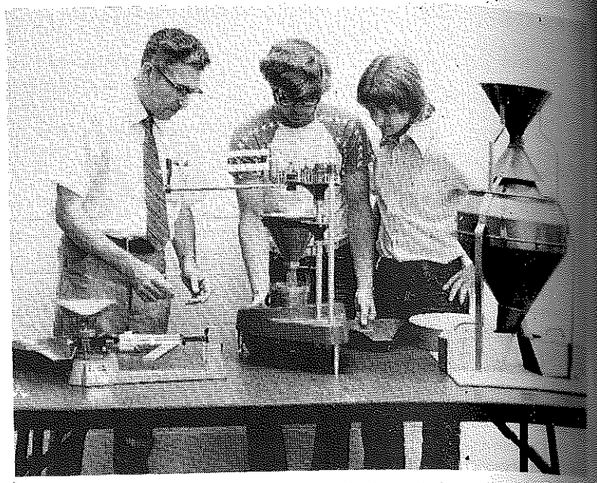
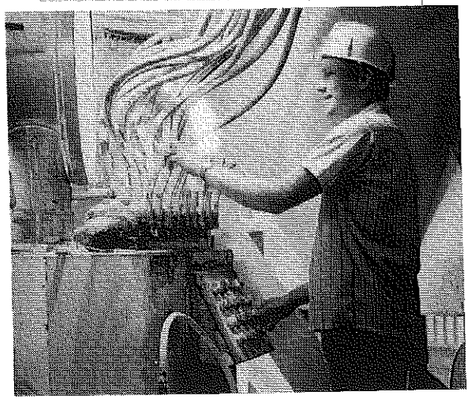
STORIES IN PICTURES

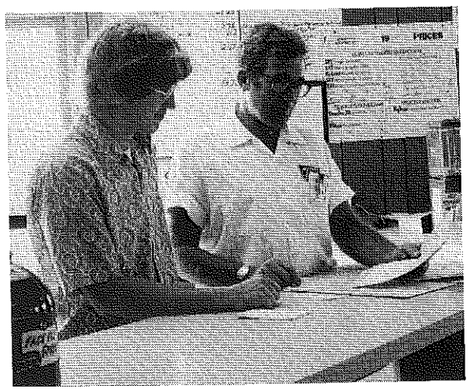
by Jasper S. Lee



INSTRUCTION IN GRAIN GRADING — Walter Mitschele, Instructor at Muscatine (Iowa) Community College, is shown instructing students in the grading of grain and the use of grain grading equipment. (Photo from Gerald Lamers, Iowa Department of Public Instruction)

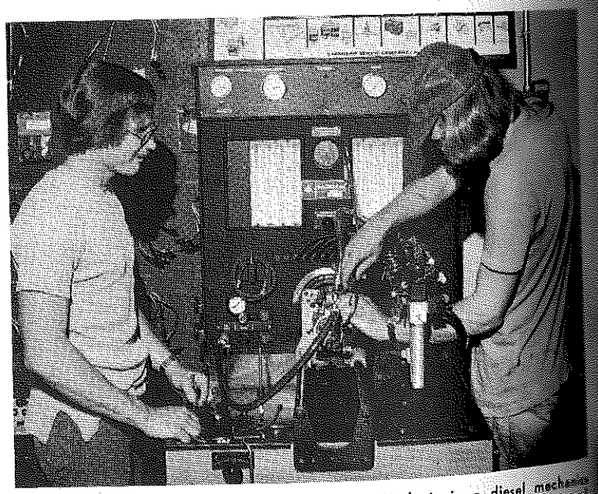


EMPLOYMENT EXPERIENCE — John Hanson, agribusiness student at Muscatine (Iowa) Community College, is shown operating an automated feed mill as part of his employment experience. (Students in the program attend classes for 45 weeks and participate in employment experience for 36 weeks.) (Photo from Gerald Lamers, Iowa Department of Public Instruction)

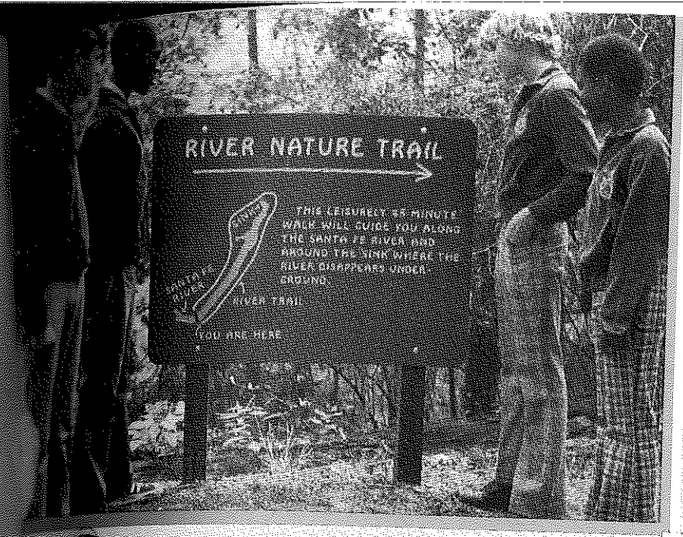


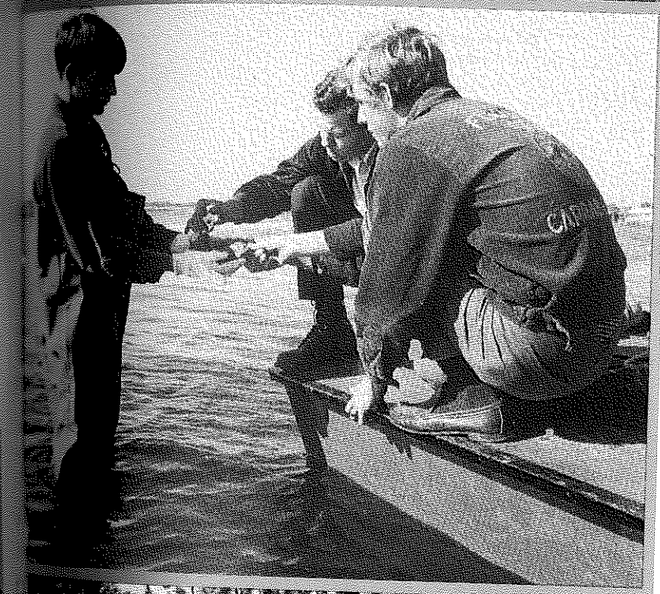
AGRIBUSINESS EXPERIENCE — Steve Murphy, agribusiness student at Muscatine (Iowa) Community College, is shown receiving instruction from Dale Plummer, manager of Sweetland Feed Mill. On-job instruction is an integral part of the agribusiness program. (Photo from Gerald Lamers, Iowa Department of Public Instruction)

Supervised Practice at Two-Year Colleges



CALIBRATING DIESEL INJECTION PUMP — Students in a diesel mechanics and maintenance class at the University of Minnesota Technical College (Waseca) are shown installing a diesel injection pump on a calibration stand for testing. Students learn why it is important to test injection pumps before installation on a tractor. (Photo from Wes Fausch, U. of M. Technical College (Waseca), and Forrest Bear, University of Minnesota)





"COMPLIMENTARY COPY FROM THE EDITOR"

AGRICULTURAL EDUCATION

Volume 48 Number 8

February 1976

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AGRICULTURAL EDUCATION

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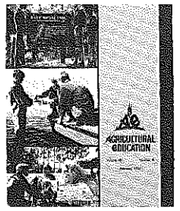

The cover photographs depict several areas of agricultural education in the State of Florida, as follows: top, FFA members preparing to take a hike at the State FFA Forestry Training Camp; center, students at Carrabella studying oyster production; and bottom, students observing new born calf on school farm at Santa Fe. (Photographs from F. Donald McCormick, Florida Department of Education)

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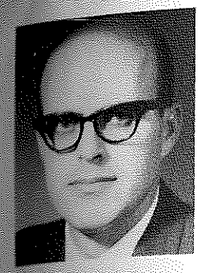

FROM YOUR EDITOR

Martin B. McMillion

THE COURSE OF STUDY -- EVOLVING OR REVOLVING

Tracing the history of the agriculture course of study, one discovers that the basis for its selection, its organization, and the extent of its statewide uniformity has varied through the years. The nature of this variation and the appropriateness of the various alternatives to teaching and learning will be discussed.

Basis for Course of Study

Tradition formulated the first courses of study for vocational agriculture under the Smith-Hughes Act. The agricultural textbook was the course of study.

Very early under Smith-Hughes agriculture, the relationship of the federally mandated home project or other supervised practice to classroom activity was delt with by the Federal Board of Vocational Education in a 1918 publication. The recommendation was to select the home project to fit the course. In the words of the publication, "The phase of agriculture to be studied during a given year will usually determine the type of major projects to be selected by members of the class. . . " (1)

Why discard the first year project when the project to fit the second year course was selected? Students had an accumulation of projects rather than a succession of projects. Concern for long-term projects was evidenced as early as 1922 in an article in *Fan Mill.* (2) Long-term projects were described as a neucleus for the livestock and crop farming the boys would do in later life.

The projects, or the program in farming, came to be preferred as the basis for the course of study. Supervised farming programs, as the projects and enterprises were later called, brought about a problem orientation as opposed to a subject matter orientation, that is, a course of study that would have jobs in dairy, for example, each of the four years.

A course of study based upon limited farming programs would itself be limited. The students' program, the parents' farming program, and the farming of the community, together, became the next basis for the course of study.

The State of Mississippi was credited in the Stimson and Lathrop (3) history as being the first to go beyond the supervised farming program of the student and to center the course of study around the needs of the individual. The course of study was oriented toward the student and the farming career which the student had planned.

The more recent increase in the proportion of vocational agriculture students preparing to work for wages has brought an increase in the influence of employer needs as a basis for the course of study. Studies of competencies that employers say are needed by workers have had a heavy influence on the course of study, especially where curriculum centers have used competency lists as a basis for curriculum materials development.

In many respects the basis of the course of study appears to have come full circle. We are back to choosing the supervised experiences to fit the course of study, especially in high school mechanics, natural resources and ornamental horticulture programs where school laboratories are heavily relied upon for the experience program. For these three specialties, it is also common for teachers to follow rather closely a text or uniform curriculum materials.

Where do we go from here for a basis for the course of study? The basis for the choice of a course of study must be a compromise. The needs of the industry cannot be overlooked, the needs of the individual cannot be overlooked, and the needs of society as a whole cannot be overlooked.

Training for narrow, mostly manipulative competency lists is perhaps no less disastrous to the agriculture programs and the individuals in them than the academic, subject-matter oriented courses that never get to the learning by doing stage in a realistic business setting.

This is not a time to study trends, make projections or even to stand around and watch history repeat itself. It is a time to join with others who are already "blowing the whistle" on both "four-walls instruction" and narrow, skills-training programs.

Organization of the Course of Study

The earliest courses of study in agriculture followed what is variously called the "box system," (4) "vertical arrangement," (5) or block plan." (6) A whole year was spent on crops, the next on animal husbandry, etc.

To fit the course of study to the farming programs of students, jobs (lessons) began to be taught when they were timely and appropriate to the projects. Thus, Caring for the Dairy Calf would be taught the first year; the same animal would be ready for a job on Caring for the Dairy Heifer the second year, etc. This arrangement was referred to as a "horizontal" layout by Schmidt.(7) Stewart and Getman(8) introduced the term "cross-sectional." "This idea, along with the long-held view that the subject matter should be seasonal and timely, had caused courses of study to nearly reach their height of fragmentation by 1950."(9) A seven-period corn unit might be interrupted for one or two periods to teach Docking Lambs. Actually, it takes almost two periods to get students warmed up for a new topic. Hammonds added the term "modified cross-section"(10) which was cross-sectional but with less fragmentation.

Harry Kitts, in his 1971 *Visitor* article entitled "The Turn of the Wheel," recognized the return to the block plan with the following: "Today, as one observes a movement toward semester, trimester, quarter courses . . . , he realizes that the wheel has completed a cycle."(11)

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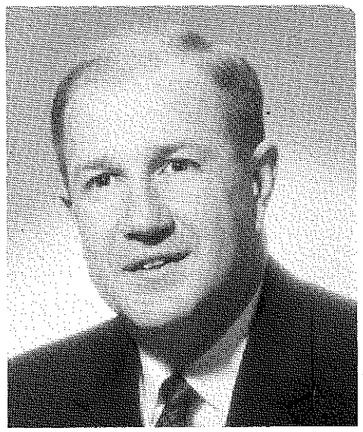
GUEST EDITORIAL

GUEST EDITORIAL



J. Robert Warmbrod

SOME ISSUES LINKING THE FUTURE WITH THE PAST

J. Robert Warmbrod
The Ohio State University

Each of us views both the past and the future of public school education in agriculture from a unique perspective. Those who entered the profession prior to or soon after World War II have experiences influencing their interpretation of the past and their hopes for the future that are different from us who began our professional careers during the 1950's. Those who have entered the profession within the past ten years probably give more thought to the future than to reflection on the past. Regardless of one's perspective, it makes little sense to disregard the past or ignore the realities of the present when planning for the future. But to plan for the future exclusively by the past is equally nonsensical.

My point is that the future does not leap from the past, it emerges gradually, sometimes at an imperceptible pace. I propose that one strategy worthy of consideration by those who want to shape the future of agricultural education is to elicit from the past those factors that have contributed to the success of public school education in agriculture, then extend and modify these principles in light of present realities and the best evidence available of what the future holds. I will mention briefly several factors that I contend have contributed to the success of agricultural education in the public secondary schools. As we plan for the future, we must appraise the usefulness of these ideas for the further development of agricultural education.

Of special significance is the fact that public school vocational education in agriculture developed as an integral part of the public school system. Students studying vocational agriculture attended the same schools as students whose studies in high school were college preparatory or non-vocational. Vocational agriculture students studied English, mathematics, and science in the same courses as other students in the school. Many vocational agriculture students pursued a course of study that prepared them for both college and the world of work upon graduation. They participated in out-of-class social and recreational activities with all other students. We need to think twice before we abandon an organizational arrangement that at least allows, if not contributes to, the integration of vocational and general education. The interdependence of vocational and general education could very well be a feature that must specifically be planned for in the future.

Programs of agricultural education have been sufficiently flexible to allow students to enroll for a variety of purposes. We have always stressed that the major purpose of vocational agriculture in the high school is to prepare persons for successful entry into and progress in occupations requiring knowledge and skill in agriculture. Teachers who are perceptive to students' interests and aspirations have interpreted this mandate broadly to provide instruction in agriculture that contributes to a variety of the needs of students. Indeed, the FFA has been a significant force in the development of general personal and social competencies of those who study vocational agriculture. As we look to the future, careful consideration needs to be given to the acceptance and extension of a philosophy that allows and encourages instructional programs that meet the diverse needs of students rather than a narrow orientation that espouses only occupational proficiency.

Agricultural education programs have been community based. Laboratory instruction, involving farms and businesses in the community as well as school facilities, has been a significant feature. Programs for those who have completed or left school have been part and parcel of the most effective community-based programs. There have been many possibilities for uniqueness of purpose and programs. Community-based programs have differed from community to community, programs within a school have differed among students, and program standards for agricultural education have deviated from the specifications of other programs in the school, including other vocational education programs. Sometimes this flexibility and freedom results in mediocre and low quality programs, but frequently it makes possible high quality programs that go far beyond what is mandated in detailed specifications and standards intended for all vocational programs. In planning for the future, are we willing to take risks with diverse and unique programs or will we attempt to mandate standard programs through inflexible and arbitrary specifications and requirements that are common for all vocational education programs?

Perhaps the most noteworthy tradition of vocational agriculture is its emphasis on a corps of professionally prepared teachers. In the final analysis, it is the expertise and dedication of teachers that determine the degree of success of vocational agriculture. A unique feature of voca-

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EDUCATION IN AG--OUR PAST AND FUTURE

David R. McClay
Professor Emeritus
The Pennsylvania State University

Many changes in public education in the United States emerged early in this century. One of these changes of profound significance was the addition of vocational education in agriculture in thousands of high schools over the nation. The addition of this new program expanded the offerings of thousands of schools and the services they provided taxpayers in their communities.

Early programs assumed that every enrollee would enter farming following high school graduation. Later, in keeping with the changes in farming and agriculture in general, it was recognized that many students enrolled in vocational agriculture would choose agricultural occupations other than farming for their life's work, and courses of study were adjusted to better fit this change. Many programs were slow to adjust and were discontinued.

Program Characteristics Outlined

Let's examine some of the characteristics of agricultural programs initiated by agricultural teachers and leaders in Agricultural Education in the public schools of the nation.

Learning by doing under the supervision of the agriculture teacher has proved to be one of the outstanding strengths of vocational education in agriculture. Teaching youth and adults through hands-on experience has long been recognized as one of the best known teaching methods.

In most states, educational programs in agriculture for adults and out-of-school youth have been offered by schools in which the agriculture teacher provided the leadership. Schools with strong agricultural programs in most cases have some adult education offerings in their programs. An active young farmer group makes the agriculture teacher a better teacher by helping him keep up to date with the changes in agriculture and by making him aware of the many current problems of the group.

Involvement of the agriculture teacher in community agricultural activities has been a strength of note. This involvement has resulted in better school-community relationships and better classroom instruction.

Millions of youth and adults have obtained leadership skills through the Future Farmers of America and Young Farmer organizations during the half century. These skills have helped provide more competent community leaders in every hamlet of the nation. Many former FFA and YF members have attained prominence in county, state and national government.

Criticism Analyzed

As with most educational programs which have become a part of public education in the United States during this century, vocational education in agriculture has been the target of criticism from time to time. Some of this criticism was of a just nature but much was unjust. Considerable negative criticism came from individuals who had little knowledge of vocational agriculture.

Many persons have questioned the value of high school youth devoting part of their day to preparing for a specific occupation rather than having all their efforts concentrated on learning the "basics." Other critics have questioned spending public tax money on the education of adults. Some critics believe vocational training is too expensive; others have felt federal financial support for vocational agriculture was unfair to other school curricula which received no such support.

Space does not permit comprehensive answers to many of the questions raised by critics to vocational education in agriculture. However, secondary schools that provide the student both the "basics" and a start toward an occupation in which he can earn a living is widely accepted by most citizens na-

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COMING ISSUES COMING ISSUES COMING ISSUES

COMING ISSUES

MARCH — Programs in Agricultural Supply and Service

APRIL — Career Exploration

MAY — In-Service Education for Agriculture Instructors

JUNE — The Summer Program

JULY — Attitudes and Values for Employment

AUGUST — Secondary Programs for the Talented

SEPTEMBER — Planning and Managing School Facilities for Ag

OCTOBER — Preparing Teachers of Vocational Agriculture

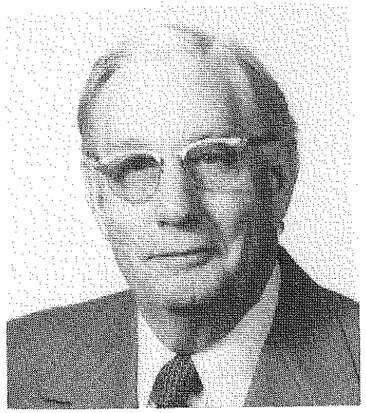
NOVEMBER — Teacher Organizations and Professionalism

DECEMBER — More Effective Teaching

COMING ISSUES

Thanks for Our Heritage and Thanks for Our Challenge

Robert R. Price
Professor Emeritus
Oklahoma State University



Robert R. Price

Just over fifty years ago a young teacher educator preparing copy for a text in Agricultural Education wrote as follows:

> "Our national prosperity and welfare depends fundamentally upon the farmer. Our system of agriculture must be put on a permanently sustaining and productive basis . . . In these rural and village schools the great army of vocational agriculture teachers will play the leading part in the making of our next generation of farmers, men better trained and better fitted for their vocation. Through their work in these schools, these teachers of vocational agriculture will take an active and vital part in making and preserving us a great nation.[1]

Not one generation, but two furnish the performance record for review as we judge the correctness of this prediction. And judge we must, as we begin the third century of National life with yet a third generation of performance to be measured prior to that established time measure, year 2000.

And just how much a part did teachers of vocational agriculture really play in putting agriculture on "a permanently sustaining and productive basis," and in this way "achieve a vital part in making and preserving us a great nation?"

The overwhelming response of former vocational agriculture students in support of the long overdue FFA Alumni and the ever-growing numbers of local young farmers chapters and adult farmer groups, often largely made up of former FFA members, are certainly two irrefutable testimonies to the fact that the vocational agriculture experience did indeed "provide a permanently sustaining basis" for many productive lives in the agricultural sector of our nation. Fortunately, the wisdom of leaders prevailed and we did enlarge our vision to include responsibility for the education of people serving many additional agricultural sectors in addition to production. When G. A. Schmidt wrote copy in 1924, the vision was almost totally confined to the education of the 32 percent of the population then engaged in production of food and fiber. However well we may judge this restriction as adequate for that day, we would be ill-advised to function with a similar limited vision today when only 4 percent of our total population is so engaged.

Our past and our future can well be said in another way—thanks for our heritage and thanks for our challenge!

In being thankful for our heritage, let us consider what commitments made and carried out by teachers of an earlier time really were so potent as to now be recognized as deserving of our gratitude. First, I would propose that those teachers were committed wholeheartedly to the belief that the true educational experience was an experience in which *activity leading toward goal attainment should occur throughout the learning period.* Or, it is far more succinctly expressed in the FFA motto, *Doing to Learn.* For vast numbers of those early teachers, consciousness of this axiom was the very breath of their professional life. They wholeheartedly accepted such statements as the one attributed to Henry Ford:

> Education is good only when it furnishes the kind of knowledge which puts a man in full control of his faculties for leading a sane, industrious, and useful life. It is not good when it merely fills a man's head with a quantity of ornamental but useless information. Such education may make an impression on those around a man who think him a "smart fellow," but it adds little or nothing to a man's real progress, or to the progress of the world.

The practice by the vast majority of teachers of insuring *"that every boy have a project"* was not only widely accepted, but teacher failure to achieve this goal was ample grounds for adverse criticism or even ostracism on the part of fellow teachers. Many early day conferences would feature supervisor presentations of district or area department rankings in terms of (1) projects per boy, (2) number of students with three different types of supervised farming or (3) number of supervised project visits per boy. While admittedly needed modifications were subsequently made in such criteria, one is impressed that an affirmation of the "Doing to Learn" concept was so much a part of almost all evaluative efforts of the past. Equally as well accepted and practiced was the belief that the teacher of vocational agriculture could and should above all else, value and recognize the worth of each *individual student and provide in his behalf a maximum of personally directed experiences.* Teacher ef-

(Continued on next page)

1. G. A. Schmidt, *New Methods in Teaching Vocational Agriculture.* New York: The Century Company, 1924, p. 20.

fort was then intrinsically directed toward contributing to the student's individual growth and development, both vocationally and socially. In retrospect, we acknowledge that at times critics of vocational agriculture may have had some slight basis for alleging that teachers were overly concerned about leadership and personal development at the expense of neglecting basic agriculturally-centered learning. Nevertheless, it is the judgment of many of us who were privileged to work with and among many teachers over the past forty years that the emphasis upon what was sometimes referred to as "a boy program" contributed greatly in enabling vocational agriculture to survive and even prosper during an era of "anti-agriculture" public expression. The public may censure and condemn teachers of various subjects from time to time. It may declare such instruction antiquated or useless, but rare is the individual who is unappreciative of any effort on the teachers' part to assist in the intellectual, moral, and spiritual development of children and youth. Fortunately, there were among us those more wise individuals who demonstrated effectively that the *milieu of agricultural learning* provided for the vocational agriculture teacher a most challenging, stimulating, and perhaps legitimizing base for the maintenance of a personally satisfying teaching style as well as the implementation of viable leadership development programs for individual students. As we review the past, we are thankful that class size in most instances was small enough to allow the teacher to develop and implement programs conducive to fostering maximum learning by the individual student. Those states which early were able to establish and maintain regulatory guidelines restricting the services performed by the local teacher largely to *teaching and activities in agriculture* can also be generally identified as those states in which the program attained status, was highly regarded and was in demand. Hence adoption of those practices and policies which tended to make more mandatory an acceptance by the school and community of the local teacher as largely a *full-time teacher of agriculture* were strongly associated with more rapid growth and expansion of the program. Teachers thus became ever more enthusiastic and took a great deal of pride in their performance in the unique, yet tremendously important, field of agriculture.

A third concept or belief readily understood and which received wide acquiescence by those teachers serving so effectively in that earlier development period was that the vocational agriculture program *must function as an integral component of community life and development.* Holding such a belief tended to insure the assumption by the teacher of a leadership role in the civic and social life of the community, particularly in areas of agriculture, but not excluding other areas of community concern. Even those somewhat adversely critical of vocational agriculture were forced to admit that the "Smith-Hughes" or later "FFA" *man was a real community leader.* Wise school administrators were prone to capitalize upon the prestige and status of the vocational agriculture teacher in the community when seeking to develop and implement plans to improve school public relations. Consequently, in many local schools, employment of the vocational agriculture teacher was considered a matter of prime importance. As a profession, we can be most grateful both for the image established and for the fortitude and confidence, and at times a measure of sacrifice, which teachers displayed in achieving self-actualization. It was a rare circumstance which did not find the local "Vo-Ag man" to be an active and informed participant in civic and church activities. Basically, such a role was carried out with an openness and candor which left little room for pawky or vain self-centeredness. Teachers seemed to believe that they were not only in the school for a worthy purpose but that the boundaries of that purpose extended far into the community and beyond.

Certainly, not the least of the premises actively accepted by the Vo-Ag instructor of the 1930's, 1940's, and yet well into the 1950's was that his *capabilities as a dispenser of agricultural knowledge and services were adequate and that the majority of his activities should center around this belief as a commitment to school and community.* Performance of so-called "community services," which in reality were often "personal services," often accounted for a considerable portion of the teacher's time. Such jobs as animal selection, running terrace lines, and minor (or even at times major) animal health activities were often just part of the work day of the local teacher. Teachers received recognition and gained status through both formal and informal types of instruction for adult farmers and many local vocational agriculture departments functioned as the community agricultural center with a high level of participation among community residents. The acute needs crystallizing in so many local agricultural communities during World War II provided impetus toward further making the vocational agriculture department a local agricultural center through the implementation of the War Production Training Program. This also served to alert the local teacher to the possibility of a partial shift in his role from a performer to an organizer and to emphasize the growing need for teachers to give some attention to the planning and administrative aspects of departmental operation.

Among many additional beliefs held by successful teachers of vocational agriculture in the past, we must point to one more: that being the teacher's implicit faith that *his welfare as an individual depended to a large degree upon the welfare of his fellow agriculture teachers* and, to a somewhat more remote degree, upon the welfare of all other vocational teachers. Although at that time we may not have seen this phenomenon referred to as *professionalism,* it is my own judgment that to the extent it does exist, wherever present it constitutes professionalism at its best! Young, beginning teachers often heeding promptings of their supervisors, sought the advice and support of their more experienced peers, and their peers graciously and dutifully gave counsel, knowing that their own welfare depended at least in part on the young colleague's rapid progress in becoming a competent and successful performer in his school and community. It was not unheard of, in an earlier period, for "vigilante" groups of teachers to "take care of" code of ethics offenders through use of wise but effectively appropriate procedures. Above all, the individual teacher knew that he belonged to a determined and committed

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Defining and Achieving Objectives -- More Difficult Now

Elwood M. Juergenson
Teacher Educator, Retired
University of California — Davis

The act of building an article is a means to an end and not the final product. This must be understood and accepted by teachers.

Years ago while staying at a boarding house the landlady, out of the blue, popped the question "What do you think of the Chinese?" This left one student teacher completely bewildered even though subsequent events have shown that the landlady may have had more insight into world developments than was suspected at the time. At first thought one might say the Chinese make good chow mein, manufacture fireworks, or possess one of the oldest cultures and civilizations known to mankind. Yet none of these would satisfy the interrogator. Getting a handle on the question is the problem and peering into the issues of agricultural education past and future is just as nebulous.

If vocational education is to make progress we must first see ourselves as others see us. When we live closely with issues and problems they become all important, dominating our thoughts and influencing our decisions. The rest of the world may not be as concerned as we are about vocational education, and we are baffled at their indifference. If funds are not forthcoming, we see programs going down the drain, personnel shifting, changing of objectives or whatnot. The public, even if aware, assumes that vocational education will get by, no real problem because it doesn't affect them personally. The same reaction exists in all facets whether it be teacher shortage, student apathy, overcrowded shops or too much paperwork. In working toward fulfilling future goals, we must consider that we are not as important to all of society as it seems we rightfully should be in terms of the tremendous benefit vocational education can bring to that same society that at times seems so apathetic.

The progress made by vocational education especially in its early years can generally be traced to leadership provided by a few individuals. Every state can look back and point with pride to the accomplishments of dominant personalities in that state who gave direction and inspiration to their program. With power concentrated in few individuals progress was rapid, new programs and new goals could be reached almost overnight in much the fashion of a benevolent dictator. Indeed if the leader left, the program might crumble. In the case of single teacher schools, many communities have seen their vocational department fall flat when its single strong teacher moved away. Vocational education was blessed with strong leaders in supervision, teacher education, and supporting industry who by some miracle agreed by and large on the purpose of vocational education and its supporting youth groups.

In the early years of vocational education in agriculture goals were simple, attainable, and measurable — establish a boy in agriculture (farming). From the start, depending on the boy, success was predictable and measurable. Little or no conflict existed between parent, teacher, supervisor or legislator as to what the problem was or how it should be organized and funded. How different it is today. "Boy" becomes any person, success for the student can be anything from more interest in agriculture to laborer in an endless variety of enterprises. Students, educators, legislators, all may see the purpose and implementation differently. Thus progress goes at a snail's pace with success extremely difficult to measure and the structure of the program vacillating with every new election.

Times are changing for education. In today's world, education is run by a committee. No longer can a single individual, no matter how gifted, plot the direction vocational education must take whether it be on local, state, or national level. The mere hiring of an individual is now a process involving barriers and pressures from many sources with many people. Action under this procedure is always a compromise. Thus the good judgment of someone well informed on a specific issue may be diluted by others for a wide variety of reasons, sometimes unrelated. Progress under this umbrella will be slow and meaningful goals and direction often obscure. The future must therefore be a tedious one, granted the problems are numerous and more complex than in the past. Educators must be patient, tenacious and look to long-term goals and accomplishments rather than instant impact.

How often have administrators, supervisors or directors expressed themselves, "give us good teachers and we'll eliminate our problems." In the same fashion, teacher educators have complained, "if good students, preparation, facilities, and master teachers were available we could provide good teachers." Both are right but obviously it is an endless cause and effect situation. In the past, the key was good teachers and there seems to be no substitute in the future. How to solve this problem is the key to the future. The tendency to equate money and success exists, be it either personal or program success. As we equate money with success, we equate things with learning and it "ain't necessarily so." The lack of funds for salaries, facilities, or new programs has always been a convenient and easy scapegoat. Funds are necessary of course, but no guarantee that the highest paid teacher will do the best

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CONTINUED

DEFINING AND ACHIEVING . . .

job, nor the best facilities provide the best education. How much better the chances are with a dedicated, knowledgeable, understanding teacher in any kind of setting. In an educational sense, we tend to equate things produced with learning when the real goal is abilities of students. If a student exhibits an article built in the shop, we assume he or she learned something. The student may have known how to build it before entering the course. The act of building an article is a means to an end and not the final product. This must be understood and accepted by teachers. Thus, the measure of learning should be the students' acquiring of abilities and understandings. The superior teacher sets his goals and builds his program on improving abilities of students rather than on either the department's or student's accumulation of things. The real issue in education is setting and accepting meaningful goals, for without this a harmonious program of implementation can never be achieved.

Educators must decide as a group the course they wish to follow, and individually set goals that will accomplish the necessary programs for students. The goals cannot be shallow, as unfortunately it is easy to camouflage activity in the classroom for learning. Each day, each activity must be planned with a purpose toward realizing the goal. Because students come with such a variety of backgrounds, attitudes, and aptitudes, the task is enormously complicated.

The teacher and supporting educators face a most difficult future and the lure to take the easy way out seems most appealing. They can meet their classes, take their pay, and shortchange the student with society almost unaware. Should the wrong trail be taken, the public will find out eventually. At that time, vocational education becomes just another class in school destined to fade away. This has not been characteristic of vocational education people in the past. If vocational education is to survive in the future, it must follow the long hard trail which is more difficult today by far than it was for early pioneers. ◆◆◆

CONTINUED

SOME ISSUES LINKING THE . . .

tional agriculture has been the fact that entering teachers hold degrees in agriculture and have pre-service preparation in learning theory, curriculum development, methods of teaching, and other pedagogical skills. An equally strong tradition has been an emphasis on the continuing professional, technological, and occupational competence of teachers. Teacher educators in colleges and universities and supervisors in state departments of education have cooperatively made unique contributions to the preparation and continuing professional development of teachers. The shortage of teachers of agriculture for the past 15 years or so and the adoption of teacher education practices from other vocational service areas are contributing to an emphasis on recruiting technicians and practitioners rather than degree-holding, professionally prepared teachers.

The direction we take relative to the recruitment, selection, preparation, in-service education, and retention of teaching personnel will probably be the most important factor in determining the purpose, nature, and effectiveness of agricultural education programs in the future. All of us, teachers as well as supervisors and teacher educators, have a stake in these important concerns about the quality as well as the quantity of teaching personnel.

I have attempted to highlight some important issues that we must deal with as we plan for the future. There is no contention that the list is complete. I propose, however, that any blueprint for the future must evolve from the study and debate of these and other relevant issues. None of us—teachers, teacher educators, or supervisors—either collectively or individually has the wisdom or foresight to dictate what the future of agricultural education in the public schools should be or will be. We must work together in hammering out that blueprint in a contributing and cooperative manner. The strategy used to plan for the future must encourage conflicting alternatives and philosophies to be presented and listened to and allow diversity in program development and operation. No individual or group within the profession has cornered the market on what the future of agricultural education holds. Each of us is vitually concerned, for as Charles F. Kettering says, "We should all be concerned about the future because we will have to spend the rest of our lives there." ◆◆◆

CONTINUED

THANKS FOR OUR HERITAGE . . .

group that sincerely believed it owed first allegiance to vocational agriculture and that demonstrating this allegiance *through service, political action or supporting one's fellow teacher was indubitably both the name and the substance of the game!*

Perhaps, dwelling for too long on the past, we find ourselves with little room for discussing the future. Therefore, we will take some refuge in the oft repeated adage, *The Past is Prologue*. The five concepts or beliefs of teachers of the past which are presented as characterizing the past 50 years are truly but an introduction to the nature and extent of certain posited concepts and beliefs. Such similarly potent concepts, beliefs, and actions of teachers throughout the next 50 years will hopefully characterize and assure the realization of a continuing prediction—a prediction only slightly modified from that made by our mentor, "Prof" Schmidt, in 1924. In the same spirit of humble appreciation, yet inspired confidence, we share this 1976 prediction: *In these rural and urban schools, in sceondary, post secondary, and adult classes, the great army of vocational agriculture teachers will play the leading part in the making of our future generations of agriculturalists—men and women—better trained and better fitted for the vocations. Through their work in these schools, these leaders of vocational agriculture will take an active and vital part in making and preserving us a great nation.* ◆◆◆

Kansas, Going with a Core Curriculum

Howard R. Bradley
Teacher Education
Kansas State University

Kansas Agricultural Education state supervisory and teacher education staff became interested in the new Oklahoma core curriculum in 1972-73. The Oklahoma production agriculture core curriculum was developed by State staff, teacher educators and vocational agricultural teachers. Bob Patton, Curriculum Specialist for the State Department of Vocational and Technical Education, was the director of the core curriculum for this approach to teaching vocational agriculture.

For a number of years Kansas used the problem method of teaching for the pre-service university students. The problem approach had many advantages, however, it seemed to be difficult for students to organize and develop their day-to-day vocational agriculture lesson plans, partly due to the discrepancy between university classrooms and the real, live teaching situation. First-year teachers were often caught short and appeared before their classes with little organized preparation. The "off the cuff" approach to teaching became an all too common daily occurrence in Kansas. A committee made up of state supervisory staff and teacher educators studied the Oklahoma core curriculum along with approaches from other states in their combined effort to improve the instructional process.

A three-day seminar for twenty-one Kansas vocational agriculture teachers was held on the Kansas State campus on June 3-5, 1975. Objectives of the seminar were: 1) to expand the competencies of the group in the use of the Oklahoma core curriculum, 2) to have present twelve representative sophomore and junior vocational agriculture students for an actual classroom teaching experience, 3) to provide a realistic laboratory teaching experience, conducted by an experienced Oklahoma core curriculum teacher.

Mr. James Yeisley, Bethel High School, Shawnee, Oklahoma, accepted an invitation to appear before the seminar and demonstrate the teaching of two one-hour lessons using the Oklahoma core. Twelve selected students from neighboring vocational agriculture departments served as class members. The two classes were video taped for future use. To introduce the core to Kansas teachers, the tape was shown to one hundred and thirty Kansas vocational agriculture teachers at their annual summer conference. It was well received and many teachers expressed their belief in the merits of the method. The TV tape is now being included as an intrinsic part of the methods of teaching agriculture class, a methods class in the professional semester block courses.

A part of the October 1975 district vocational agriculture teachers' meeting was used for a similar teaching plan. This plan was used in each of the seven Kansas Vocational Agriculture Districts. Seven of the teachers attending the summer seminar were selected to teach a one-hour core class, using the students from the host school. The use of peers to teach the class was very successful. One of the major areas of concern with teaching the core curriculum was that some teachers would use only the programmed printed materials in the core, and might fail to add local personalization and motivation.

Howard R. Bradley

Supervised occupational experience programs are needed in the teaching of any production agriculture core. Yeisley told the Kansas teachers that the Oklahoma core was based on 60 percent teaching materials in the printed core and 40 per cent coming from the local community including the students' programs. Yeisley emphasized motivation, localization and personalization when using the core curriculum.

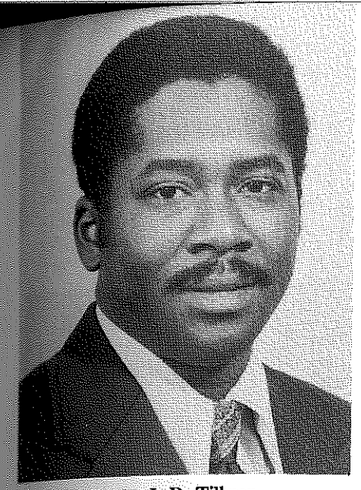
Kansas is now committed to developing a Kansas Core patterned from the experience that was obtained by using the Oklahoma core for two years.

Dr. Ralph Field and a group of Kansas vocational agriculture teachers have worked for two summer short sessions to develop a production core with information geared to Kansas conditions. This core Number III is available to teachers. The three remaining parts of the Kansas core (I, II, & IV) are to be completed and published during 1976.

The two Kansas staffs (supervisory and teacher education) are of the opinion that the core curriculum has these advantages: 1) more continuity of instruction throughout the state, 2) additional production agriculture information taught to the students, 3) opportunity to include local activities in the program, 4) uniform method of evaluation of the teaching materials. Kansas plans to place its instructional thrust in the next five years in core curriculum for I-IV. In addition, teachers, teacher educators, and supervisory staff are working on developing a Kansas core curriculum in the area of Sales and Services for the Kansas vocational program. ◆◆◆

LET US NOT FORGET

Charles J. D. Tillman
Instructor, VPI & SU



Charles J. D. Tillman

Education in agriculture for Negroes had a slow beginning. Public funds for education were used primarily in the elementary schools. Funds from private sources, although inadequate, were used for training Negro teachers and leaders. These teachers and leaders were trained in religious denominational institutions. Vocational instruction was not available.

In 1865, Samuel C. Armstrong founded Hampton industrial school for Negroes. However it was 1868 before the school opened (at Hampton, Virginia) under the direction of the American Missionary Association. In 1870, Hampton Normal and Industrial Institute was chartered for Negroes. Trade, household tasks, and agriculture were taught along with elementary academic studies, by white teachers.

Prior to the founding of Hampton Institute, the 1st Morrill Act was passed in 1862. This was a "bill denoting public lands to the several states and territories which may provide colleges for the benefit of Agriculture and the Mechanic Art" (True, 1928). "Because of the Civil War, Virginia was unable to accept the provisions of the Land Grant Act in 1868, although a "unionists" legislature, meeting in regular session at Alexandria during the war, accepted the land grant provisions for the state on February 5, 1864. It made no effort to secure the funds." In 1870, after Virginia had been readmitted to the union, the land grant provisions ($285,000) were accepted by the state. What is now Virginia Polytechnic Institute and State University at Blacksburg, Virginia received ⅔ ($190,000) of the land grant funds and Hampton Institute ⅓ (95,000). (Robertson, 1972). In 1890, after the passage of the 2nd Morrill Act, Hampton received more funds from the State of Virginia to expand its program.

Booker T. Washington, a graduate of Hampton Institute, was given the responsibility of establishing a school for Negroes in Tuskegee, Alabama. His task wasn't easy. Once the Alabama Legislature was convinced that he wanted to train Negroes for Agricultural purposes, they appropriated $2000 for the opening of the Tuskegee Normal and Industrial Institute. Tuskegee "was incorporated in 1893, with a board of trustees, largely composed of white persons, and was chiefly maintained with private funds, which came to it in increasing measure." (True, 1928).

George Washington Carver, a graduate of Iowa State College, was employed at Tuskegee in 1899, nine years after the passage of the 1890 Morrill Act. He was placed in charge of the agricultural department. Under the leadership of Dr. Carver, the cotton farmers of Alabama were introduced to: the peanut, pecan, and the sweet potato. "From peanuts he made butter, coffee, ink and soap. From sweet potatoes, he made flour, cereals, glue, dyes, and rubber. He also made synthetic marble from wood, and paint from Alabama clay." (The New Book of Knowledge, 1966). "Tuskegee did not receive any share of the land grant or Morrill funds." (True, 1928).

Under the leadership of Booker T. Washington and George Washington Carver, education in agriculture began to take on an important and different meaning. Other Negro colleges, established by the 1890 Morrill Act, patterned their program after Hampton and Tuskegee.

Students studying agriculture did not have an easy time. Teachers were often farmers without special training, or teachers who could not relate their instruction to actual existing conditions. Textbooks were few and others outdated; many schools did not have laboratory equipment; many whites on the board of trustees refused to give aid to Negro schools. Progress in agriculture was slow and hard.

The Smith-Hughes Act provided the basis for agriculture to become vocational.

Professor George Washington Owens graduated from the Kansas State University in 1899. From 1899 to 1908, he assisted Dr. George Washington Carver and headed the Dairy Department of Tuskegee Institute in Tuskegee, Alabama. From 1908 to 1927, he was head of the Agriculture Department at Virginia State College, Petersburg, Virginia. He was one of the early founders of the New Farmers of America. The New Farmers of America (NFA) was an organization of Negro agricultural students similar to the Future Farmers of America (FFA).

Professor Owens wrote a constitution and by-laws for the New Farmers of Virginia. In May of 1927, the New Farmers of Virginia chapters held their first state meeting and rally at Virginia State College in Petersburg. Professor Owens retired as head teacher trainer in Agriculture Education from Virginia State in 1945.

Professor Julius A. Oliver had his early training under the leadership of Professor G. W. Owens. Mr. Oliver "was one of the original teachers of vocational agriculture who inaugurated the program of vocational education in the State of Virginia in 1918." (NFA

(Concluded on page 186)

Milestones and Some Predictions

Sam M. Taylor
Retired Ag Teacher
Mansfield, Arkansas

Courses in vocational agriculture under the national vocational education legislation were first established in the United States in 1917. These first courses in vocational agriculture were general courses in production agriculture. The main objective of the first courses was to increase yields of both plants and animals.

As time passed these courses in Agriculture were improved to include other areas in the agricultural field, such as economics, disease and parasite control, horticulture, landscaping, agricultural engineering and farm mechanics.

In more recent years, courses in vocational education in agriculture have become specialized in the various areas related to the Agricultural Education program. One of the reasons for this change in the educational program was due to specialized farming, instead of general farming. The rapid growth of agribusiness in the United States has created a need for various specialized courses in this area.

Over the years the number of farmers engaged in farming has steadily decreased from a beginning of over 90 percent of our population to a present agricultural population of just 5 percent of the total U.S. population. This has made it necessary to provide courses for more people engaged in the related fields and for the large number of part-time farmers.

At the present time, courses in agricultural education are organized to cover the areas in soil, plant, and animal science, along with agricultural mechanics, landscaping, flower culture, etc.

Vocational Agriculture departments have stablized in number in recent years but have enriched their curriculum to offer a wider range of courses, and with multiple teacher departments.

Many departments of Vocational Agriculture now offer courses to girls. Some of these courses include greenhouse culture, plant propagation, and some areas of agricultural mechanics.

The Future Farmers of America was organized in 1928 to become an integral part of the total agricultural program in the public school system of America.

Some Milestones in Vo-Ag and FFA History

1917—Smith-Hughes Act provided funds for courses in vocational agriculture.

1923—Local and state organizations for vocational agriculture students began to develop.

1926—Vocational agriculture students were invited to Kansas City to participate in Judging contests at the American Royal Livestock Show.

1928—Future Farmers of America was organized in Kansas City, Missouri.

1939—The National FFA organization purchased 28½ acres of land from the once George Washington Estate, and established a National FFA Camp. The Camp site is now the location of National FFA Headquarters.

Sam M. Taylor (the author) is receiving a life membership certificate from Charles Looper, the FFA Alumni chairman, at the parent-member FFA banquet which also marked the end of a 39-year ag teaching career for Mr. Taylor.

1944—The National FFA Foundation was organized to permit businesses and individuals to make financial investments for FFA incentive awards.

1947—FFA members voted to start their own National FFA Supply Service. The Supply Service began to function in 1948.

1948—Educational Exchange programs were initiated with Great Britian.

1949—The first FFA Week was celebrated during the week of George Washington's birthday.

1950—The National Congress passed Public Law 740 granting the FFA a Federal Charter.

1952—*The National Future Farmer Magazine* began publishing.

1953—The U.S. Post Office issued a special stamp commemorating the silver anniversary of the FFA.

1965—Future Farmers of America merged with the New Farmers of America.

1970—Membership in the FFA was extended to give girls all rights and privileges of FFA membership nationally.

1971—The National FFA Alumni association was formed and began enlisting members.

To try and project the future of education in agricul-

(Concluded on page 182)

Educating Our Students to Cope with Change

Barbara Moore

Gary Moore

by
*Barbara and Gary Moore**
Alabama A&M University

Ten years ago a vocational agriculture student who answered TRUE to each item on the following test would probably receive a perfect score.

T F 1. Seneca is a recommended wheat variety to plant.

T F 2. In judging steers a person should select a short blocky steer that is near the ground.

T F 3. In preparing a seedbed a person should break the land, disc it once or twice, and then harrow it two or three times.

T F 4. Charolais cattle are the newest exotic breed of beef cattle in the United States.

T F 5. The average dairy cow in America produces 5,795 pounds of milk per year.

T F 6. The square bale is the best all around method of handling forage.

T F 7. DDT is the best and most widely used pesticide.

Today, however, if a student were to answer TRUE to these questions he would fail the test. The rapid change in agriculture is portrayed by this test.

During the last few years bigger and more powerful tractors have arrived on the scene, "new" breeds of livestock are here, forage handling techniques have changed, better seed varieties are available, governmental regulations are different, equipment has been improved, insect control methods have changed, genetic engineering in livestock is commonplace, and the energy crisis coupled with inflation has altered "standard" operating procedures in much of agriculture. "Change" is rapidly becoming a common word in agriculture.

However "change" is a frightening word. It constantly reminds us that mastering the present is not good enough. Alvin Toffler writes in *Future Shock,* "It is no longer sufficient for Johnny to understand the past. It is not even enough for him to understand the present, for the here-and-now environment will soon vanish. Johnny must learn to anticipate the directions and rate of change. He must, to put it technically, learn to make repeated, probabilistic, increasingly long-range assumptions about the future. And so must Johnny's teachers."[1]

Providing education that focuses beyond the mastery of the present to the conceptualization and prediction of the future is a frightening challenge. Where does the practicing teacher begin? Several guidelines to consider in your program planning are:

1. *We need to teach students that what we are teaching them now will change in the future.*

Students spend a large part of their education in learning to "master" the knowledges and skills of the present and the past, yet students are given few opportunities to investigate the future. A dramatic illustration of this point appears in J. W. Gardner's book *No Easy Victories.* The passage reads:

> "Much of education today is monumentally ineffective. All too often we are giving young people cut flowers when we should be teaching them to grow their own plants. We are stuffing their heads with the products of earlier innovations rather than teaching them how to innovate. We think of the mind as a storehouse to be filled rather than as an instrument to be used."[2]

Present day subject matter can provide a "springboard" for the prediction and creation of future subject matter. Allowing time for students to experiment with and extend present day subject matter into "what may be the knowledge of the future" should help to eliminate the shock that students face when they discover how fast what we have taught them has changed. Teachers continually need to provide learning experiences designed to help students visualize what changes in knowledge may be found in their future.

2. *Our teachings need to produce more self-directed learners for life.*

Traditionally, teachers have been considered as "providers" of knowledge. In the future this role needs to change for the sake of our students. The more we continue to "provide" knowledge the more our students become dependent upon "receiving" it. Students who act as "receivers" of knowledge throughout their school experience will be less likely to "cope" with their future roles of finding and creating new knowledge. Students need to be taught how and where to find the knowledge they need. The new role of the teacher is to initiate learning. The new role of the student is to be a seeker and creator of knowledge.

3. *We need to encourage more interdisciplinary study.*

Less than a decade ago the term agriculture was associated primarily with farming. Today agriculture includes, horticulture, mechanics, forestry, environmental studies, small animal care, and other related areas. Tomorrow we can expect new and different frontiers in agriculture. The creation of these new frontiers are often combinations of many fields of study. Examples of such new frontiers in agriculture may be oceanography, hydroponics, climate control and high rise farms. Our students need to be encouraged to carry out studies in a combination of other fields of studies including agricultural studies. This interdisciplinary approach to learning can help provide our students with

(Concluded on next page)

*Barbara Moore is an assistant professor of Home Economics at Alabama A&M University. Gary Moore, her husband, is an Ag Ed professor there.

CONTINUED *EDUCATING . . . TO COPE WITH CHANGE*

the insight and knowledge to develop and prepare for new fields of study in agriculture to meet tomorrows needs.

4. *Our students need to have a vision of themselves in the future.*

Having a vision of the future can help our students recognize the limitations of our present day knowledge and plan for needed change in the future. However, our students should not only be able to visualize the unlimited changes in the world, but they should be able to visualize these changes in their own personal lives. Learning experiences designed to help students think about the future as it will affect their personal lives can help to increase the effectiveness of future planning.

Conclusion

Change becomes less frightening when students are given numerous opportunities to predict and plan for what may happen to them in the future. Our students in agriculture should be planning for the future now, for it will come as quickly as tomorrow. Futurist Alvin Toffler writes, "For education . . . its prime objective must be to increase the individual's 'cope ability'—the speed and economy with which he can adapt to continual change."[3] ◆◆◆

FOOTNOTES

1. Alvin Toffler, *Future Shock*. New York: Random House, Inc., 1970, p. 403.
2. J. W. Gardner, *No Easy Victories*. New York: Harper & Row Book Company, Inc., 1968, p. 32.
3. Toffler, op. cit.

CONTINUED *EDUCATION IN AG—OUR PAST . . .*

tionwide. Many studies have shown that educational programs for adults pay big dividends, and in many instances are the paths the unemployed follow to obtain jobs.

What Does The Future Hold?

Now let us look ahead to what the future might hold for agricultural education in this country and to what changes might take place.

Competition for federal tax dollars has been increasing from all sides. Universities and colleges, feeling the pinch of declining budgets and changing ocmade moves recently to offer more occupational programs at the college level and to seek federal dollars to support these emerging programs. This may mean that in the future, local taxes must replace federal and state financial support for vocational programs in the public schools. This situation also points out the growing importance of strong professional teacher and educational leader organizations to adequately face up to this growing competition.

In the future, agricultural education in the public schools will have to face more accountability than it has had in the past. More concrete justification of a program's merits and worth will often be called for. The key to better programs and better teaching, of course, is better teachers. In the future, prospective teachers will have to prove their competence to teach, to a greater extent than in the past, before a professional teaching certificate is issued.

Agricultural teachers who have in-depth training in one occupational cluster will be the type of teacher demanded in the future rather than the "generalist." More teachers of agriculture will be employed in urban and area vocational-technical schools than ever before. More multiple-teacher agriculture departments will be found in future years.

Recognizing the need to provide high school students every opportunity for educational choices, most high schools will provide the student in a vocational program the needed academic courses for admission to college. Students enrolled in a vocational curriculum should be identified as high school students rather than vocational students. Most school schedules can provide this flexibility if a serious effort is made. The trend toward larger school enrollments will provide more choices in individual student scheduling. More area schools in which students are given half-day vocational or occupational training must include opportunities for "academic math" and other difficult-to-schedule courses during the half day the student spends in the area or vocational school.

Occupations in agriculture will increase in kind and in numbers in the years ahead. Agricultural educators at all levels will need to keep alert to emerging changes and needs. Intelligent decisions for change can then be made based upon what we have learned during the one-half century that agricultural education programs have developed in the public schools of our nation. ◆◆◆

CONTINUED *MILESTONES AND SOME PREDICTIONS*

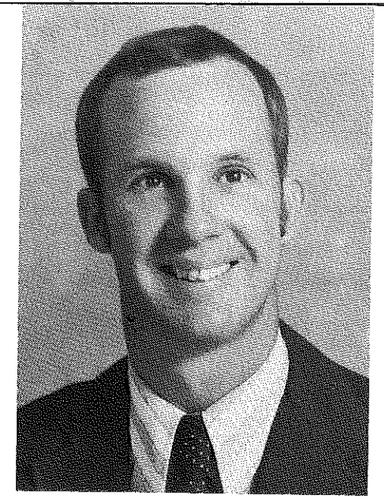
ture, one can only be guided by the past and the present. It seems reasonably certain to expect the trend in specialized courses to continue as agriculture becomes more technical in nature.

Since fewer people will be farming, more courses will be designed to serve part-time farmers as well as the increasing number of people involved in the field of agribusiness. It seems reasonable to assume that more girls will enroll in courses suitable to their needs.

With our increasing world population, we must assume that the field of agriculture will continue to be one of the most important segments of our economy. At the present time, agriculture is responsible for giving the United States an advantage in world trade balances.

Presently we are witnessing a population trend from the city back to the urban and rural areas due to pollution and other social problems. As this trend continues, we can expect courses in agriculture to be offered to more part-time farmers and urban people growing gardens or caring for a greenhouse. ◆◆◆

COMPETITION AND LEARNING OF ETHICAL BEHAVIOR



John M. Dillingham

John M. Dillingham
FFA Advisor
Lampasas, Texas

". . . with a little extra pencil work, [teacher's pencil] we achieved the American Farmer Degree."

The thrill of competition and the learning attained from it is worth all the salt of the work even if the numerical value of the finish places the effort last. However a belief shared by many people is that through winning, the learning is much more enjoyable and the taste of the salt much sweeter.

Find a vocational agriculture student who has no desire to be the best or finish first in some endeavor and you will find a young person who is not motivated. Find a vocational agriculture student who is urged to finish first regardless of the means and you will be able to find a vocational agriculture teacher who has failed himself, his students and his profession quite miserable. Motivating the student yet strictly adhering to the professional and moral ethics so vital to our democratic way of life is a serious two-fold problem facing all teachers of vocational agriculture today. As you examine your vocational agriculture organization at the local, district, area, state or national level you will find the individual rare indeed who has not bent to the temptation of taking a short-cut through dishonest effort. One of the apparent saviors of the profession honored by teachers of vocational agriculture is a growing realization of the permanent damage done to the students and the ability to correct the practice before it becomes done by habit.

Take for instance the real circumstance of an FFA advisor who for some reason known only to himself will perjure himself with a pen by filling out an official paper to "earn" his chapter a Superior or Gold rating. Do not kid yourselves. This practice is common. The principle belies the fact that the Chapter Rating application will either become a joking matter or it will remain a standardized measurement of a strong chapter according to the sincerity and honesty of the chapter advisor.

A disturbing statement made in a conversation at a recent state meeting by a teacher of vocational agriculture was "that with a little extra pencil work we achieved the American Farmer Degree." These crushing words undermine the highest degree presented by the national organization of the FFA, but far more damaging is the implications and irreparable damage done to the young member involved.

In both of these instances, please ask yourself if true honor can come to that chapter, that student, that advisor, or that community who find themselves in a lowered position of disrespect in the eyes of their peers.

Suppose you as a teacher of vocational agriculture have a tendency to specialize in the exhibition of livestock in local, area, state and national competition. This area of specialization when done with a sincere effort to teach and develop the quality of the student can be one of the most successful teaching situations. However, many individuals have a disrespectful opinion of the institution of competition of FFA students in the area involving livestock. In recent years, the management of the major livestock expositions and members of a recommendation board consisting of qualified professional members of the Vocational Agriculture Teachers Association of Texas and the Extension Service have sought to prevent the competition of exhibitors outside the realm of the rules. Particular examples of some wrong doing in the steer show competition have been widely publicized in the past on a national level. Rules have been revised and strict adherance to the identification of animals exist as well as periods of necessary ownership.

The fallacy of the system of regulations of the livestock shows is that some teachers of vocational agriculture have become professional livestock competitors and have misplaced their professional standards as teachers.

The fact exists that many of the professional people spend more of their time looking for the easy out, the loopholes if you please, rather than basing their program on a sincere effort and hard work.

A vocational agriculture teacher who is willing to make an honest effort is a most important prerequisite for an honest effort to be made in the community by parents and students who conform to the ideals of their leaders.

Some teachers of vocational agriculture have made it a common practice of disregarding the rules of ownership of animals in order to turn a so-called "fast buck" at the livestock shows. Disregard the rules and the student will not find out? Mr. teacher of vocational agriculture, you are dealing with the most precious product of our educational system. That ever watchful eye and questioning mind is content to watch you and your actions. The principles you follow will be the princi-

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CONTINUED

COMPETITION AND LEARNING . . .

. . . some teachers of vocational agriculture have become professional livestock competitors and have misplaced their professional standards as teachers.

ples sought and maintained by that student.

The practice of switching ear tag identification numbers in order to sell a lamb of a lesser quality and take the more desirable lamb to another show leaves room for complaint. The moment that a tag is switched with the knowledge of the teacher, the teacher becomes little better than a common criminal in the eyes of those who realize this has happened. Who will be affected? With great regret, the young person will suffer the most damage. Yes, the money will salvage some of the short-lived glory, but the permanent damage will have been done.

Perhaps a look on the positive side of young people exhibiting livestock in competition will better serve to show the benefits other than monetary that are to be derived.

No matter what endeavor you as a teacher of vocational agriculture undertake, strive to answer the following questions. If you are an honorable person and want to cleanse vocational agriculture and the FFA of the cancerous growth clinging to it, you will have to make the correct decisions concerning these questions:

1. Is the economic pressure on myself likely to cause me to perjure myself to those who depend upon me?
2. Do the young people with whom I work know the difference between right and wrong?
3. Does the "good" feeling of accomplishment come to me if I lie or cheat to achieve personal glory?
4. Does the search for personal glory outweigh the reward of an honest effort?
5. Is it likely to come as a surprise that my position as a teacher of vocational agriculture has been filled by a teacher who still believes in ethics and hard work?

A negative answer to any of these questions will assist any teacher and especially teachers of vocational agriculture in deciding to which ethical and moral code they subscribe.

May you consider yourself challenged with a request which is as dear as life itself.

Will the image your students reflect of you be an image to honor and respect long after you have passed from their sight.

Grow the tree tall and straight,
Set the branches clean and strong.
Help the flower bloom not late
And cleanse the fruit, lest it be wrong.

♦♦♦

CONTINUED

THE COURSE OF STUDY . . .

Where do we go from here with the arrangement of the agriculture course of study? The specialty courses such as ornamental horticulture and natural resources, which are often two years in length, appear to be vertically arranged—on a block plan, but so does the specialty course of production agriculture. In viewing the horizontal arrangement (cross-sectioning) one must keep the eye on the enterprises, not the courses. Cross-sectioning a course of study is spreading the subject matter of an *enterprise* like apples, swine, or corn over the duration of an enrollment (in the old days — four years) for the purpose of better timing the instruction to its use in the various forms of supervised practice. Instruction should be given at a time when it can be demonstrated realistically.

The crucial question for the future concerning the arrangement of the course of study is: will teaching and learning be carried to the doing level in a realistic business setting for the purpose of establishment in an occupation? Will it conform to our best definition of vocational education or will it fall short?

Flexibility of the Course of Study

When the same subject matter is studied by all students in the class throughout the year, the student with the occupational experience program that is different from that of the majority of the class members will get instruction that is less relevant. Throughout the history of vocational agriculture, time has been set aside for individual projects, individual study, and individual record keeping and analysis. Time was provided for the one student who had rabbits to study about rabbits and for the one student who had honeybees to study about honeybees, etc. Today, perhaps the most individualized part of the course of study in vocational agriculture is the related technical portion of the cooperative education programs.

Generally, the amount of flexibility and individualization provided for students has increased and decreased along with the increase and decrease of the amount of cross-sectioning of the course of study. That is, the 1918 course of study began as a textbook and moved toward a more student- and project-oriented course of study. Along with the off-farm agriculture programs of the 1960's came a return to the text or other prepared material.

I feel that the less the agriculture teacher knows about the subject matter, the more he retreats to the classroom and the prepared curriculum materials and books, that is, if he is conscientious. (The other element may be so "flexible" that there is *no* course of study, and students putter in the shop week after week on individual projects.)

Teacher educators and supervisors are afraid *not* to provide suggested courses of study, curriculum materials, and even lesson plans when teachers are poorly prepared as has been the case during teacher shortages or when new off-farm programs were being added.

Where do we go from here concerning flexibility of the course of study? We must have the flexibility to allow for the diversity of agriculture occupational interests of the individual in the classroom, and we must have the flexibility to allow the individual community to tailor the course of study to its needs while retaining as much of a structured course of study as possible.

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FIELD TRIP? NO WAY!

There should never be any embarrassing disagreements with the host. You can discuss differences of opinion in the classroom.

Emile LaSalle
Regional Supervisor
California

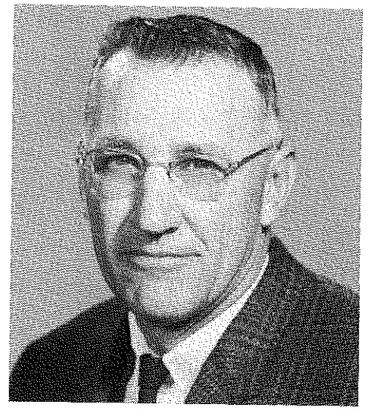
Have you ever experienced the disappointment of a farmer denying your request for a field trip to his farm? It happened to me when making plans for my first field trip. His answer to me was a simple "No way!" He had previously been disappointed in the conduct of vo-ag classes that had visited his swine farm and after the picking and throwing of fruit and tomatoes from his orchard and fields by the visiting students, he decided not to host any classes in the future. I was able to finally convince him to give us a new chance, because I was a new and untried teacher and because his son was in one of my classes.

In looking back on this first experience and other hundreds of valuable field trips during the last 33 years that I have been involved in public education, I would like to comment on some practices that contribute to the success of field trips. Let's assume now that we are planning a field trip for next month. Let's follow these steps to accomplish our goal:

I. *Pre-arrangements* — Make a personal visit to the host or business to make the request and review the goals of the trip. Writing letters or phoning are satisfactory methods but in some cases can result in misunderstandings. Never, just pop in on someone unannounced. Even when visiting public places such as stockyards, extension field days, implement shows etc., it is a good practice to make all the necessary contacts in advance.

II. *Bus arrangements* — With less vo-ag teachers driving their own buses, it becomes more important to follow school policy when requesting a bus for a field trip. Ask in ample time before the scheduled visit and fill out the necessary school or bus request forms and absence requests. Don't just ask ten minutes before the trip and demand a bus and driver!

III. *Preparing Students for Field Trips* — Field trips should, generally, be part of a unit of instruction so you would regularly be making reference to the upcoming trip. The class usually looks forward with great anticipation the day of the trip. You might prepare a list of guidelines or questions for the students to assist them to derive the greatest benefits from the trip. Perhaps, you may require them to return the filled out questionnaire at the end of the



Emile LaSalle

trip. I believe the use of guide questions can fill many purposes:

A. It involves all the students in writing down the desired information. There is little time to become disinterested or engage in a little mischief.
B. It focuses their attention on the important goals of the trip.
C. It gives the field trip a feeling of respectability because of the business-like attention by the students. This makes the host more comfortable.
D. It can be the basis for the day's grade.
E. It is a good reference for a quiz following the trip.

IV. *Student Conduct — Classroom to Bus* — It is important to have the class walk to the waiting bus with a minimum of noise. It is always aggravating to other teachers if a noisy group moves down the hall or disturbs classes when walking by open classroom windows.

Here is a good chance to teach a gentlemanly practice of boys waiting at the bus door to permit girls to enter first.

V. *Conduct on Bus Driving Trip.* — Here is a chance to make points with the bus driver. His job is a hard one at best and if the class is quiet and courteous the driver will provide you with a pleasant and safe journey to the host ranch. There is never any excuse for a noisy undisciplined group on a school bus. If the teacher is not driving, then he should circulate with the students, make some last minute announcements and generally stay "in charge."

VI. *Conduct During Site Visit* — This is the "main event" and the highlight of hours of preparation and effort — so make it a good one. On arriving at the site have the students wait quietly in the bus until you make contact with the host. Then, introduce the host to the class and the class to the host either while in the bus or just outside the bus, explaining the purpose of the trip. This is a good time to review in a few words the purpose of the trip and perhaps provide the host with a set of your guide questions. Incidentally — the guide question sheet should include the name of the ranch, business or host, date and title or purpose of the trip. The questions from the students

(Concluded on page 189)

CONTINUED *LET US NOT FORGET . . .*

Guide 1960).

In 1917, Dr. H. O. Sargent of the U.S. Office of Education, was given the responsibility of "vocational training for the Negro schools." (NFA Guide 1960). He worked to upgrade education in agriculture throughout the South, and was highly respected by the Negro and white for his endless effort.

"The years from 1928 to 1935, the New Farmers organization was known by the name of each respective state." In 1935 the first national meeting of the New Farmers of America was held at Tuskegee Institute, Alabama. In August of the same year ". . . the National Association of the New Farmers of America was formed with a tentative constitution and by-laws. The constitution and by-laws was adopted in 1936 at the second meeting of the National Organization held at Hampton Institute, Hampton Virginia." (NFA Guide 1960).

Professors A. G. Gordan and A. D. Fobbs worked endless hours as teacher educators, Alcorn State University, Lorman, Mississippi, preparing Negroes to teach vocational agriculture in the State of Mississippi. These men constantly promoted agriculture and the NFA.

Dr. James Nelson Freeman served Agricultural Education as teacher trainer at North Carolina's agriculture teachers college, 1926-29. South Carolina State College, 1929-33; and in Texas as an advisor to the NFA. His record in promoting education in agriculture is outstanding.

The merger of the New Farmers of America and the Future Farmers of America youth organizations placed a part of history aside. However, we must not forget the founding fathers who sought to build the NFA into a respectable organization whereby Negro boys were proud to be called NFA members. The merger of the NFA into the FFA brought with it a time of sadness and a loss of identity. Former NFA members had to adjust to a new but similar organization. Once the initial shock of adjustment was over and the idea of acceptance became a reality, education in the agricultural youth organization took on a new emphasis.

In the words of Booker T. Washington:

> "No race can prosper till it learns there is as much dignity in tilling a field as in writing a poem. It is at the bottom of life we must begin, and not at the top. Nor should we permit our grievances to overshadow our opportunities. Cast down your bucket where you are. (Three Negro Classics). Furthermore: "success is to be measured not so much by the position that one has reached in life as by the obstacles which he has overcome while trying to succeed." Finally, in the words of Mortimer J. Adler: "We often think of ourselves as living in a world which no longer has any unexplored frontiers. We speak of pioneering as a thing of the past. But in so doing we forget that the greatest adventure of all still challenges us — what Mr. Justice Holmes called 'the adventure of the human mind.' Men may be hemmed in geographically, but every generation stands on the frontiers of the mind. In the world of ideas, there is always pioneering to be done, and it can be done by anyone who will use the equipment with which he is endowed. The great ideas belong to everyone."

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CONTINUED *THE COURSE OF STUDY . . .*

Summary and Conclusion

The course of study was first based on the textbook. Projects were chosen to fit the course of study, but rather quickly a reversal was made to base the course of study on the "projects," "enterprises," and "farming programs." To the farming program of the student was added the whole program on the home farm and the farming of the community. Next came a focus on the needs of the individual in relation to his farming plans. With off-farm agricultural programs came the emphasis on employer needs as a basis for the course of study.

The organization of the course of study has progressed from a subject matter orientation where subject matter was taught in continuous blocks of time with little regard to what was happening beyond the classroom to an attempt to teach various jobs or problem areas as near as possible to the time they were needed in the farming programs of the students. The starting of new specialty programs after 1963 re-created a situation like that immediately after 1917 and the solution was the same — back to the prepared materials (books etc.) and the block plan. The change in the organization of the course of study has not been cyclical; the change was and is a parellel development from the new start with occupations other than farming. It's two situations evolving, not one revolving.

—MBM

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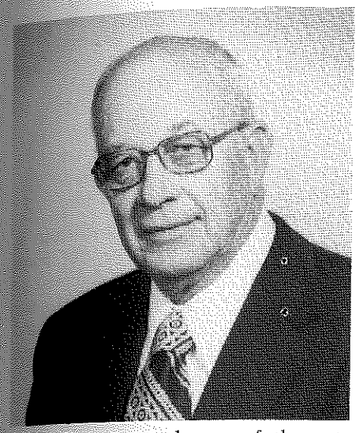
Leader in Agricultural Education:

JAMES E. DOUGAN

by
*Dick Hummel**



Jim Dougan, truly one of the outstanding leaders in Agricultural Education was elected President of the National Association Supervisors in Agricultural Education in December of 1974.

Mr. Dougan was born and raised on a general livestock and crop farm in Morgan County, near McConnelsville, Ohio. He graduated from Penn High School where he was enrolled in four years of vocational agriculture and was president of the FFA chapter and other school organizations. He received his Bachelor's degree in Agricultural Education and his Master's degree in Agricultural Education and School Administration at The Ohio State University. He has been enrolled in graduate work at other institutions and has attended the American Management Institute and Personal Development Seminar and is a graduate of the Ohio Administration and Leadership Development Institute.

Mr. Dougan is married, has four daughters, (three are elementary school teachers, and one an office manager) and four grandchildren.

Mr. Dougan taught vocational agriculture for nine years, having an average of 70 high school students and 35 young-adult farmers enrolled. He was a local high school principal for two years and an Assistant State Supervisor in Agricultural Education for 15 years, supervising over 100 teachers each year. He was the Director of Ohio FFA Camp Muskingum for 13 years, Assistant Executive Secretary of Ohio FFA Association for 12 years and assumed the leadership and administrative responsibility for implementing Agricultural Education programs in area vocational schools and two-year post secondary technician training programs in Ohio technical colleges and institutes.

Mr. Dougan is presently serving as State Director of the Ohio Agricultural Education Service and Advisor to the Ohio FFA Association, positions held for the past eight years. Mr. Dougan has served on the National FFA Board of Directors and the National FFA Foundation Board of Trustees. He also served as Special Assistant to the Associate Commissioner of the Bureau of Adult, Vocational and Technical Education at which time he was Chairman of a National Task Force in the U.S. Office of Education with the responsibility of developing a five-year national plan for Agricultural Education and securing funds for a proposal to develop national curriculum guides in the eight major instructional areas of Agriculture/Agribusiness, Natural Resources, and Environmental Improvement and national guides for the Career Awareness, Orientation and Exploration in Agriculture.

Mr. Dougan is very active in many professional, civic, church, and agricultural organizations, and his activities include AVA, OVA, NVATA, NASAE, OVATA, Ohio Education Association, National Education Association, National Junior Fact Finding Committee, Ohio Agricultural Council, OSU College of Agriculture Alumni Association, OSU Faculty Club, local Lions Club, Church of Christ, Thirty-Second Degree Mason, Shrine, Royal Arch Mason and others. Jim has received the Distinguished Service Award from the College of Agriculture, OSU, and the NVATA Outstanding Service Award. He has served as president of a local, county and area vocational school board of education. He also has received the Honorary FFA Degree at the local chapter, state and national levels. He has conducted seminars, written many published articles, and given presentations at many state and national meetings on the development of quality programs in Agricultural Education to serve youth and adults.

Dick Hummel

*Dick Hummel is a supervisor of Agricultural Education in Ohio.

Under the excellent leadership and administrative ability of Mr. Dougan, the following have been accomplished with the Agricultural Education program in Ohio:

1. The Ohio Agricultural Education program has expanded from one basic program in production agriculture to ten major programs under his administration and leadership.
2. High school enrollment has increased from 13,400 students and 305 teachers to over 22,000 students and 587 teachers.
3. The vocational adult program in Agricultural Education has increased from an enrollment of 10,500 to over 16,000 and the two-year associate degree training program from 76 students to over 1500.
4. The Agricultural Education programs have been expanded and extended in the area vocational schools and large cities to train individuals for employment in the

(Concluded on page 189)

SEVEN KINDS of STUDENT VISITATIONS

Clifford Van Berkum
Vo-Ag Instructor
Swea City, Iowa

The booster visit—There are many days when, because of schedule or circumstances, the instructor needs an "ego shot."

For years, prospective vocational agriculture teachers have been told that home or farm visits were to be for educational purposes only. As an instructor stays in a community for several years, he finds that there are many other reasons to make visits to his day class students and to his adults. Here are some reasons to make visits.

1. *The scheduled or planned visit*—This visit is used primarily for the day-class students and is basically educational in purpose. Most of the visits should be of this type for the convenience of students, parents, and instructor. Oftentimes the students who are out for extra curricular activities can only be reached through this type of visit. On most of these visits the instructor can expect fresh bedding in the pens and everything in good "show" condition.

   Oftentimes when visiting the adult group, a scheduled visit is essential so the instructor doesn't interfere with the work schedule of the farmer or doesn't make an unnecessary trip and not find anyone home. Visits to the occupational day class students should also be scheduled with their employer so the teacher doesn't interfere with the student's work schedule. Generally, unless an instructor is in a community for a number of years and knows his people well, an announced visit is the best type to use.
2. *Requested visits*—The most satisfying visit is the one where you have been asked to see something new or different, or to help solve a problem students may have. This may be classified as an educational visit or maybe because the student would just like to have you come over for one-to-one contact. This is sometimes called a "bull" session, but does have its place in farm visits.
3. *The unannounced visit*—This visit may be more educational for the instructor because he sees things as they really are. A few of these visits will keep the student prepared if the vo-ag instructor might just happen to drop in. However, there are some families that strongly resent these type of visits and one should avoid such visits to these families.

   There are some families that will allow the instructor to look around even when they aren't at home. Again, the instructor will know after many years in the community, which families he can do this with. Some instructors have calling cards made and leave them in the door when no one is home. One can leave a message on the backside saying, "I just dropped in" or anything more specific he wished to see them about. There are some times and some places an instructor should never go in on his own without the permission of the farmer. An example of this would be the farrowing house at the time the pigs are being farrowed.
4. *A learning experience for the instructor visit*—In order to feel the pulse of the community, an instructor may go to visit many times to learn instead of teach. Or if there is a person in the community or area that has skills or knowledge the instructor wishes to gain, he can acquire this through a visit. One can also broaden this by going with a veterinarian on his calls for a day, an electrician and helping wire, or a plumber, etc.

   Often when an instructor is out on these visits he can learn of problems that are common to many people in his area. He can jot these down in a notebook and later when night class topics are being discussed with the council, the instructor can get out his notebook and suggest some of these problem areas as discussion topics.
5. *The public relations visit*—Often these visits can be announced, but most times they are of the variety that the instructor just stops in, or sees the farmer along the fence and stops. These can also be educational visits for both students or farmers and instructor, but the primary reason is to let the person know that you are still interested in him. Many of the visits to the adult farmer group fall in this classification at times. An instructor shouldn't be making these kinds of visits during the busy season.

   These visits can often be made other than in the homes. On rainy days many farmers congregate at elevators, implement shops or restaurants. Many PR visits can be made in these places and the only cost is a cup of coffee. Some visits can occasionally be made with the instructor's family going along with him in the summer evenings. There are so many possibilities on this type of visit that shouldn't be overlooked.
6. *The booster visit*—There are many days when, because of schedule or circumstances, the instructor needs an "ego shot." There are certain people in every community that can be used for this purpose. One type of person to visit would be those that have things really bad and you can better appreciate your own situation

(Concluded on page 191)

CONTINUED

FIELD TRIP? NO WAY!

should be spaced out and there should always be courteous questioning by the students calling the host by name. There should never be any embarrassing disagreement with the host. You can discuss differences of opinion later in the classroom.

When time has run out and you are ready to return to the bus, try having some of the students shake hands with the host while thanking him and the rest just saying "thanks" and a goodbye wave. Watch the host say "you're welcome and hurry back." Probably later he will tell the teacher that he didn't know that we still had such nice kids.

Sometimes the host is more profuse in his thanks to the class for coming than we are to him. This means he enjoyed the class and visit.

VII. *Return to Campus* — Don't be late! If you are, you may be upsetting 10 or 15 other classes. Plan your departure — know exactly when you must leave so that you can return to your classroom, return their notebooks, notes, guide questions and dismiss the class at the bell. It is poor practice to return late and write excuses to admit late students to other teachers' classes. The bus should be left clean at the end of the trip. Bringing along a box to collect any accumulated trash or litter works well and better yet — if possible — a quick sweep down of the bus is the way to go. Have students say "thanks" to driver as they leave and watch him smile.

VIII. *Letter of Appreciation* — Of course, the teacher should write a thank you letter or note to the host on Vo-Ag or FFA letterhead. Enclose a complimentary ticket to the FFA Banquet or Bar-B-Que or a picture of the trip and some notes from class members, etc. Later you may present him with a certificate of appreciation at your FFA Parent-Student Banquet or if he has hosted you many times over the years, you may elect him to Honorary Chapter membership.

IX. *Day After the Trip* — You may want to review the trip with the students for as long as necessary to answer all questions and complete the review. Then a simple quiz over the suggested guide questions or important comments made by the host.

You might well give your opinion as to the successes of the trip and areas of possible improvement by the class.

A brief memo to your principal on the trip — with a copy of the guide questions — should cap a successful field trip.

Some basic problems that have developed during the past few years that affect our field trips are:

A. The practice of reducing double period scheduling in vo-ag to single period classes.
B. School and budget constraints limiting or reducing the number of field trips.
C. Growing urbanized areas put greater distance between the site to be visited and school.

The benefits of field trips, however, outweigh these problems and merit our increased attention.

Lastly, I want to grant that many ag teachers not only follow the previously mentioned practices but have other successful skills and gimmicks that some of us have not yet used. Exchanging ideas at section meetings would benefit everyone concerned. ◆◆◆

CONTINUED

LEADER IN AG ED

total agriculture industry. Today, 84 percent of all 11th and 12th grade students in Ohio have access to Agricultural Education programs.

5. The idea was initiated for the providing of leadership and supervision at the local level for program development and improvement by establishing local Agricultural Education supervisor positions in the area vocational schools and major cities.
6. The Agricultural Education Service took the leadership in developing the management by objectives concept in the Division of Vocational Education. A five-year program was developed and was extended each year, which provided information on what was planned to be done, for how many, by when, and the cost of accomplishing the plan each year.
7. A massive effort was made to develop the need for and secure the funds for an expanded in-service training program for vocational agriculture teachers.
8. The incentive awards program for FFA members has been expanded to include students in all of the major instructional programs.
9. The Young Farmer program has had continuous increase in enrollment and has expanded programs and activities.
10. There has been a continued growth and expansion of the Ohio FFA Camp program.
11. Active participation in the Ohio Agricultural Council.
12. A massive effort was made in curriculum development, based on a task analysis of the occupation or cluster of occupations for which the ten major instructional programs are designed.
13. Personnel and facilities were increased for the pre-service and in-service training of Vo-Ag teachers and a two-year comprehensive pre-service and in-service training program for the certification of occupational component teachers was implemented.
14. Initiated an FFA Leadership-Citizenship Day in which the members of the Ohio General Assembly, state officials and leaders in the agriculture industry are hosted at a breakfast by local FFA chapters; the day is proclaimed "Ohio Agriculture Day by the Governor."
15. Agricultural Education identity has been maintained in the State Department of Education.

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Paul A. Gilman

AG MECHANICS FOLLOWING OUR BICENTENNIAL YEAR

Prof. Paul A. Gilman
Agricultural Mechanization
University of New Hampshire

It would seem fitting that we should briefly review the role of Agricultural Mechanics in the past before speculating as to the future direction.

Until about fifty years ago agriculture witnessed a large amount of hand-and back-tiring labor to produce the food and fiber for this nation. Many of us learned the necessary skills or competencies of the time by working as a family unit hoeing the corn, pitching the hay, hand milking, cranking the grindstone and even sawing wood with horse power.

Today in our modern agriculture, one farmer produces enough food and fiber for the support of over fifty other people, and all the production processes are highly automated. Few family members have the opportunity to learn the skills and competencies necessary to operate, repair and maintain this highly mechanized expensive production equipment.

These facts present two serious, yet extremely important problems: 1) how to train the vocational agriculture teachers to best teach the essential skills needed by the widely scattered and ever decreasing future farmers and 2) how to bring together the youth who need these competencies so essential for future production of food and fiber. The latter problem is being solved by area or regional high schools that are bringing the future production producing students together thus we are providing the opportunity for their instruction. The most difficult problem namely that of properly training the teachers still remains a number one priority that our teacher training universities must continually accept, but unfortunately is being glossed over, particularly in New England.

At the risk of inciting a riot, I would propose that courses be included in occupational education training programs to properly train prospective teachers in the mechanics skills or competencies necessary for food production, agribusiness and natural resources conservation. (Many land-grant universities do not now have appropriate agricultural engineering departments to do this teaching.)

To cope with this problem, will in some cases, require the cutting to a very minimum those courses in the humanities and social sciences and add skill training in those essential career competencies so necessary to the actual vocational teaching profession.

It is even more important today that a teacher be taught the essential competencies and methods that may be used prior to his first teaching assignment for two very basic reasons. First, a teacher must be as proficient as possible when he starts teaching, otherwise the class will be slowed down and the time can never be recovered; secondly, if the teacher is not proficient, he will fail to have good rapport with the students and thus his success may well be in jeopardy.

Several workshops of national and regional scope have been conducted to identify the essential agricultural mechanics skill areas.

The southern region has been a leader in this endeavor and has developed the competencies and behavioral objectives for fourteen skill areas determined as essential.

The skill competencies and behavioral objectives were worked out and presented in the Fifth Annual Workshop Report in Agricultural Mechanics Education, August 27-29, 1974; Engineering Center, University of Georgia, Athens, Georgia.

Rather than try to condense this report, it would seem that the listing of the fourteen skill areas should sufficiently arouse those individuals who wish to concern themselves with the improvement of agricultural mechanics education.

The fourteen basic skill areas that we must be concerned with and answerable for, are:

1. Gas welding and cutting
2. Finishing and preserving
3. Drawing and interpreting plans
4. Fabricating woods and synthetics
5. Power mechanics
6. Tool fitting
7. Metal working
8. Soldering
9. Electricity
10. Plumbing
11. Arc welding
12. Surveying
13. Concrete and masonry
14. Operation of power equipment

Further work has been continued by this Committee in August 1975 under the direction of Dr. Richard E. Lindhardt, Texas A & M University, College Station, Texas.

The necessary skills and competencies are now clearly spelled out; however, the real question still remains will the teacher training universities accept the challenge and opportunity and thus make a contribution as great or greater than the Morrill Act itself? ◆◆◆

CONTINUED SEVEN KINDS OF . . . VISITATION

in comparison. Another is the person that can build your spirits up because they really appreciate you. Periodically, the instructor must visit these people.

7. Another type might be a *visit of welcome or hardship*. This might be classified as a PR visit, but isn't quite for the same purpose. A visit to the new family letting them know you're glad they are here, and acquainting them with the fact that you're here to help them if they need any help or information, is good PR.

There are times of sadness because of death, fire, hail, etc. that the vo-ag instructor may wish to share his sympathy to the family. Again, a teacher who has been working with the community for a longer period of time can use this type of visit easier than a newer instructor.

No matter if you call them project visits, work experience visits, occupational experience visits, or on-farm visits; there are many purposes for the visit. The key point to remember is not to underestimate their importance or value; but to instead make them for whatever reason you may have. Visits are an important part of your occupation as vocational agriculture instructor. In many communities your job depends on them. ◆◆◆

BOOK REVIEWS

NATURAL RESOURCES MEASUREMENTS, by Thomas Eugene Avery. New York: McGraw-Hill Book Company, 1975, second edition, 339 pages. $13.50.

The book is devoted to techniques of natural resources measurement, including measuring rangelands, wildlife, fisheries, forests, water, and outdoor recreation. It is written in three parts and contains 15 chapters. Part One is devoted to fundamentals of measurement and relates the use of metric weights and measures to measuring natural resources. This Part also discusses probability, sampling and sampling designs, elementary computations, simple linear regression, land measurements, and photogrammetry. Part Two is concerned with timber measurement, including standing trees, tree and stand volumes and growth, wood products, and inventory planning and systems. Part Three deals with measuring nontimber resources and the potential of these resources for recreational use. The final chapter of Part Three discusses dendrochronology, which is the technique of tree-ring dating. The Appendix contains seven tables, including selected metric conversions and statistical tables on use rules and random numbers. Several examples of suggested problems and references are listed at the end of each chapter.

The author of *Natural Resources Measurements*, Thomas Eugene Avery of Texas A&M University, has prepared an up-to-date book which should be a good reference for all high school teachers who are involved in forestry and natural resources areas. Students in community colleges, colleges, and universities who are studying forestry and natural resources should find the book to be very useful as a text and reference. The book appears to be highly authentic and its preparation involved collaboration with a number of experts in different areas of natural resources measurement.

Jasper S. Lee
Mississippi State University

THE SCIENCE OF PROVIDING MILK FOR MAN, by John R. Campbell and Robert T. Marshall. New York: McGraw-Hill, Inc., 1975, 800 pp. $16.95.

The Science of Providing Milk for Man is a very complete text providing a detailed background in dairy production and the dairy foods industry. Over half of the book is devoted to the milk production end of the dairy industry. This part of the book describes the production of milk, going into depth on subjects like reproduction, lactation, herd health and management, as well as these topics in general dairy texts like dairy breeds, records, and evaluation of dairy cattle. Chapters of specific interest were Dairy Farm Management and Bovine Mastitis. Many photographs, tables, and figures are helpful in giving a complete understanding of the subject. Perhaps the one thing that I liked most about the book was the many quotes from people who are in the dairy industry and are considered leaders and authorities in the dairy cattle business.

The other part of the book deals with the dairy foods industry. Each type of dairy products is explained in detail. These include cheeses, butter, concentrated and dried milk products, and, of course, fluid milk and cultured products. This section gives a complete study of milk composition and marketing of dairy products. High quality milk products in relation to public health standards were discussed to give a picture of the complete dairy industry.

The last chapter brings the dairy picture into its proper perspective by taking a look into the future of man's nutritional need and how the dairy industry is helping to satisfy those needs.

The thirty-page glossary is a great help in reading and understanding this book.

My overall reaction to the book is that it is an excellent text and a very fine reference.

Dr. Robert T. Marshall has broad background in the dairy products industry. Each year he works with the Milk Quality and Dairy Foods National FFA Contests. Dr. John Campbell has received many awards for his superior teaching ability in animal science and dairy husbandry. The co-authors are both professors at the University of Missouri.

This book was written for college use. It would serve as an excellent teacher reference or a comprehensive text for anyone who is interested in a thorough knowledge of the dairy industry.

J. Stephen Cantrell, Instructor
Houston High School
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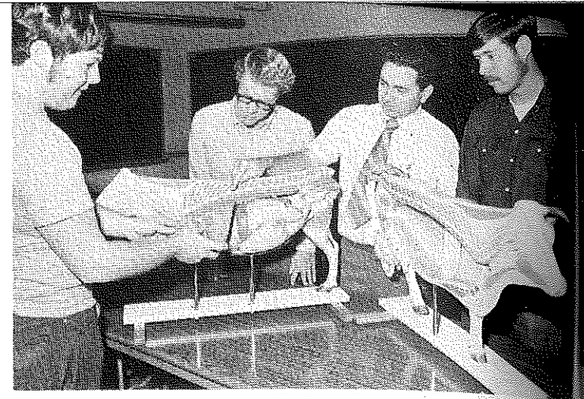
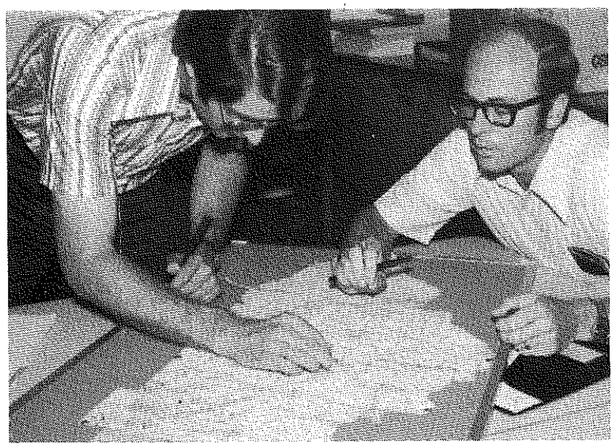
STORIES IN PICTURES

by Jasper S. Lee

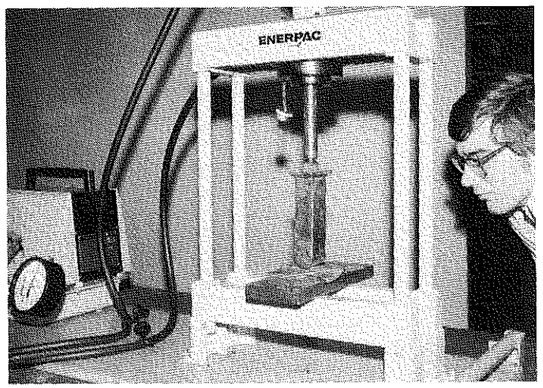


INSTRUCTION IN ANIMAL SCIENCE—Students enrolled in technical agriculture courses are using models of cattle in studying animal science at Parkland College, a community college at Champaign, Illinois. (Photo from Gayle Wright, Parkland College)

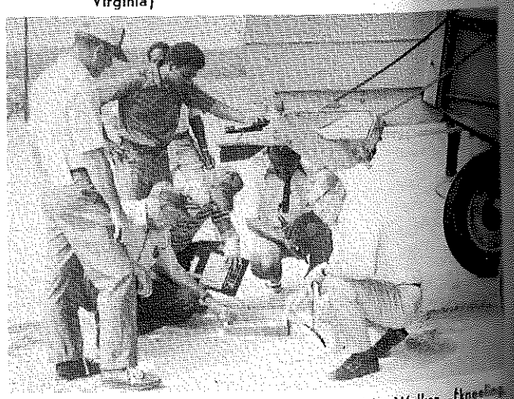


PLANNING SUPERVISION OF STUDENT TEACHERS—James Daniels (left) and Carl Reynolds, teaching assistants at the University of Illinois, are shown scheduling supervision of student teachers at their cooperating centers. (Photo by Robert W. Walker, University of Illinois)

FOOD PROCESSING WORKSHOP—David Baldock (center), Food Science Department at Virginia Polytechnic Institute and State University, is shown providing small group instruction to agriculture teachers and supervisors of school-community canneries in Virginia during a recent workshop on food preservation. (Photo by Jasper S. Lee, Virginia)



TESTING A WELD — James Cullison, senior in Agricultural Education at the University of Illinois, is shown testing a corner weld in an Agricultural Engineering Laboratory. (Photo from R. F. Espenschied, University of Illinois)



MEASURING COMBINE EFFICIENCY—G. M. Walker (kneeling, left), professor, Department of Agricultural and Extension Education, Mississippi State University, is shown demonstrating the use of a wooden frame to measure combine efficiency during a workshop for teachers. (Photo from Jimmy McCully, Mississippi)

Theme—Programs in Agricultural Supply and Service

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