community support* of education deals with community understanding and willingness to support a sound educational program.
9. *School facilities and services* concerns the adequacy of facilities and efficiency of procedures for obtaining materials and services.
10. *Community pressures* relates to community expectations regarding a teacher's personal standards, participation in outside-school activities and freedom to discuss controversial issues in the classroom.

Studying Figures 1 and 2, in terms of the factors of the PTO, one finds that several facts are noteworthy. In Figure 1, if the percentile factor is 35, then this would indicate that 65 percent of the representative junior and senior high school respondents rated that factor higher. Note that beginning teachers rated all factors higher than did experienced teachers. Figure 2 shows how the Virginia Agricultural Education teachers compared with the total norm group of all teachers irregardless of type of school. Only the tenth and fiftieth percentiles are shown, since the Agricultural Education teachers in Virginia tended to be in that proximity.

Teacher rapport with the principal showed the experienced teachers' ratings to be at the thirty-fifth percentile

(Concluded on next page)

when compared to representative junior and senior high school teachers (Fig. 1) and between the tenth and fiftieth percentile of all norm group teachers (Fig. 2). The remainder of the factors may be read and interpreted from the figures in a similar manner.

Summarizing Figure 1, beginning Virginia teachers of Agricultural Education were above the fiftieth percentile, as compared with representative junior and senior high school teachers, on the factors of teacher rapport with principal, rapport among teachers, curriculum issues, teacher status, and community support of education. Experienced teachers, Figure 1, were above the fiftieth percentile on only the community support of education factor.

This study poses some questions that should be asked. When compared with all norm group teachers and representative junior and senior high school teachers, why do Virginia teachers rate so low? Are Virginia teachers unlike other teachers in the country? If not, why do teachers of Agricultural Education rate so low? This study could not discern any significant correlation between several factors that might affect the morale of teachers and the scores on the PTO. Are teachers of Agricultural Education less satisfied with teaching, more adversely concerned with salary, load and community pressures than the typical teacher? From these results, it appears that this is the case for Virginia teachers of Agricultural Education. ◆◆◆

FIGURE 1

First Year and Experienced Virginia Agricultural Education Teachers' Morale Compared With Representative Junior and Senior High School Teachers

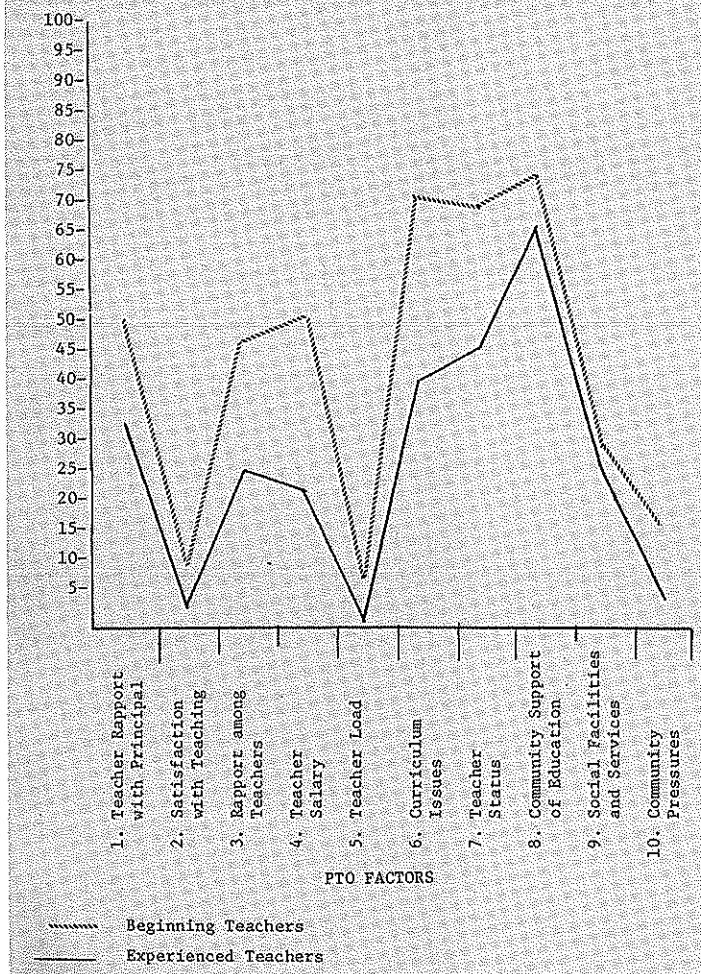
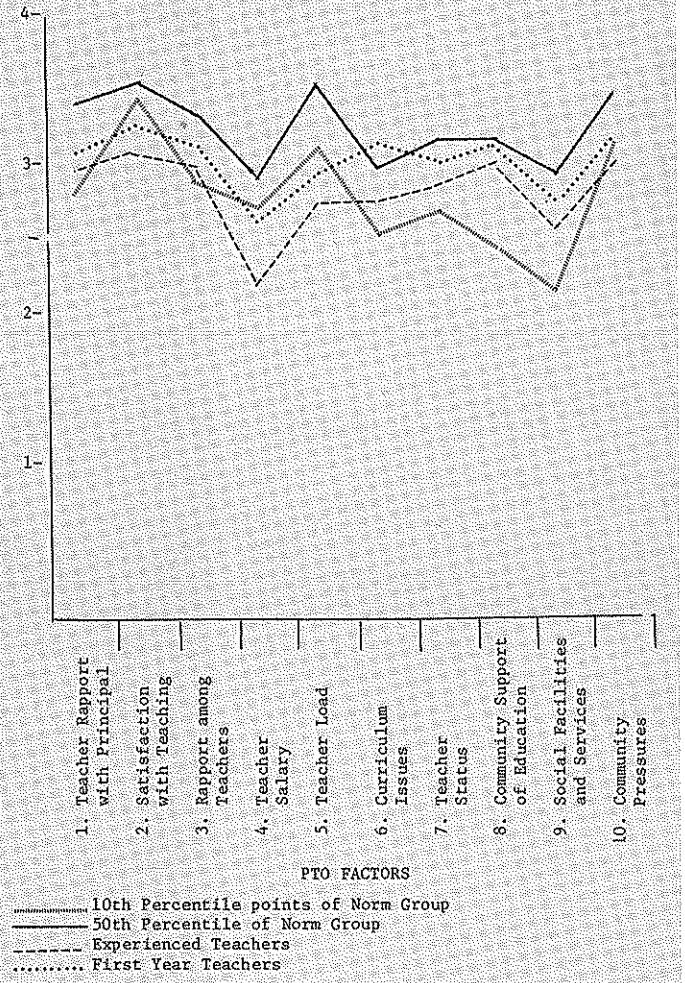


FIGURE 2

First Year and Experienced Virginia Agricultural Education Teachers' Morale Compared with Tenth and Fiftieth Percentiles of PTO Norm Group



FOOTNOTES

[1]R. R. Bently and A. M. Rempel. *Manual for the Purdue Teacher Opinionaire.* West Lafayette: University Bookstore, 1970.
[2]*Ibid.*
[3]*Ibid.*

Shawnee Mission Chapter in its early years hosted numerous chapter delegations from over the nation by supplying places to sleep in the Vo-Ag classroom and shop. One night the number of guests reached 150. To all this, Mr. Garver commented, "It was a tribute to FFA training that only one group violated the courtesy we extended to them."

The activities mentioned previously are but a few of those in which the Shawnee Mission Chapter participated. Cooperation, Community Service, Leadership and Recreation were some of their stronger activities. The program was well rounded, because in 1935 Shawnee Mission was selected as the "Best" chapter in the National FFA Chapter Contest.

When Harold Garver retired in 1961, a 33 year era came to a close. During that 33 year period the chapter had two American Farmers; one national officer; 37 State Farmers, one of whom was District Star Farmer; six State officers — three presidents, two vice-presidents, one treasurer; three winning public speakers with seven others placing. Those represent but a few of the many activities and contests in which chapter members participated.

When Harold Garver went to work at Shawnee Mission, the Board of Education got the services of two people. Harold and Mrs. Garver were a team! She shared his successes and failures, and was always ready and willing to assist his every effort.

According to Mr. Garver, "pride, loyalty and respect seem as great and genuine as ever before. Whoever coined the slogan 'A Future Farmer is Always a Gentleman' did more for the FFA than any other one thing. I feel somewhat qualified to make that observation, as I claim to be the only living person who has attended every national FFA Convention with the exception of the organization year, 1928."

Dr. Tenney summed up the contribution of Harold Garver to Vo-Ag and FFA as follows: "He is a man who left his imprints on the lives of youth who worked under his instruction. He never loses interest in 'his boys' and takes great pride in their achievement. By his efforts he helped to establish and improve the status of the teacher of vocational agriculture. He is a credit to the profession and is a friend of agriculture and youth who are preparing for careers in this great field."

I can concur in all that Dr. Tenney said about Harold D. Garver, because I am also one of "his boys." Interested persons may correspond with Mr. Garver at 8301 West 60th Street, Shawnee Mission, Kansas 66202. ◆◆◆

From the Book Review Editor's Desk . . .

BOOKS TO BE REVIEWED

A B C AND X Y Z OF BEE CULTURE; By A. I. Root, The A. I. Root Company (1975)

THE BACK POCKET GUIDE TO ORNAMENTAL PLANTS, By E. Wesley Conner, Vocational Education Productions (1976)

THE HOW IN PARLIAMENTARY PROCEDURE, By K. L. Russell, The Interstate Printers & Publishers, Inc., (1976)

IN TOUCH WITH STUDENTS, By John R. Campbell, Educational Affairs Publishers (1972)

NEW CONCEPTS OF CATTLE GROWTH, By Roy T. Berg & Rex M. Butterfield, Halsted Press (1976)

"IS SHE GOING TO MAKE IT, DOC?", By Dr. John B. Herrick, Reiman Associates (1975)

CATTLE BREEDS INDEX, by Les Stephen & Ward Sullivan, Jr., Research Communications Incorporated,

OUR NATURAL RESOURCES, By H. B. Kircher & P. E. McNall, The Interstate Printers & Publishers, Inc. (1976)

NO-TILLAGE FARMING, By S. H. Phillips & H. M. Young, Jr., Reiman Associates, (1973)

EDUCATORS GUIDE TO FREE FILMS, By M. F. Horkheimer & J. C. Diffor, M.Ed., Educators Progress Service, Inc. (1976)

EDUCATORS GUIDE TO FREE FILMSTRIPS, By Horkheimer & Diffor, Educators Progress Service, Inc. (1976)

500 ANSWERS TO BEE QUESTIONS, By The Editorial Staff, A. I. Root Company, (1973)

EDUCATORS GUIDE TO FREE TAPES, SCRIPTS, AND TRANSCRIPTIONS, By James L. Berger, B.S., Educators Progress Service, Inc. (1976)

EVERYTHING YOU WANTED TO KNOW ABOUT FARM MANAGEMENT CONTESTS, BUT DIDN'T KNOW WHERE TO LOOK, By K. C. Schneeberger, Ageco, Inc.

STARTING RIGHT WITH BEES, By The Editorial Staff, The A. I. Root Company, Publishers (1974)

HONEY PLANTS MANUAL, By Harvey B. Lovell, Ph.D., A. I. Root Company (1966)

AGRICULTURAL TERMS; By Oryx Press, The Oryx Press (1976)

PULPWOOD PRODUCTION; W. S. Bromley, The Interstate Printers & Publishers, Inc. (1976)

COMFREY FODDER, FOOD & REMEDY; By Lawrence D. Hills, Universe Books (1976)

THE LIVING SOIL; By E. B. Balfour, Universe Books (1976)

FEED ENERGY SOURCES FOR LIVESTOCK; By Swan and Lewis, The Butterworth Group (1976)

CORN QUALITY IN WORLD MARKETS; By Lowell D. Hill, The Interstate, (1975)

PRINCIPLES OF APPLIED CLIMATOLOGY; By Keith Smith, A Halsted Press Book, (1975)

If you feel qualified to review one of these books and desire to do so, write the Book Review Editor and he will send the book for review. Once reviewed, the book becomes the property of the reviewer.—John Hillison, Book Review Editor, Ag. Educ. Program, Virginia Polytechnic Institute and S. U., Blacksburg, Virginia 24061.

BOOK REVIEWS

UNDERSTANDING AND USING ELECTRICITY, by Bruce A. McKenzie and Gerald L. Zachariah. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1975, 97 pages, $1.95.

UNDERSTANDING AND USING ELECTRICITY develops a simplified but solid discussion of the basics of electricity and electrical systems and how they work. The book's emphasis is on the practical application of electricity in its everyday application and use in the home, farm, business and industry. Presented in an easy-to-read format, the book is well illustrated with pictures and schematics. The material is further supported with a number of simplified planning and selection tables dealing with the wise, efficient and safe application of electrical energy.

This book is divided into fourteen units with fifteen appendix tables. The content is a brief but substantial presentation of wiring practices, overcurrent protection, electric service systems, solid-state devices, electrical controls, electric motors, phase converters, lighting, electric heat and air conditioning. A list of references provide sources for more depth study of selected topics.

The background of the authors as home owners, educators, and agricultural engineers involved in both classroom and adult teaching presents a unique combination of experience. Bruce A. McKenzie is Extension Agricultural Engineer and Professor of Agricultural Engineering, Purdue University and Gerald L. Zachariah is Chairman, Department of Agricultural Engineering, University of Florida.

The book should be a valuable addition to everyone involved in the everyday application and use of electricity. UNDERSTANDING AND USING ELECTRICITY will be very useful as an educational reference and guide for teachers and students of agriculture in high school, and in post secondary programs.

H. Cecil Beggs
Area Adult Teacher
Agricultural Education Service
Athens, Georgia

PRODUCING VEGETABLE CROPS, by George W. Ware and J. P. McCollum. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1975, Second Edition, 599 pages, $10.75

This book deals with the principles, economics, and production practices of vegetable growing. It provides information to the vegetable grower on what kinds of vegetables to grow, how to grow them successfully, the right kind of harvesting and marketing.

Section One (containing 13 chapters) deals with basic information and the fundamental principles of vegetable growing which are generally applicable to all sections of the country. Section Two (containing 21 chapters) discusses special crop production practices. For each major vegetable crop discussed, the following types of information are provided: classification, origin and history; scope and importance; trends in production efficiency; climatic requirements, selecting cultivators and seed, preparing the soil, fertilizing and manuring; preparing the seedbed and planting (or setting), cultivating and irrigating; controlling diseases and insects; harvesting and grading; and selected references.

PRODUCING VEGETABLE CROPS is a practical and down-to-earth guide for the operating vegetable grower.

The authors are nationally recognized authorities in this field. They are well qualified by years of extensive study, research and production experience. They have written extensively on vegetable production.

The book can serve as an authoritative reference for vegetable producers and as a textbook for high school, technical school, or even college courses in vegetable production.

Joe R. Clary
North Carolina State University
Raleigh, North Carolina

EVALUATION IN ADULT BASIC EDUCATION: HOW AND WHY, by Arden D. Grotelueschen, Dennis D. Gooler, and Alan B. Knox. Danville, Illinois: The Interstate Printers & Publishers, Inc., 1976, 274 pp. $12.50

This is a new publication for adult and continuing educators. Although it has specific applicability to adult basic and secondary education, it also is a useful resource volume for persons working in various aspects of adult and continuing education or educational program evaluation.

The book consists of ten chapters. Chapter One focuses upon the various contexts of adult basic education and provides a background for examining the relationship of evaluation to them. Chapter Two describes various definitions, potentials, and limitations of evaluation. Chapter Three focuses upon decisions about what ought to be evaluated and how evaluation might be conducted. Chapter Four is an overview of administrator responsibilities that directly influence the nature and quality of instruction available in a basic education program. The next five chapters contain in-depth descriptions of how and why evaluation is related to five areas of administrator responsibility: determining program emphases, assessing the adequacy of program resources, ascertaining program outcomes, evaluating staff development activities, and evaluating instruction and instructors. The final chapter, Chapter Ten, presents the reader with suggestions for actually conducting an evaluation—from planning an evaluation to encouraging use of evaluation results.

The authors appear to be well qualified in the area of adult and continuing education and program evaluation. Each has published numerous articles in recognized professional journals. They all have had national professional leadership responsibilities in a variety of professional associations and have served as consultants to many organizations and institutions.

Because of its specific nature, the book will probably be most useful to agricultural educators as a reference. However, it could be utilized as a text for many graduate classes which deal with adult and continuing education evaluation. The technical nature of the material is likely to preclude its use in undergraduate classes.

Paul R. Vaughn
Virginia Polytecnic Institute
and State University

FEED FORMULATIONS, by Tilden Wayne Perry. Danville, Illinois: The Interstate Printers & Publishers, Inc., 1975, Second Edition, 272 pp. $7.75

First published under the titled *Feed Formulations Handbook* in 1966, this second edition, entitled *Feed Formulations,* deals primarily with the feed manufacturing business. The book should prove valuable for feed manufacturers and mixers, farmers and stockmen who mix their own feed, and educational programs concerned with feed production, processing, and distribution.

The complete coverage of the book may be partitioned into three categories:

1) basic nutrition and nutrient composition;
2) domestic livestock, poultry, and dog ration formulations; and,
3) the basic process of manufacturing feeds.

Several chapters are concerned with feedstuff composition, digestibility, and classification. Other basic chapters include nutrient uses and deficiencies, ration utilization, and microingredients. These chapters are general and basic in their approach.

The second category includes seven chapters about formulations for beef cattle, dairy cattle, horses, poultry, sheep, swine and dogs. Example rations for meeting production, growth, or maintenance requirements are presented.

Finally, the third and largest group in terms of chapters is directly concerned with the manufacturing and processing of feeds. Placed strategically through the book are chapters on the feed manufacturing business, effects of processing and storage on feed quality, costs, and procedures for making a feed formula. Of special interest to feed industry personnel is a chapter on linear programming. The appendix also includes an example of restraints for linear programming of formulations.

Other interesting and informative material includes feedstuff analyses and compositions, addresses of the Agricultural Experiment Stations and feed control officials, and feed standards.

The author, Dr. Tilden Wayne Perry, is Professor of Animal Sciences at Purdue University. He draws upon many of the University resources for sample rations and linear programs.

The book should be of greatest value to personnel and students involved in feed manufacturing.

Gary E. Briers
Iowa State University
Ames, Iowa

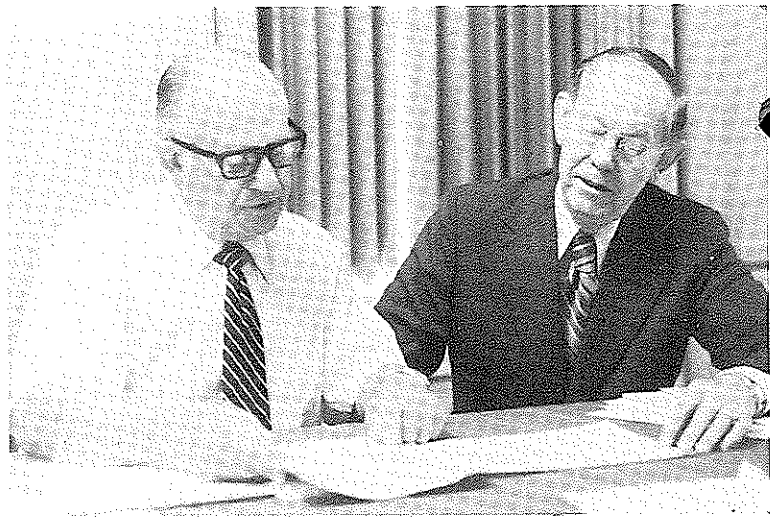
DATES AND EVENTS

AVA, NVATA Convention
Houston, December 3-8

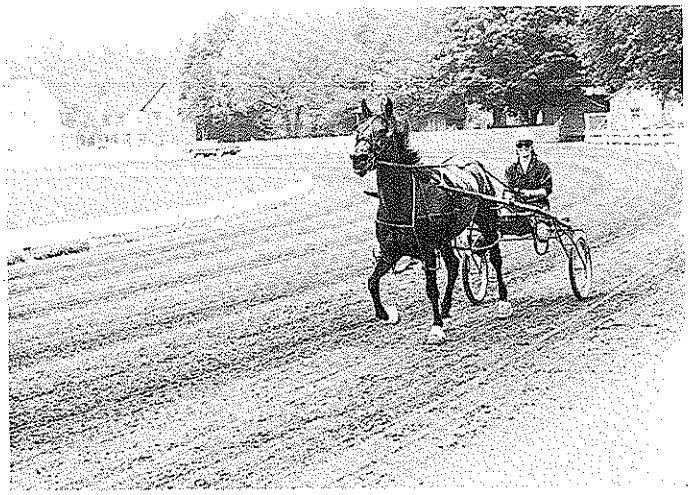
National Young Farmer Institute
Denver, December 11-15

STORIES IN PICTURES

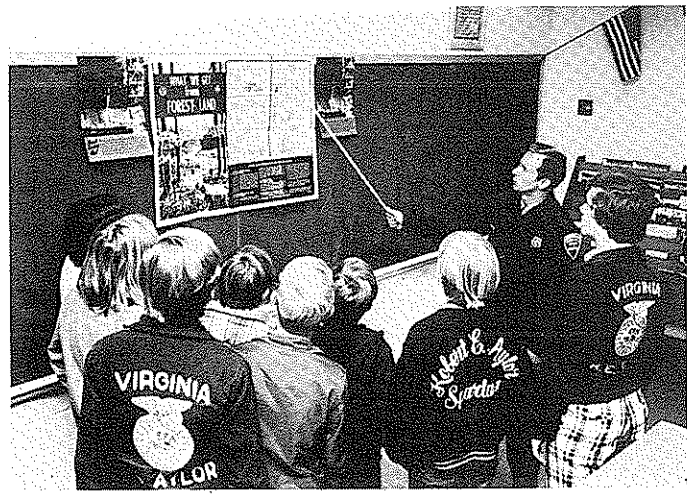
by Jasper S. Lee



AGRIBUSINESS COMPETENCIES PROJECT — David McClay of State College, Pennsylvania, and H. N. Hunsicker, U.S. Office of Education, confer on the details of the National Agribusiness Competency Project. McClay is director of the project which coordinates the conduct and compilation of agribusiness competency studies.



HORSE HANDLING INSTRUCTION — Diane Dlhosh, student in horse handling at Orange County BOCES (New York), demonstrates the jogging aspect of harness horse handling competition. (Photo from Richard Jones, Cornell University)



USING RESOURCE PERSONS — Students at R. E. Aylor Junior High School, Stephens City, Virginia, are shown receiving instruction from a forester with the Virginia Department of Forestry. (Photo by Bob Veltri, Virginia, and from Larry Miller, Missouri)

NATIONAL FFA BOARDS — Members of the National FFA Board of Directors, Board of Student Officers, and consultants to the Board are shown during a break at the July Board meeting. Members of the Board of Directors represent the U.S. Office of Education and state supervisory personnel. The consultants represent teachers and teacher educators. (Photo from National FFA Center)