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Evaluating Adult Farmer Programs

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The Agricultural Education Magazine

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THE COVER PICTURE

The cover picture depicts the Vocational Agriculture Philosophy of teaching Farm Management in Minnesota.
 Lester and Betty Oeltjenbruns of Owatonna, Minnesota are discussing with John Zwiebel, the Adult Vocational Agriculture Instructor, the concept that decisions or changes made in the farm business should be based on available information, records and analysis of the farm business. Consideration will also be given to how such decisions will affect the farm and the family.

Guest Editorial

Adult Farmer Education Deserves Evaluation

CARL M. HUMPHREY, Supervision, Jefferson City, Missouri

Adult education in many communities and some States holds about the same position as the weather—everybody talks about it but no one does anything about it. The difference, of course, being something could be done about adult education. Much has been done. Much progress has been made. But we have merely scratched the surface. Adult education is hard to define because of our many varied opinions, purposes and objectives. To me any educational program for farmers above or beyond the high school level may be classed as adult education, i.e., any program designed to assist farmers who are "on the job" to improve their skills or managerial ability.

Adult education has progressed slowly or failed to progress in some cases because of a lack of enthusiasm, understanding and appreciation on the part of the vocational agriculture instructor and/or the school administration.

During the past year I received an inquiry about the establishment of an area program for providing specific instruction in the area of agricultural occupations related to farming. Our reply suggested that in light of experiences in other States that this type of training could probably best be done with the post high school group. The reply to our suggestion was—"your suggestion of an area program for out-of-school youth arouses no interest whatsoever except that it might become a later extension of the program we are trying to establish." The letter went on to say the proposition was for the establishment of a high school program. I believe this statement bears out the attitude of many school people regarding adult education in all fields. This attitude is not peculiar to agriculture alone.

This reply points up the need not only for some critical evaluation but for some enthusiastic promotion of adult education. We have all heard it repeated and most of us would agree that a program of vocational agriculture in high school cannot be justified without a program of adult education.

How do we determine the value of an adult vocational education program in agriculture? By numbers who attend? By income of farmers who participate? By general appearance of the farmstead of the class members?

We in agricultural education, as well as other educational fields, like to "count noses" and brag about large numbers. I doubt that this is a very sound educational evaluation. Regular attendance, and continuous enrollment of a small (12 to 18) group of farmers would indicate the educational value of the program much more definitely than a large enrollment with a rather low average attendance.

(Continued on Next Page)

From the Editor's Desk

An additional editorial on evaluation of adult farmer education could add little to the many fine contributions to this issue. This space might be used to better advantage, it seems to me, in discussing one of the most important developments in the history of vocational education.

Vocational education has been in the national spotlight since the President's Panel of Consultants began its study of our program nearly a year ago. The recommendations of this panel, if approved by the U. S. Congress, can provide for a greatly expanded and improved program. Whether or not Congress will approve of these recommendations depends upon many factors, one of the more important being how aware they are of the need for vocational education. This raises the question, "what should vocational agriculture teachers do to help legislators understand the nation's need for vocational agriculture?"

Dr. M. D. Mobley, Executive Secretary of the American Vocational Association, answers this question in the letter below.

Dear Dr. Woodin:

This is to acknowledge receipt of your letter in which you ask the question, ". . . what can the individual vocational agriculture teacher do to help influence public policy and to help legislators understand the needs and problems of vocational agriculture?" This is certainly a good question and one that is most appropriate at the present time.

You are well aware of the fact that the Panel of Consultants on Vocational Education—authorized by President Kennedy—will make its report to the President about the middle of November 1962. We have every right to believe that this report will recommend major legislation, that if enacted into law, will provide a greatly expanded program of vocational education in all of its branches. If such legislation is to be approved by National Congress it must have the all-out support of the vocational educators everywhere. Members of Congress will view with caution any proposal that involves expanding federal expenditures. For it to receive favorable action, the vast majority of the members of the Congress must be convinced that the welfare of a nation will profit greatly by such an expansion.

If our country is to move ahead in the future, the great masses of our citizenry must be well-trained and highly efficient and thus be efficient, productive workers. This is the message we must somehow get across to members of National Congress.

(Continued on Next Page)

Deserves Evaluation

The changes made in the farm operations of the farmers attending classes is a true measure of the success of the instruction provided. We in vocational education cannot "claim credit" for all improvement which takes place in our community but we should point with pride to results of our efforts. We should be able to enumerate improvements on farms of the adult farmers who participate in our adult education program.

No doubt there are other evaluative criteria or factors to use in evaluating our adult education programs, but to me some important ones are:

1. Enthusiasm of the instructor and the school administration.
2. Regular attendance of class members.
3. Continued attendance year after year.
4. Number of former high school students who enroll in the program.
5. Changes brought about on farms as a result of class instruction.
6. The requests for advice and counsel received from farmers in the community by the instructor of vocational agriculture. □

Dr. Mobley Replies

Who better than Vo-Ag teachers, who through the years have seen favorable results of their work, are better able to carry this message to members of Congress?

In the future we may not need as many farmers as we have needed in the past, but those who do become engaged in this important occupation must be better trained and educated and possess more skills and knowledge than their predecessors. This calls for a continuous expanding program in agriculture for high school youth and for out-of-school youth and adults.

In the past vocational agriculture has played a major role in making our farms the most efficient and productive in the history of mankind. In the future they will continue to play an important role in keeping us ahead in the production and distribution of farm products which are so essential to the well-being of this nation, as well as other friendly emerging nations.

During the fall months, while members of Congress are at home, Vo-Ag teachers and their friends and supporters should contact their members of Congress (both Senators and Representatives) to acquaint them with the need for maintaining a strong, effective Vo-Ag program and other voca-

tional programs, and the great need for additional funds if this is to be accomplished. Our population is growing. The salaries of teachers are increasing. It will take more money to develop and maintain a sound and effective program in the future than in the past.

With best wishes, I am

Sincerely yours,
M. D. Mobley
Executive Secretary

MDM:da

Dr. Mobley's forthright letter leaves no doubt as to the importance and the urgency of a task in which we must all do our part.

Ralph J. Woodin

Sir:

I was interested in "Mature Optimism Evident in Regional Conferences," which was written by Dr. John K. Coster of Purdue University.

It was my privilege to attend each of the Regional Conferences and I, too, was impressed with the challenging discussions and informative presentations which were made. I believe that Dr. Coster has interpreted in a scholarly manner, the presentations and group discussions. Workers in Agricultural Education recognize the need for Education in Agriculture. The strong leadership in the field of Agricultural Education by Supervisors and Teacher Educators, and the competent force of Teachers of Vocational Agriculture, are vital assets as we strive to meet the needs for such training.

The opportunities are great. The challenges are real. We must not fail.

A. W. Tenney, Director
Agricultural Education Branch
Washington, D. C.

Sir:

I liked Howard R. Carter's, "More 'Public' in Public Relations." Each of us in Agricultural Education should do a better job in keeping the public informed; however, I doubt if we will ever have a really effective public relations program until persons with professional training in public relations are added to State supervisory and/or teacher training staffs. This added effort to our own is needed.

David R. McClay
University Park, Pa.

Letters to the Editor

Sir:

These comments concerning the *Agricultural Education Magazine* were made at our Region IV NVATA meeting.

The comment most commonly made was that the magazine contained too many statistical and research articles. It was felt that more ideas, gadgets, teaching tricks and such were needed to make it a more useful magazine for the regular teacher. I believe the type of tips which were included in the combined August-September issue were what they had in mind.

Another idea suggested was a question and answer column or a "letters to the editor" section.

I feel that the Book Reviews, News and Views, and NVATA Column should all be of interest to teachers and will help maintain interest in the magazine.

It seemed that most of the men accepted the increase in the subscription price as a necessary evil, but some indicated they felt this year would be a year of trial and there might be some loss in the number of subscriptions another year.

The men also agreed that the job of "revamping" the magazine could not possibly be accomplished by the editor alone, and that unless he received an assist from the vo-ag teachers, it would have to be continued in the same manner as it has been.

Walter L. Bomeli
Vice President NVATA
Bangor, Michigan

Lost, yesterday, somewhere between sunrise and sunset, two golden hours, each set with sixty diamond minutes. No reward is offered for they are gone forever.

—Anonymous



Evaluation is Inevitable-- Intelligent Evaluation Imperative for Effective Adult Farmer Education

JAMES T. HORNER, Teacher Education, University of Nebraska

Note: Dr. Horner and Dr. Knox have worked together on the two articles which follow. Ed.

Supervisor: "What kind of evaluation did you use with your adult farmer class this year?"

Instructor: "Well, I checked the roll at each meeting to see how many enrolled and the number of meetings each one attended. I talked to some of the farmers after each meeting to see how they liked it. Oh, yes, at the final meeting I polled them to ascertain practices they planned to adopt as a result of the course."

All our work is evaluated in some way, so why not make sure it is done well? The dialogue indicates that there was evaluation. But evaluation is much, much more than that! This article should contribute to a better understanding of the role of evaluation in vocational agriculture for adults and of the benefits to be gained through systematic evaluation. It treats the questions of who, what, when, where and why of evaluation. It leaves the question of how for the companion article by Dr. Knox, p. 110.

The Nature of Evaluation

Evaluation is the process of assessing the effectiveness of a program, the amount of progress being made toward attaining objectives. If, then, evaluation is designed to answer the question, "To what extent are we doing what we are trying to do?" the premise is that clearly recognizable and attainable objectives must first be established.

Evaluation is ultimately a long-time venture. Progress is measured by years, not days or weeks. It is man's nature to "reach for the stars" and have dreams beyond his fondest hopes of accomplishment. The aspirations of adult farmers should be reflected in their own long-term objectives, and in the objectives of the educational program. However, immediate short-term goals that can be realistically expected within the limits of the edu-

cational program are necessary to effectively move participants toward long-time objectives. For it is only by setting recognizable benchmarks that we can see and measure progress toward the ultimate destination. One must ask what should this class session accomplish? What should the participants be like after the course that was not the case before?

Evaluation results in the formulation of judgments based upon various types of evidence, and expressions of value vary with each individual. Often evaluation of adult farmer programs have a questionable basis. For example, hasn't every Ag teacher encountered the farmer who insisted, "Prof., show us how to weld this broken pulley." The farmer *may* actually desire the instruction, but it is highly possible, too, that he is a very good welder and is merely "putting the teacher to the test."

Perhaps you recall similar "test" questions, either trick or serious which served in part, as basis for evaluation.

Evaluations are made at many levels. Locally, fragmentary information about an accident which occurred in the farm mechanics shop makes an impression and therefore serves as a basis for judgments, "If the teacher had enforced the use of safety devices John would not have been injured." At a broader level, a taxpayer may judge that his dollars are not being well used in vocational agriculture, in spite of the unprecedented and unmatched efficiency and low food cost resulting from the educated American farmer. In contrast Mr. Khrushchev, with 45 percent of his people required to produce food, places a high rating on our farmer education. Evaluation is based upon the evidence that people have. It behooves each instructor of vocational agriculture to "keep on top of the situation" and see that folks judging his program have adequate, accurate facts as a sound basis for evaluation. Facts should include both means and ends evaluations, such as means of involving and organizing people, procedures, materials and methods, and

end results or changes in knowledge, skills and attitudes of people. An exhaustive list, familiar to the reader could be developed under each heading.

Who Evaluates Adult Farmer Education?

Every person, directly or indirectly affected by the program passes judgments upon it; communicating evaluative findings to all concerned is a great problem. It is solved largely through participation by all concerned: be they class participant, vo-ag advisory personnel, administrator, teacher educator and supervisor, other agricultural agency personnel, local businessman closely allied with farmers, community improvement advisor or the vo-ag instructor himself.

You may have the feeling that, "I don't want untrained laymen meddling and messing up my plans. They don't understand the program." I submit the thought that *it is their program*. They pay the bill! If they do not understand what they are buying and you want them to be sold on it, and to sell others, you had better help them to understand. The surest way is to involve them.

Yes, many individuals are needed to make meaningful evaluations of the adult farmer program. Still, self-analysis by the teacher and by adult class members is effective and should be recognized as an important part of evaluation. Though seemingly paradoxical the above statement provides an opportunity to point out that the vo-ag instructor, being at the focal point of every aspect of the program must assume the initial and key role in developing a system of evaluation.

The one doing the evaluation stands the best chance of benefiting most professionally. The test of new methods and procedures is accumulated evidence of effectiveness.

When and Where Should the Adult Farmer Program Be Evaluated?

A student teacher once said, "The best evidence of the kind of adult

(Continued on page 119)

Developing an Evaluation Plan In Adult Farmer Education

ALAN B. KNOX, Associate Professor of Adult Education, University of Nebraska



Evaluation, as an integral part of the teaching-learning process, can be of even greater value in adult farmer classes than in classes for full-time students. Why? Because in adult farmer classes there is a greater opportunity to determine the degree to which the adult students apply what they learn to their current farming practices. Also, freed of the necessity to assign grades, the teacher can use the results of evaluation exclusively to counsel adult students and to improve the course.

However, the teacher who is interested in evaluating his adult course more effectively often confronts a major hurdle: lack of understanding necessary for the development of an evaluation plan. This article presents some procedures involved in such an evaluation plan for adult farmer education, and identifies further readings that you as a teacher of vocational agriculture may find helpful. Pointers on evaluation have been included that seemed both important and also highly relevant to the teaching of adult farmers. The major evaluation procedures described are establishing objectives, deciding what information to collect and how to collect it, analyzing and using the results to improve the program.

Some of the evidence which is required for sound judgment of the effectiveness of the program will naturally arise during the teaching and learning process. The important contribution of an education evaluation plan is the identification of judgments that are crucial, and the assurance that adequate evidence is collected to be able to make these judgments. The following illustrative case situations suggest instances when a more formalized evaluation plan is needed, indicating briefly in each instance, one approach that might be taken in the development of an appropriate evaluation plan.

Who Attends

More formalized evaluation efforts may be useful if you want to know more about the characteristics of

those attending a course. This question may arise if you discover that the farmers in your evening class are not representative of those you expected to find in attendance. Instead they may be mainly from one section of the school district, only younger farmers, or only those with the highest level of formal education.

More information about the characteristics and reasons for attendance of the participants in an adult farmer program can provide the basis both for more effective curriculum development in the program for those who show up, and also for deciding how most effectively to reach additional farmers. This type of clientele analysis usually collects three types of information from the participants.

1. Personal characteristics of the participants such as age, place of residence, type of farming operation,
2. the reasons given by the participants for attendance,
3. prior experience of the participants in both educative and non-educative activities.

These types of information can be useful to the vocational agriculture teacher both in gaining a better understanding of his group of adult students and in determining how they compare with all of the farmers in his area who might have attended. For this purpose there are several sources of comparative information. One is the recently published United States Census report, describing in some detail the characteristics of the farmers residing in the area. Another is the information that could be collected in a modest field survey (possibly employing as interviewers, high school seniors or adults enrolled in a vocational agriculture class, or members of an advisory group) that would entail visiting briefly with a random sample of farmers residing in the school district. The school district often has an enumeration list for randomly selecting names, as does the county treasurer's office.

A most important and frequently neglected aspect of clientele anal-

ysis is using the results. In this instance the description of the participants in the adult farmer program might be compared with the results of the field survey to determine if these two groups differ substantially in age, level of education, type of farming operation, knowledge about the existence of the adult farmer program and its objective, and in experience in various types of group participation. If substantial differences appear, they might be taken into account in the development of adult farmer programs more likely to attract farmers not represented in present programs. The results of this comparison might suggest changes in meeting time, class location, teaching methods, subject matter included, and the relative emphasis on providing information versus helping farmers to apply this information to the situation they find on their own farm.

Appropriateness of Objectives

A second familiar situation requiring more formal evaluation efforts occurs when there is a gap between educational program objectives and the participants' anticipated gain from the program. It may be that an adult farmer course, directed at experienced farmers, actually attracts younger farmers more interested in establishing credit arrangements, machinery use and repair, and leasing and buying arrangements.

Briefly, if the gap between program objectives and adult student interests is great, either they won't attend the program or they will tend to soon drop out. A teacher confronted with this situation has several options. One is to adapt the program so that it more nearly conforms to the interests of the adult farmers who would attend. A second option, particularly in a case where a teacher believes that the achievement of the program objectives will be more valuable to the adult farmers than the objectives that the farmers themselves see as most desirable, is to do an effective job of demonstrating the

Using Research to Improve Adult Farmer Education

LLOYD J. PHIPPS, Teacher Education, University of Illinois



Research confirms the importance of certain procedures frequently used in adult farmer courses sponsored by the public schools. Research studies may also be used to interpret why some procedures in adult farmer education are more successful than other procedures. In this article, four research studies conducted in adult education will be analyzed regarding their implications for the procedures frequently followed or recommended for use in organizing and conducting courses for adult farmers.

Determining Interests

In determining the adult farmer courses to offer or in determining the content of courses, the enrollees and prospective enrollees are usually surveyed regarding their interests. This is a desirable and laudable procedure because it promotes involvement on the part of the participants which may produce many beneficial results. The interpretation of the results of surveys of this type, however, must be approached with care.

May¹ found in her experiments in methods in adult education that people are interested in only those things that are psychologically available to them. Ignorance limits interests. If a farmer is ignorant or unaware of a new development in agriculture, he will not be interested in this new development when surveyed regarding his interests. In some communities farmers are surveyed regarding whether they prefer systematically organized courses or courses composed of a series of unrelated topics. If the farmers surveyed have had no experience with systematically organized courses and have had experience with courses composed of a series of unrelated topics, their lack of experience is a limitation on their freedom of choice. Survey results in agricultural education support May's findings.

¹Elizabeth E. May, *Experiments in Methods in Adult Education*, Ed.D. Dissertation, Teachers College, Columbia University, 1937.

When farmers are asked to choose between systematic courses and courses composed of a series of unrelated topics, they usually choose the latter when they have not had experience with the former. Often, however, after a group of farmers have had experience with systematic courses that have been well taught they reverse their previous preference choice.

All surveys should be checked before they are used for questions that will produce a predetermined response because the respondents have not had the information or experience necessary for making a choice.

Location of Courses

As public schools are consolidated and as districts become larger the problem of determining the centers where courses for adult farmers should be located becomes more severe. When the vocational agriculture department in a school is geographically close to the people, the school is the logical center to teach the adult courses. As the schools are located geographically further and further from many of the farmers in the district, where should the courses for adult farmers be taught? Kaplan's² research provides information useful in answering this question. He found that the less educated, less sophisticated adults had feelings of not belonging and of being unwelcome in unaccustomed surroundings. They may, therefore, be unwilling to enroll in courses located geographically distant from them because of the unaccustomed surroundings.

An operating principle might be that the less educated and less sophisticated the farmers are in an area the closer the course centers should be to them geographically. In reverse, the more educated and more sophis-

²A. A. Kaplan, *Socio-Economic Circumstances and Adult Participation in Certain Cultural and Educational Activities*, New York: Teachers College, Columbia University Bureau of Publications, 1942.

icated the farmers are or become the further the course centers may be geographically removed from them. If a school is experiencing difficulty in enrolling farmers in large numbers in courses specifically designed for them, the geographical distance of the courses from the prospective enrollees should be studied.

Farmers Are Semi-Strangers

Beginning teachers of adult farmers in a community are often surprised that the farmer enrolled in their courses are semi-strangers. They are often semi-strangers even though they live only a few miles apart. Modern transportation may be increasing this phenomenon instead of decreasing it. A farmer today may choose the people with whom he associates on criteria other than geographical nearness. If the farmers in an adult farmer course are semi-strangers, the teacher has the task of helping them become better acquainted so that he can use the approved procedures which are so effective with mature groups. Buckman³ found in Indiana that the serving of food, the providing of appropriate entertainment, and the use of ritual were effective and necessary for overcoming the awkwardness which results when semi-strangers are brought together in a group.

Experts in adult farmer education have often recommended the serving of food, the providing of appropriate entertainment, and use of ritual at adult farmer course meetings. Often these recommendations were not accompanied with explanations of why they should be used. When these recommendations were followed, however, desirable results were usually obtained. Perhaps Buckman's work provides an explanation of why practices such as the serving of food were usually successful. The acceptance of

³R. O. Buckman, *Interaction Between Women's Clubs and Institutions in Greater Lafayette, Indiana*, Unpublished Ph.D. Dissertation, University of Chicago, 1952.

Buckman's conclusion also provides a rationale for deciding when to serve food, provide appropriate entertainment and promote ritual in adult farmer courses. His conclusion also provides a rationale for determining how long to continue such activities in an adult farmer course.

Adult Learning

Anderson⁴ reviewed the research relating to learning by adults and concluded that adults learn more efficiently and more readily when they are participants in a learning activity and are not mere spectators. Many procedures in adult farmer education are related to this conclusion and this conclusion may be used to explain why certain procedures in adult farmer education are more successful than other procedures. If this conclusion is accepted, and if all other conditions are equal, procedures that promote superior participation on the part of the learner will produce the best results. The degree of

participation may also be used as a criterion to evaluate new or proposed procedures in adult farmer education.

Some of the approved procedures in adult farmer education that promote participation of learners are (1) the discussion method, (2) problem solving, (3) laboratory and shop work, (4) field trips, (5) try-out demonstrations, (6) reporting of experiences in class by enrollees, (7) record keeping and analysis, (8) planning action cooperatively, (9) evaluating results, and (10) replanning action.

Anderson⁴ concluded further that adults are more interested in educational activities when these activities produce a visible and measurable product. Also when educational activities produce a visible and measurable product, the adults participate longer in the educational program. These conclusions are in agreement with the results often obtained in adult farmer courses when visible and measurable programs are emphasized.

For example, the "try-out" on a small scale by designated class members of conclusions reached in class and the evaluation of the results of these try-out demonstrations are rated as very valuable by adult farmer enrollees and hold the interest of the farmers.

Courses involving record keeping and the analysis of the records kept are also rated highly and hold the interest of the enrollees over extended periods of time. The reason is probably related to the fact that the results are visible and are measurable. Shop and laboratory courses are also popular with farmers and hold their interest. The results of these courses are highly visible and measurable. The task confronting teachers of adults is the designing of sound learning activities that will produce at least some results that are visible and measurable. □

⁴John E. Anderson, "Teaching and Learning," Chapter 4 in *Education for Later Maturity*, New York: Morrow, 1956.

The Factor of *Leadership Style* In Adult Farmer Education*

H. E. BEAM, Teacher Education, North Carolina State College



Have you ever observed a church discussion group completely fail because the program leader perceived his role as being that of taking charge of each meeting and dominating discussion with his own pet ideas on the interpretation of Paul's writings? Or, perhaps you have participated in a Parent Teachers Association which might have done well to dissolve after about the second meeting? Or even closer home still, have you, like this writer, had one or more adult farmer program failures?

Why did these programs fail? Certainly there are many factors which are associated with success or failure in programs of adult education. In this article one factor, *leadership style*, has been singled out for special attention. The leader is generally regarded as the single most

important person in a program. He is a key to making the learning experience effective, entertaining, educative, and satisfying to the participants. Thus, what he does, his leadership style, is an important factor in program success. The extent to which persons become involved in a program, continue in it, and benefit therefrom is dependent on the skills and abilities of the leader.

It may well be, then, that many adult program failures are due in part to inappropriate leadership styles. The term leadership style is being used here to describe the way in which a leader carries out his responsibilities. These responsibilities are greatly flavored by the leader's image of himself in a specific program, by the manner in which he works with and relates to the participants, and his use of methods and materials to achieve program goals. Let's examine each of these more in detail since their interaction in a learning situation determines the

leadership style appropriate for that program.

Two Extreme Leadership Styles. *Group-oriented* and *content-oriented* leaders operate in and are usually successful in different kinds of programs. In a community development group the leader helps participants to identify and solve their problems. The group assumes major responsibility for deciding what is to be done and in many instances how it is to be done. The leader often serves as a consultant to the group and guides discussion in accordance with the program goals. The leader in this example might be called a group-oriented leader. Group-oriented leaders, then, are attracted to and effective in programs which are concerned with bringing about attitudinal changes and in which the participants are homogeneous.

A content-oriented leader, on the other hand, assumes that it is his responsibility to decide what is to be taught and how to teach it. For

*The basic idea for this article was taken from A. A. Liveright, *Strategies of Leadership*, Harper and Brothers, Publishers, New York, 1959.

example, when the members of a welding short-course for farmers arrive at the first class session, the program leader might outline step-by-step what is to be covered during the course and even announce the procedures and methods of teaching to be followed. Thus, content-oriented leaders are attracted to and effective in training and informational programs in which the participants are heterogeneous and diverse.

Three Kinds of Groups. Group-cohesiveness helps to characterize and differentiate types of groups involved in different adult farmer programs. One group might be classified as having *high group cohesion*. A community development group might be used again as an example. The members know each other well; they have worked together as a group; and specific and definite expectations have been set up with respect to how the group will operate and the kind of leadership required. Another group may have *low group cohesion*. This group will be composed of individuals who do not know each other, who have few common expectations and little communication outside of the program. The participants in a county-wide program on swine sanitation might be placed in this category. A third group, *intermediate group cohesion*, falls between the two extremes.

Three Kinds of Programs. Program goals, like program groups, fall on a continuum which moved from deep ego-involving to simple. Program types might be put in three broad categories for purposes of analysis. Type one are *attitudinal programs*. Here an attempt is made to bring about changes in the feelings and attitudes of participants. Type two may be called *understanding programs* and are aimed at broadening general knowledge. The third type, *skill programs*, are designed to teach specific skills or provide set information and facts.

Thus program goals, kind of group,

and the leader's concept of his role in a program are at least three factors which are important in determining appropriate leadership styles. In a given program these factors interact

to evolve the leadership style. Observe in the following figure that an appropriate style of leadership in one situation would not be necessarily appropriate for another.

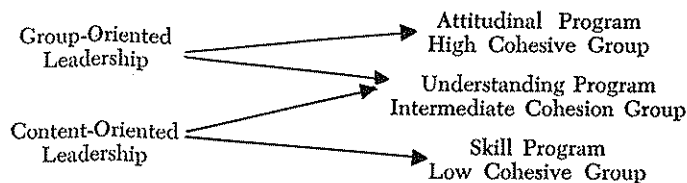


Figure 1. Leadership Style and Group Cohesion

A group-oriented style of leadership would be needed in an attitudinal type program made up of a high cohesive group. In some instances this style of leadership would be appropriate in understanding type programs or where the group cohesion was intermediate. This condition might prevail in a situation where a Ruritan group (high cohesion) was involved in a program designed to improve the group's understanding of plant food requirements (understanding program). On the other hand, a group-oriented leadership style would not normally be appropriate in a skill-type program or one involving a low cohesive group.

A content-oriented leadership style would be needed in skill type programs made up of a low cohesive group. In some instances this leadership style would be appropriate in an understanding type program or where the group was intermediate in cohesion. For example a group of farmers in one school district (intermediate cohesion) might come together for a welding short course (skill program). A content-oriented leadership style would be appropriate in this situation.

Applying These Principles. We had an opportunity to discuss leadership styles with approximately 300 teachers of agriculture attending adult education workshops in North Carolina during this past summer. Many of

these teachers expressed the belief that inappropriate leadership styles may be a major factor in limiting the success of their own adult farmer programs.

A little self-examination should prove helpful and indicate whether you are mostly a group-oriented or a content-oriented leader. Regardless of your findings, you will from time-to-time be involved in programs which require the opposite leadership style. In such cases you will either adjust your own leadership style, secure appropriate resource help, or limit the success of the program. For example, if you are highly group-oriented as a leader and wish to hold a welding short course, you will modify your own leadership style to include much set information and facts or you will secure the assistance of an instructor who possesses the competencies required, otherwise the students are not likely to regard the program as highly successful.

There appear to be at least three positive steps teachers of agriculture might take with regard to leadership styles. First, know your own leadership style and attempt to become more proficient in the opposite style. Second, those of you in multiple teacher departments might consider this factor when dividing your responsibilities. Third, do not hesitate to seek resource help in the area in which you are least adapted. □

Themes for Future Issues — — —

April	Today's Teaching Aids
May	Planning Graduate Programs
June	Studying Your Community
July	Improving Our High School Courses
August	Planning Occupational Experience and Farming Programs
September	Teaching Farm Management

Michigan Teachers Work with County Agents on Adult Farmer Courses

JOHN FULLER, Teacher of Vocational Agriculture, Pigeon, Michigan

The nine vocational agriculture teachers and two agricultural extension agents of Huron County, Michigan decided to try a new approach to adult class instruction. At their monthly meeting last August they decided to have a two day training session in the form of a seminar on the topic of farm machinery. Two resource persons were invited to present the latest factual information from the Agricultural Engineering Department of Michigan State University.

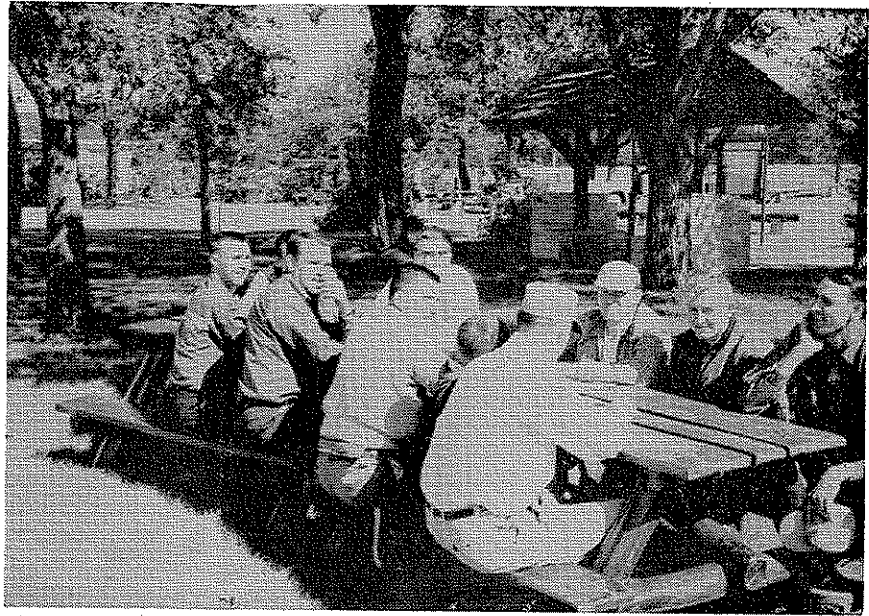
Our major purpose of holding this type of training session was to study the latest developments in specialized areas of farm machinery and its best utilization.

The meeting was organized as a two day training session and was conducted from nine to four each day. Following the training session, the county agents and vocational agriculture teachers divided the specialized areas covered into five different subject units as follows:

1. Farm machinery economics (part one)
2. Farm machinery economics (part two)
3. Hay harvesting methods and equipment
4. Farm machinery maintenance
5. Selecting and operating of weed sprayers

The county was divided into two parts with a county agent and four vocational agriculture teachers in each portion. Group members in each portion took the responsibility of preparing and presenting one of the five topic areas in his school. He then rotated with the other four teachers in his area in presentation of the same topics. The meetings were scheduled so that the local vocational agriculture teacher could also be at the meeting to aid in the class discussion with the help of the resource person.

These classes were conducted in a series of meetings between January and April this year. The classes were evaluated by the adult farmers pres-



Michigan Teachers of Vocational Agriculture and Agricultural Extension Agents at a regular meeting.

ent at the last scheduled meeting of the classes.

The farmers were asked to evaluate the program on a three point scale: little useful information gained, some useful information gained, much useful information gained.

Results of the evaluations which were carried out are indicated in Table 1.

In review of the above tabulations we found that in the farm machinery economics (part 1) class of 44 out of 50 responses gained some or much useful information or a total of 88 points.

In part two of the farm machinery economics meetings, 54 out of 58 responses gained some or much useful information or a total of 93 per cent.

In machinery maintenance, 50 out of 58 gained some or much useful information or a total of 86 percent.

The hay harvesting and equipment meeting had 34 out of 53 stating they gained some or much information with a percentage of 64.

The weed sprayer meetings reported 50 out of 52 gained some or much useful information or a total of 96 per cent of the responses.

Table 1. Results of the Evaluation by Farmers Attending the Last Class Session in the Five Subjects.

Topic	Little useful information gained	Some useful information gained	Much useful information gained	Total No. Answering
Farm machinery economics (part 1)	6	29	15	50
Farm machinery economics (part 2)	4	33	21	58
Hay harvesting & equipment	19	22	12	53
Machinery maintenance	8	32	18	58
Weed sprayer selection and operation	2	36	14	52
Totals	39	152	80	

In summary, 85 percent of the evaluation responses indicated that they gained some or much useful farming information from the five topics presented. A final question was asked on the evaluation survey, which was "Did you feel that the meetings which involved the vocational agriculture teachers and the county agents as resources persons was a satisfactory arrangement?" Over 90 percent responded to the question in the affirmative.

In conclusion we had heard from some authoritative sources that this type of rotating system had been

tried unsuccessfully. We thought with the very harmonious type of county group of teachers and extension agents that we are fortunate to have, we would like to try the rotation system.

One of the main objectives of this endeavor was to have the resource person close at hand to all departments for ease of scheduling and travel time. Also we thought this would give the individual vocational agriculture teacher a chance to better prepare for a few important subjects thoroughly and not spread himself thinly over many topics.

In the evaluation we found one

area that needed to be improved in a future endeavor of this type. All teachers should spend as much time as possible in preparation of their topic. If one or two teachers do not adequately prepare, it can give the whole series a degrading influence.

The results of our evaluation summary and comments by class members indicate that this type of undertaking proved very successful this year. This opinion encourages us to continue co-operative endeavors by the county's vocational agriculture teachers and extension agents in the future. □

Opportunities for Establishment of Young Farmers in the Marengo, Iowa Community

ROBERT M. SWANSON, Teacher of Vocational Agriculture, Marengo, Iowa

The author obtained information from the 363 farm operators in the area served by the Iowa Valley Community School. This constituted all of the farm operators in the area. Interviews were conducted by the vocational agriculture instructor and a trained interviewer.

Ninety-one farm operators had entered farming during the past ten-year period. This represented an average of 9.1 per year. Fifty-four of the operators had become established during the past five years. This was an average of 10.8 per year. Forty-six operators were over 65 years of age. If they retire during the next ten-year period this would provide an average of 4.6 farming opportunities during the next ten years.

Eight operators under 25 years of age were operating farms of 160 or less acres. Eight operators under 25 were on farms of 321 or more acres.

Twenty-one of the farmers 66 years of age and older were on farms of 160 acres or less. Twenty-five of these farmers were on farms larger than 160 acres.

Farm operators who owned all the land that they operated numbered 115, or 31 percent of the total. Forty farmers both owned and rented land. The number of operators with partnerships were 88 or 24 percent of the total. Thirty-two farmers or nine percent were serving as hired hands. Ten farmers, or 11 percent, were classi-

fied as having other farm status classification.

There was a relationship between the number of tillable acres operated and the education of the operator. The more formal education had by the operator, the larger the number of tillable acres farmed.

Eighty-six percent of the farmers were not employed off the farm. Twenty-four percent of those employed off the farm, 23 were employed for 50 percent or more of the time.

Approximately 50 percent of the farmers had sons at home. It was estimated that 43 of the unpaid sons of operators at home may want farming opportunities during the next ten years. Ninety-one farming opportunities may be needed during the next twenty years.

Of the 50 employed sons living at home 23 were farming. Seventy-five of the 142 sons away from home were farming. It is probable that some of these sons of the operators may sometimes in the future become competitors for a farming opportunity existing in the community.



The writer Robert M. Swanson interviewing Lawrence Neitzol, a farmer of the Marengo community.

Only 16 percent of the farm owners owned 241 acres or more. Twenty-two percent of the renters, 65 percent of the owner-renters and 31 percent of the operators who were farming in partnership, were operating farms of 241 acres or more. This data may indicate that many of the owners may be interested in retiring or increasing the size of their farm operators during the next ten years.

An indication of the future needs for farmer replacements in the community is reflected in the fact the 51 operators had farmed for 41 years or more. It was estimated that 104 operators will quit farming during the next ten-year period, an average of 10.4 per year.

It was estimated that the farm num-

bers in the community will continue to decrease at the rate of .9 percent per year. On this assumption there would be a loss of 28 farms during the next ten-year period.

The actual need for farmer replace-

ments during the next ten-year period may be approximately 76 operators.

It was estimated that 68 sons of operators may be looking for farming opportunities during the next ten-year period. It may well be assumed

that at least 40 percent of the farm boys in the Iowa Valley Community School district will find opportunities to farm should they desire to become established as independent operators. □

Adjustment in Adult Education in Agriculture

JOHN F. THOMPSON, Teacher of Vocational Agriculture, Helen, Maryland



"Should I have one?" and "How should it be organized?" are only two of the many questions confronting a beginning teacher in agriculture during the first few months on the job. Both of these questions are involved when making decisions about the adult program. How these questions are answered will have far-reaching implications for the entire agriculture program.

A new emphasis in agricultural education has gone far beyond the four walls of the high school classroom. Adults are now attending evening classes at a much higher rate than ever before both in rural and urban communities. These evening

classes have added prestige to many families of a community. They may be well on their way to becoming a new status symbol.

Farmers have added another question to their already long list. They are now asking "why?" They know how to place the fertilizer in relation to the corn seed and how much fertilizer to use. But they are asking, "Why does too much fertilizer burn the corn seedling?" "Why does the tobacco plant need potash?" and "Why does the beef steer respond to feed additives?"

Farmers are interested in a continuous program of education. The

once a month get-together is not enough. They like and respond to a weekly program. My classes met every week last year for 29 weeks with an average attendance of 23 farmers per week.

Key farmers are a great source of help in organizing and operating an adult program. In one community I had the key farmers contact other farmers in their area and inform them of our program. In another area I called on the farmers to do the informing and could get only four of eleven to our first meeting. Key farmers seem to be more aware of their position and work to retain their status. □

Ways to Improve Adult Farmer Classes

JOHN FREDERICK PARKER, Teacher of Vocational Agriculture, Surry, Virginia



If education attempts to improve upon current beliefs and practices, adults and children must be led to move forward together. We cannot do a good job of teaching children without teaching adults. Adults promote the success of the vocational agricultural program. Adult classes help farmers to learn from each other and to use effectively, the agricultural agencies which have been placed at their disposal. Farmers need adult training and education in time of prosperity as well as adversity.

The importance of farm visits to adults cannot be over-emphasized. The failure of some adult programs is primarily due to the fact that the teacher of agriculture did not have

an appreciation and vision of the needs for adequate farm visitation. There is a need for teachers to make many more visits on the farms than have been in the past.

The teacher must systematically attempt to become acquainted with the agricultural people and the needs of the community. To do this he must study available literature about the community, read the local newspapers, talk with persons living in the community, and become a close observer. Much can be learned from keeping the eyes open and the mind alert.

The agriculture teacher needs to enroll more adults in his classes and in his program. Information regarding

the program should be provided for the public. Effective radio and TV programs can be given to help inform the public. Other media are through open house programs, individual visits, meetings with organizations in the community, through the advisory council and meeting with parents and adult farmers.

In organizing adult programs the program should be designed to meet the needs of the people. Farmers do not automatically change to a new method when it appears. A program to induce change must have two things. *First*, it must facilitate effective contact with the new method and *Second*, it must provide reasons which make sense in terms of the basic

values, motivations, beliefs, and desires of the people.

The advisory council can add much to improve the adult program. This should be a group of young and adult men who are interested in the program and who have some influence over the citizens in the community. They need to study the needs of the community. When the needed information has been secured and studied it should be shown to the superintendent. The advisory committee should also help plan a course of study for the classes. A course for adults should be a unified series of

meetings, introduced at the first meeting and well summarized at the final meeting and with each evening's work closely related to that of the evening before and the evening after.

There are three principle points of procedure that must be observed in teaching adults. *First*, the procedures must be democratic, *Second*, they must provide for individual participation and activity, and *Third*, instruction must be individualized. The purpose of the classes is to help the adults identify their needs. The subject should be of interest to the class. No teacher should attempt to plan

the program alone. Bringing in persons from outside the community who are capable of representing state, national, and world needs and who have a knowledge of other programs of agriculture is a desirable practice. I have tried this with other adult groups and found it to be most helpful.

"A man's reach should exceed his grasp" said Browning. Are we still reaching for a broader and higher concept of adult education in agriculture, or are we content to clutch in our hands the fragments of it that we have? □

A Supervisory Effort in Adult Education For Negro Farmers

W. T. JOHNSON, SR., Supervision, North Carolina

During a series of thirteen group meetings held for Negro teachers of vocational agriculture in North Carolina, 521 farmers were invited to attend and participate. The farmers and teachers represented some 154 high schools in 71 counties.

District Supervisors, J. W. Warren, Jr., and the writer, who served as discussion leaders for the meetings and outlined these three major objectives of the meetings.

(1) To tell the farmers about the availability and functions of the adult education program in agriculture sponsored by the North Carolina Public School System in cooperation with the local Boards of Education; (2) to stress the need for the farmers to keep abreast of the changing agricultural situation with particular emphasis on the agricultural economy; (3) to emphasize the necessity of farmers assisting the teacher of agriculture in planning and organizing the adult programs in their respective communities.

The farmers were told that the offerings in the various adult programs differ according to location, need and interest of the communities. They were also told that their instructional program could be supplemented by resource persons or consultants, where requested by the teacher.

While stressing the need to keep abreast of changing agricultural developments, the leaders referred the groups to a recent pamphlet—"The need for vocational education in agri-

culture," by Dr. Duane M. Nielsen, of the U. S. Department of Health, Education, and Welfare. This booklet pointed out that although the farmers' income is at an all-time high—\$205 billion in 1960—there have been certain decided trends in the farm picture that farmers should be aware of.

Some of the trends discussed with the farmers, were: the shift toward commercialization and specialization. This is reflected in statistics which show that specialization and commercialization in certain production during the last five years were greater than any other ten-year period recorded by the farm census. Another trend discussed was the decrease in the farm population, from 35% in 1910, to about 10% in 1960.

The farmers were told that the adult education program could prepare them to meet the trends by helping them improve their farm management, by keeping them informed on new technological advancements, by helping them to cut operating costs, and by directing them into more lucrative production areas.

After being urged to help their respective agricultural teachers in the promotion of their educational programs, the farmers agreed to return to their communities and have farmers' assemblies where the local farm problems could be discussed. At these assemblies the vocational agriculture teacher, together with the farm leaders, could then register the interested farmers in the adult education program. After the registration, the farm-

ers and agriculture teacher would plan the objectives for the adult education program in each community, based on the needs and the interests of the farmers.

Most individuals attending the group meetings, agreed that an adult education refresher program is imperative if their farm communities are to continue to be an important part of the total agricultural economy □

Thirty Years Ago in the Ag Ed Magazine

Thirty Years Ago in The Agricultural Education Magazine, John U. Rencher of Burley, Utah, wrote, "The following is a list of fundamental operations in harness repairing:

1. Planning and selecting leather.
2. Measuring and cutting leather.
3. Blacking and creasing.
4. Setting buckles, snaps and rings.
5. Skiving and splicing.
6. Stitching.
7. Riveting.
8. Punching holes.

I have found it a mistake, both because of the quality of the work done and the interest of the boy, to start the boy on a general repair job at first, as old leather is very hard to work. I give him, as a first job, the twisting and waxing of a waxed end. Just as soon as he is capable of producing a good thread, which ordinarily will be on his second or third try, he is given a simple article, a hame strap, to make." □



A County Wide Approach To Adult Farmer Education

HAROLD E. REILEY, Adult Agricultural Education Instructor, Frederick County, Maryland

Realizing that Frederick County, Maryland is primarily Agricultural our Board of Education agreed with requests of farmers for an expanded adult education program which would provide them with information about current farm practices and provide consultant service for specific and special problems. The primary goal was to teach farmers to be better businessmen and competent to make farm management decisions on their own.

To organize and develop this program a full time experienced agricultural instructor was needed. The writer had taught in the high schools of Frederick County for six and one half years. After spending about four months working with Don Watkins, an agriculture teacher in Montgomery County, who had much experience in farm record analysis and economics and had conducted an adult program for a number of years, final plans were made.

It was felt that a full time teacher not tied down to a high school schedule could make many desirable contacts with professional persons and thereby keep up to date on new ideas. More farm visits could also

be made during the hours when farmers are not busy and therefore a more effective visitation would result.

The need for education in the farm business area, especially in production economics, was felt to be most important. A good set of farm records was considered essential, followed by an analysis of these records and farm planning based on the analysis. If a farmer is to make accurate decisions about his farm business, these decisions must be based on facts from his own business.

Presently classes are being held in four high schools in the county where agricultural facilities exist and may be used. Each area meets twice a month from eight to ten, P.M. making a total of eight meetings each month in the county. Follow-up work is done on the farm on an appointment basis where personal problems can be more fully discussed.

Progress to date has been encouraging. Average attendance for the county meetings was 61.2 and for the individual meetings 15.3. Farm visits totaled 205 and ranged in time from one hour to four or five hours in length.

Sound education results in changed behavior of the individual. The writer is very happy to report that many farmers have changed their methods and as a result, have shown increased returns as a result of these changes.

The five other agricultural teachers in the high schools in Frederick County have been most helpful in starting this program. Each teacher gave a day or two of his time to the author in making initial contacts throughout their respective patronage areas. This relationship is felt to be most important because the adult program here is a part of the total program offered in the county.

Two other instructors in the county conduct evening classes in shop work in addition to their all-day program. The writer has had no active role in these classes.

An advisory council of twelve members, three each from the four classes in county, is being used to help plan the program for next year by presenting the teacher the farmers' point of view. These farmers are in a position to constructively criticize the program and help assure that the offerings meet the community needs. □



Better Farming—The Proof of the Pudding of the Adult Farmer Class

RAY AGAN, Teacher Education, Kansas State University

Adult education in vocational agriculture is often evaluated by a questionnaire to the members who are still attending or happen to attend the final meeting of the series. Typical questions are: (1) Did you enjoy the course? (2) Will you come again next year? (3) Does the course interfere too much with your participation in T.V.? (4) Who else do you think would like to come?

Such an attempt to evaluate a

course of instruction for adults does little except get the instructor the "pat on the back" for which he asked. The adult, if he is still attending at the last meeting, will quite naturally respond to such questions with an answer which he believes will make the teacher feel good. He hopes his response will be sort of an intangible and verbal "apple for the teacher."

The proof of the pudding for any adult course in vocational agriculture

lies in the progress the student makes toward greater success in farming. This should be the major concern of the teacher and the measuring stick he uses in the evaluation of his efforts as a teacher of adult farmers. A student might well give pleasing answers to the four questions listed in the first paragraph and not be convinced that he should adopt or alter farming practices which would improve his farm business.

Steps in Adopting New Practices

Sociologists usually agree that there are several steps customarily taken by a farmer who adopts a new practice or changes an old one. The steps usually include stages of (1) awareness (2) information gathering (3) mental trial (4) limited application (5) adoption. The farmer may move rapidly or very slowly through these stages. An adult class which moves the farmers from stage one to stage three could hardly be called unsuccessful, yet, their change might be quite difficult to measure. The ultimate goal, however, should be the *adoption* stage for any practice or principle taught in the class.

The proof of the pudding for the adult course should start with accurate records kept by the teacher on what results should come from each class. What should the farmers do who attend this class and take the instruction seriously? If the class pertains to swine management the list of practices might include the following:

1. Creep feed pigs beginning at age of one week.
2. Castrate pigs at four weeks of age.
3. Vaccinate pigs at six weeks of age.

The farmer who is *aware* that he should creep feed but hasn't yet, may not start immediately following the class on a creep feeding plan (although we would hope so). However, if he is moved in the class to the

Please check one or more of the following statements as they apply to how you plan to use the following principles and practices on your farm.

	E	D	C	B	A
A. I already do this					
B. I plan to adopt it completely this year					
C. I want to try it on a limited scale					
D. I need more information					
E. I do not plan to use this					
Principles or Practices:					
1. Creep feed pigs beginning at age of one week					
2. Castrate pigs at four weeks of age					
3. Vaccinate pigs at six weeks of age					
4. Provide guard rails in farrowing pen					
5.					
6.					

mental trial stage or will try it on a few litters of pigs—*limited application*—a degree of success has been attained. This is much more measurable and much more meaningful than "Did you enjoy yourself while in my class?"

An Evaluation Instrument

The evaluation instrument might take the following form:

Using the Results

This approach not only gives the teacher a good evaluation of the effectiveness of his teaching—how well he has sold these desired principles and practices—but he also has a natural opening for an on-the-farm

instruction session. (We sometimes erroneously call these "Visits" indicating a social affair.) If a teacher finds several of his students checking column "C" he has a definite cue to be certain the limited scale test is carried out fairly. The evaluation sheet has much information which would give purpose to on-the-farm instruction sessions as well as give direction to planning future sessions of classroom instruction (such as checks in column "D"). The farmer who realizes that the teacher will be using the evaluation sheet on subsequent farm calls will be accurate in his response. Just as the "proof of the pudding is in the eating" so the "proof of the adult class is in the doing." □

Evaluation Is Inevitable

(Continued from page 109)

class I conduct is what the farmers say as they go out the door." Admittedly such reactions as, "You are doing a good job," or "That was a good meeting," are important. Our own reactions to the question, "How did I do?" are also important. But we cannot afford to depend upon these alone. Such reactions may mean only that the meeting was pleasant. They may have no relation to or understanding of the educational outcomes. Better evaluations on a higher level, from less superficial sources can and must be made.

We advise the livestockman to constantly inspect his herd, or evaluate: "The eye of the master fatteneth his cattle." We insist that to balance a bankbook current and exact figures are required. Accurate and up to date records are essential for wise enter-

prise analysis and adjustment. In the same way, constant evaluation of current and accurate data about the adult program are required for continuous improvement. Evaluation is not something to be done in the future, after the instruction. Nor is it something to be done to or for students. It is rather an integral and essential aspect of the teaching-learning process.

Although evaluation is a continuous and integrated part of every phase of planning and teaching adult farmers, certain appraisal points are "naturals" and should definitely be established for the periodic collection of information. These "naturals" are as follows: upon the attainment of each major teaching objective; at the end of a series of lessons on a subject; at the end of the regularly scheduled meetings of the program; at Advisory Council meetings; class meetings; and on the farm, during instructional visits.

Why Evaluate Adult Farmer Education?

The major purpose of evaluating adult education in agriculture is to stimulate improvement, by identifying and measuring desirable and undesirable outcomes. That is, the extent to which the program is moving toward established objectives.

First, evaluation is important to the participants in the adult program. The educational system, local as well as state and national programs, are greatly influenced. In no small manner, the teacher of adult farmers derives benefits from effective evaluation.

Evaluation is based upon two important types of information: quantitative and qualitative. Quantitative information could reveal to the farmer and reflect to the community increases in financial returns. Other quantitative data, of importance to the instructor, might include such things

and percentage of likely clientele being served. Factors normally considered qualitative might include changes in human behavior—knowledge, understandings, appreciation and interest in further education. Development of ability to solve individual and group problems is qualitative.

Although agricultural results are important, educational results should receive greatest emphasis. The intent is to develop educated persons in agriculture—persons who know how to acquire knowledge when it is needed, and then how to organize and apply it.

If instruction produces changes in farmers, and in turn, measurable improvements in farming programs, family life, and in the community it should be supported. Concrete evidence of effective adult education provides excellent ammunition, readily adaptable to the communication media, for public information. Evidence to all concerned that the adult program is, in fact, accomplishing its desired objective will help to justify budgets! It has been said that no price is too high if people want it badly enough and can see its value.

The price is always too high if people feel they can get along as well without it.

The instructor with an effective evaluation program is likely to be more alert, and to take a more scientific approach to other professional activities. His objectives and efforts are better oriented to actual needs. He is a more efficient, more effective and more valuable teacher of adult farmers.

In summary, evaluation in vocational agriculture for adult farmers is vastly important for (1) the farmer in terms of enhancing progress and increasing motivation (2) the teacher in terms of professional security and the satisfaction that the more important needs are being met, and (3) the school and community in terms of financial support and understanding of the program's contribution in the community.

Further, judgments are being made continually by all concerned. Therefore, adequate and accurate data are needed as a basis for sound judgments. Involvement of participants in planning and evaluation of the program is sound.

Finally, improvement of the educational program is the ultimate purpose for evaluation. It was implied that there would be no point in evaluating if the findings were not used to improve the program. Modification of objectives, activities, teaching methods, or subject areas might well lead to new members, consistent attendance, or increased application of learning.

The need to emphasize evaluation in adult farmer education is evident. Custom and tradition are no more adequate authority for reaching decisions in developing instructional programs for adult farmers than they are for dictating medical or farming practices. We suggest the scientific method, a factual, impartial approach—assembling measurable data relative to adult education.

The question is not, "Shall there be evaluation of adult education in agriculture?" There will be! It can be either planned or unplanned, organized or unorganized, valid or unjustified. The question is, "How effectively will you, Mr. Vo-Ag Teacher, assume the challenge and responsibility to plan for intelligent, systematic evaluation?" □

Today's Guidance Responsibilities

HOWARD TEAL, Teacher of Vocational Agriculture, Boonville, New York



In considering the matter of guidance in the agricultural field, the question of timing usually comes up. A few years ago, most students did not definitely decide what to do in high school until their second year. Now, it appears, that this decision is being made in most cases before entrance into high school. I have, therefore, come to the conclusion that much of this guidance work, if it is to be of its greatest value, must also precede high school. This means that we must start work on the 8th grade level or lower. We can not help guide those pupils with whom we receive no contact. In our school, we are attempting to alleviate this problem by providing 8th grade classes in agriculture. Without question, programs of agriculture on the junior high school level need to be re-explored in light of the great

changes that have taken place in the field of agriculture.

Getting an Early Start

Stressing an early start for guidance work in agriculture does not mean all our guidance work is done at this early level. Of necessity, we must help to guide our pupils throughout high school and, in some cases, well into the young farmer age.

We Need Good Farmers

In our guidance role with our pupils, to me there are several key items that should be brought to these pupils. First, I believe it is absolutely necessary that we refute soundly the idea that farming is a dying occupation.

We need to point out that never have as many Vo-Ag students been

trained as are needed to replace the farmers lost through death or retirement. Every year we need 40,000 new farmers. We are not training that many. We need to point out that even if the percentage of farmers in our total population does decline, this does not necessarily mean that the actual number of farmers will decrease and most of the farmers that have gone out of farming are not what we could really call "commercial" farmers. We need to prove that farmers of today require more training than ever before due to the great changes that have taken place in farming and that they will probably need more in the future. We also need to show that with this necessary training farmers can expect an income at least comparable to those in other occupations.

Job Opportunities in Related Fields

Next, I feel that the vast opportunities in the related agricultural fields must be clearly brought to the attention of present and prospective students in agriculture. We have a tremendous demand for good men in these fields. It has been estimated that only 50% of the need at present is met by properly trained people. I do not mean to imply that we should completely train boys for these jobs and professions. I mean that we should start the training of these people. For the greatest share of these positions a knowledge and training for farming is almost a prerequisite for entering these fields. What could provide this training better than a Vo-Ag program as it is now being carried out? In some cases, we may be able to go even further in this training for allied fields. However, I doubt, if most teachers are versatile enough and qualified enough and have time enough to go beyond the "training for farming" program in this specialized era. At any rate, as I see it, this further training should rarely be used as a substitute for the much needed training for farming.

Vo-Ag as Preparation for College

A third area involves Vo-Ag and its part in a college preparatory program. In recent years there has been much promotion of higher education. It is my opinion that in many areas of our country, the vocational agriculture program is doomed if it does not play a prominent role in meeting the requirements for entrance into an agricultural college. It appears, in this post-sputnik age, that every parent, every guidance counselor, and most every other teacher and everybody else would like to have every student further his education or at least prepare for college entrance. Many fields of endeavor today are requiring a higher degree of educational background. The field of agriculture, including farming is no exception in its need for college trained men. If our Vo-Ag program will not satisfy or meet the challenge of this college panacea, at best we will get the scrapings of the barrel. I firmly believe that we must present the facts that Vo-Ag does have a high place in the college preparatory program to all prospective and present students.

Studies made in various colleges throughout the country have shown that students with Vo-Ag background do as well and in some cases better

in the performance of their college work. Vo-Ag does not handicap the student in achieving successful college work.

Recently a representative of Cornell's Admission staff for the College of Agriculture visited our school to talk with students interested in entering the college of agriculture. He stated that, for the vast majority of courses offered at that college, vocational agriculture properly supplemented with sciences and mathematics, was looked upon very favorably in meeting requirements for admission. In fact 91% of such applicants in a recent year were accepted. By combining a healthy dose of sciences and mathematics with agriculture, good students are also afforded a much needed challenge. In our school, our good boys are having no problem in carrying out this enriched program. These boys are still able to provide the spark in our classes and FFA activities.

The role of the Vo-Ag teacher in guidance certainly does not end here. Follow-up guidance through group and individual contacts in all areas where guidance may be needed must be a continuing part of the Vo-Ag teachers job.

It is my conviction that improved guidance can increase vocational agriculture's contribution to the total school program and help insure a greater future for vocational agriculture. □

Evaluation Plan

(Continued from page 110)

relevance of the issues or topics that constitute the program objectives. To do so effectively requires that the teacher not only show how the issue is important and greatly affects the farmers but also show how the farmers can somehow influence the problem or situation from which the issue arises. For instance, farmers growing corn on marginal land might be shown that raising livestock may be a more productive use of the land, and that enrolling in an adult farmer course provides a way in which he can learn how to diversify and increase his prosperity.

Providing an opportunity for the potential adult students to participate in program planning is one very effective way of closing the gap between program and personal objectives and demonstrating the relevance of the issues that undergird the

program objectives. Participant involvement in program planning may occur either as part of the course or as a preparatory stage before the course gets under way, or both. Preparatory participation in program planning may take the form of an advisory committee or of an identification of a group of farmers who have similar problems or are interested in similar topics. In the latter case, the teacher would work with the group of farmers to evolve a program to meet the needs that they and the teacher together identify.

Differential Achievement

A third situation that evaluation can help us to better understand is the differential achievement of learning objectives. The most familiar occurrence of this sort is when some participants achieve the objectives more fully than do others. However, another and equally important result is the achievement by all participants of some of the objectives more fully than other equally important objectives. If evaluation indicates that after a machinery maintenance and repair course, with the "repair" and the "maintenance" objectives of equal importance, only the repair practices are being followed, greater future emphasis can be placed on the maintenance objectives.

In instances where evaluation results indicate that there is a great disparity between the major objectives of the course and actual achievement, it may be desirable to alter the objectives so they are more realistic, to adjust the curriculum, or both.

When a vocational agriculture teacher has the feeling that there is a big difference in the degree to which equally important objectives are being achieved, one of the best means of evaluation is pre- and post-testing.

In this regard, some teachers may be interested in exploring the relationship between statements of satisfaction by participants at the end of the course, the changes in the knowledge, skills, or attitudes between pre- and post-testing, and the degree to which the participant applies what he has learned to the "back home" situation. We frequently assume that all three are closely related; one of the best ways to find out would be to have teachers collect information concerning all three and report their findings.

Effectiveness of Methods

A fourth familiar situation to which evaluation efforts can make a substantial contribution is the differential effectiveness of various methods. Two methods might be compared, such as teaching farm mechanics entirely in the shop, compared with a combination of classroom and shop sessions.

The easiest way to obtain some answers regarding the effectiveness of various approaches or methods would be to try a different method or approach on the same subject matter with similar students and the same teacher. In larger programs where there are sections of the same course on two different days of the week, method A might be used with the Tuesday section and method B with the Thursday section. In smaller programs where this is not the case but where the same course is offered every semester or every year, each time for an entirely different but basically similar group, the same approach, using a different method each time, can be used. Evaluation would again deal with the degree to which the students had achieved the objectives of the course, using as a measure of success either the difference between pre- and post-testing or application to the "back home" situation or a combination of the two.

Application of Learnings

A fifth situation in which evaluation might make a contribution is in a determination of the degree to which the participants in the adult farmer education program are applying the knowledge and skills they acquire from the course, when they make relevant decisions or have occasion to use the acquired skills or knowledge. Specific examples might include checking on practices such as use of farrowing stalls, marketing of crops and livestock in relation to peak seasons, enterprise analysis, or pasture renovation. One effective and valuable way of collecting this information is to find out from participants at the beginning of the course, and at the end, and a number of months later what their practices are as they relate to the purposes of the course. This can be done in a way that is both interesting to the participants and valuable from an evaluation standpoint.

Steps of Evaluation

Included in one or more of the

foregoing illustrative case situations has been reference to five general steps in the evaluation process. They are listed below by way of summary.

1. Establish clear and realistic objectives, as a prelude to evaluation. Only by clarifying what a participant would do or know or feel after successfully completing the program, is it possible to efficiently collect appropriate information about the degree to which the program has helped him to do so. This assumes that the individual's knowledge, skills, attitudes, and practices, relevant to the program objectives, are determined before the program begins, as a basis for assessing the impact of the program.
2. Determine the type of information to be collected. The establishment of specific objectives facilitates the identification of the type of information to be collected in the evaluation process. It suggests the relevant subject matter areas, and whether the program is concerned with increased interest or knowledge, or with changed attitudes or performance.
3. Select appropriate methods of collecting information regarding achievement. Information might be collected by interview, test, questionnaire, observation, or from farm records. It might be collected beforehand, on a before-and-after basis, or following the program as a way of determining the degree to which the ideas from the program are being applied in day-to-day life. In any situation, the best method to select depends upon the type of outcome and how important it is to have precise information.
4. Analyze the information. A major payoff from evaluation, in the improvement of educational programs, depends on a plan of analysis that allows answering the evaluation questions with the information that is collected. The nature of this analysis must be thought through early in the development of the total evaluation plan.
5. Use the results of evaluation to improve the educational program. This is the most important step in the evaluation process. As increased evaluation of adult farmer education occurs, teach-

ers of vocational agriculture will be better equipped to design effective learning experiences for adults.

If you have read the article this far you probably are committed to increasing your effectiveness in evaluation of your adult farmer programs. To do so will probably require more understanding of evaluation than you now have, even after reading this article. As a contribution in this regard, a few references on evaluation are listed below. They are listed in the order in which you might read them. If you are encouraged to engage in evaluation of your adult farmer programs, write an article describing the results. In this way the benefits from your efforts can be even greater for all of us. □

Byrn, Darcie, *Evaluation in Extension*, Topeka, H. M. Ives & Sons, Inc., 1959

Knox, Alan B., "Conference Objectives, Prelude to Evaluation," *Adult Leadership*, Vol. 10, No. 8, February, 1962

Schroeder, W. P., *Helps for Evaluating Programs of Adult Education in Vocational Agriculture*, East Lansing Bureau of Research and Service, School of Education, Michigan State University, 1955

Phipps, L. J., *Handbook on Teaching Vocational Agriculture*, Danville, Illinois, The Interstate, 1956

Bloom, Benjamin, *Taxonomy of Educational Objectives*, New York, Longmans Green, 1956

Payne, S. L., *The Art of Asking Questions*, Princeton, N. J., Princeton University Press, 1951

Corey, Stephen M., *Action Research to Improve School Practices*, New York, Bureau of Publication, Columbus University, 1953

Luster to Iran



George L. Luster, Associate Professor of Agricultural Education at the University of Kentucky, is taking over as co-director of the Ahwaz Agricultural College at Ahwaz, Iran, October 1. Mr. Luster, who began teaching vocational agriculture at Taylorsville, Kentucky in 1947, has been a member of the University of Kentucky staff since 1954.

Foresight and Adult Farmer Education

JEROME P. PALZKILL, Teacher of Vocational Agriculture, Walworth, Wisconsin

In Greek mythology a story is told of how all the subjects envied the position of the king, in all his power and glory, as he sat upon his golden throne. On a certain occasion the king allowed one of the subjects to sit upon the throne and at the height of the festivity, the subject looked up and to his horror he saw directly above his head, suspended by a single hair, a naked sword, pointed downward, threatening to cleave his skull. The story goes on to tell that you could not see this sword unless you sat on the throne.

This could be an analogy regarding the present day vocational agriculture program. How many times have you heard other teachers wish that they were under "the law" so they could collect the benefits?

I am not so conceited to think that I have been so thorough in my presentation that no one can find error in my thinking; for I am not infallible, I am "Foresight."

Yesterday you may recall, a considerable rumble occurred when the high school agriculture students decreased in number. As a result, many felt that the solution to the entire program of agriculture in the secondary school lay in increasing young and adult farmer enrollment. But

something else transpired about the same time and we found ourselves on the merry-go-round of a science oriented curriculum. Now the science flame is dead; extinguished by its own enthusiasm.

Now, the void is again with us and some are searching to fill it with the merry-go-round rider.

I, Foresight, see this merry-go-round rider the young and adult farmer phase of agriculture education. I can see the statistician plying the numbers, applying his mathematical formulas and after several punched cards are produced, agriculture education could be fighting for its prized position in the out-of-school training field.

We have seen too many evaluations from which come the same old cliché, "Your Adult Farmer is Slipping," or "Why Does Young Farmer Brown Prefer Bowling to the Agriculture Class?"

As Foresight, let me ask that we align our thinking in three general areas: First, we must allow the program to be used in such a manner that those interested are served. I can see no problem in interest if interest is generated by need. At present evaluation is based on the philosophy of numbers and the fear

that someone will "crap" out. If the need is present, let it present itself to be analyzed for consideration, don't invoke interest by holding meaningless meetings just to satisfy "It's My Job."

Secondly, I have heard the near trite expression, "If we don't, Extension will." As Foresight, I simply say that if you look at the records you will find that in most states extension is still trying to evaluate the loss of their Farmer Institutes. Recalling as best I can, I have never heard the death rattles of the extension program due to the loss of these institutes, for they have served their purpose and retreated.

As Foresight, I see the area of instructor preparation to teach adult people.

Because you have a degree in agriculture education you think that you have the know-how to teach adults. I know, for I have heard many times, "If I haven't, who has?"

I, Foresight, do not question your educational merits, I question your ability to teach implications and not the empirical ideas associated with the theme of agriculture education.

Thus, I believe that if we are to see a future star labeled Young and Adult Farmer in our galaxy, we must start either giving more adult oriented courses to our future agriculture instructors, or secondly, and this in the future will prove best, prepare a second instructor for each department to take this portion of the work as a full time job. □

Interest Groups — A Guide to Adult Farmer Course Organization

LEON W. BOUCHER, Teacher Education, The Ohio State University



A vocational agriculture teacher may enjoy his most interesting adult and young farmer classes by organizing them on the enterprise interest basis.

For many years we in vocational agriculture have been in orbit when adult and young farmer classes were being organized. The word "orbit" is used to describe something going around in circles. Traditionally, vocational instructors have asked a few farmers what they wanted to discuss in the short course meetings. Whatever they select, the teacher then feels

obligated to offer even though he has had to call on outside help to get the job done. The topics suggested by a farmer group are likely to cover many areas of agriculture. When one night is devoted to each of the several topics, none is likely to be adequately taught.

Generally a farmer is not interested in everything but is really concerned with the problems encountered in his operation. *Why not concentrate the instruction in a given area for the adult and young farmers?*

Enterprise interest groups are not

new in that the extension service has followed this pattern for years with good results.

The advantages of enterprise interest groups are:

1. Smaller classes with more individual participation on the part of the farmer.
2. More intensive teaching on a subject.
3. Better coordination of instruction from week to week.
4. More interested audience for the teacher.

5. The teaching is directed at problems rather than broad policies.
6. Less fluctuation of attendance from one meeting to the next.

A disadvantage of the enterprise approach is the recruiting of interested people every four to six weeks.

This can be easily solved with the help of the enterprise planning committee doing the recruiting. If each of five men on the planning committee will agree to bring two others to the next meeting, there will be fifteen men to start the course.

An example of meeting topics

appropriate for the enterprise approach are:

Swine—(6 meetings)

1. What are the characteristics of the swine business in this community and what are the alternative changes to be considered?
2. How many sows should I keep in my farm operation?
3. Should I buy feeders rather than raise them?
4. Should I pasture or confine my feeder swine?

5. What can I afford to pay for a certified production tested boar?
6. Is a lagoon the answer to my problems of hauling manure?

The topics listed can be changed to meet local problems. Certainly an area in soils, fertilizers or chemicals would be of interest to most farmers.

Organizing the adults and young farmers into enterprise interest groups is not the answer to all your problems. It is another way of adequately meeting the needs of the out-of-school people of your community. □

INDIA SHOULD TEACH AGRICULTURE IN ALL SCHOOLS Vocational Agriculture in the U.S.A. Offers a Promising Pattern

CHRISTOPHER J. KALANGI,** Block Development Officer,
Community Development Department, Hyderabad, India



The teaching of agriculture should be introduced in all elementary and secondary schools in India. Sounds like a thoughtless, sweeping proposition, doesn't it? I do not think it is so at all. In the light of the nature of the Indian economy and the magnitude and complexity of the problem of agriculture in India, the proposition warrants attention; and at a time in India which may rightly be called the age of planning, the statement deserves closest consideration.

The proposition has many implications not only for leadership in India but for vocational agriculture teachers in the United States as well, some of whom may find themselves helping the Government of India in its growing program of agricultural education.

That Indian agriculture is among the foremost of the nation's problems demanding early resolution is well-known. The Government of India and the State Governments are determined to find quick and lasting solutions to the problem. The Community Development programs have done a remarkable job in attempting to improve agricultural production. Yet, there is

**Mr. Kalangi has worked for over eight years in Agricultural Extension Education and Community Development in Andhra Pradesh, India, before coming to the United States for graduate studies in Agricultural Education. After obtaining his Master's degree in 1961, he is studying toward a doctor's degree in Agricultural Education.

Table 1. Index Numbers of Agricultural Production in Selected Countries¹
(1952-56 base of 100)

Country	1952-53	1959-61	Gains
Greece	81	127	46
Italy	92	120	28
Yugoslavia	70	169	99
Brazil	89	120	31
Mexico	87	149	62
Japan	97	126	29
India	90	109	19
Israel	82	162	80
Turkey	100	121	21
U.A.R. (Egypt)	86	117	31
Pakistan	96	106	10

Table 2. Food Expenditure in India, Japan, and U.S.A.
(in dollars)

	India	Japan	U.S.A.
Per capita income	63.18	257.63	2,112.00
Food expenditure per capita	35.62	94.37	388.04
Percent income spent on food	56.4	36.6	18.4

no gainsaying the fact that much needs to be done. Consider the following data:

The comparative data given above in the two tables illustrate the fact that our efforts, numerous as they have been, have not yielded corresponding results.

While fully recognizing that the ills of Indian agriculture cannot be remedied by the stroke of a magic wand, I submit that one of the best solutions lies in the introduction of the teaching of agriculture in all elementary and secondary schools. Yes,

in ALL schools, and not in only multi-purpose schools or as an elective subject.

Agriculture in the schools of Delhi? Certainly, yes. Many city folks hardly know where the food on their table comes from and how. Of course, in a city school, vocational and technical agriculture will not receive the same emphasis as in rural schools. Rather, the curriculum will emphasize understandings, knowledges, and appreciations in Indian agriculture. It will

¹Production Yearbook, FAO of the United Nations, Volume 14, 1961, p. 29.

give an opportunity for the city-bred to grow tomatoes, to dirty his hands, and, to develop an understanding of the importance of agriculture in the daily life of the nation. In addition, agriculture courses in city schools could well emphasize agri-business which is growing in volume and importance. A few of the many reasons in support of the proposition made at the beginning of this article are given here:

1. *A right attitude toward agriculture is needed.* Most important of all, what is needed in Indian agriculture today is a proper attitude toward the profession of agriculture—a proper attitude not merely on the part of political, administrative and educational leaders and graduates in agriculture, but among ALL people in India. Agriculture is a complex profession. It is a dependent profession. The more modern it becomes, the more dependent it becomes on a myriad of other professions. Thus, the farmer needs the understanding of the politician, the housewife, the banker, the blacksmith, the government official—of everybody. The creation of a meaningful philosophy, of a right attitude, of a militant concern toward Indian agriculture is of fundamental and lasting importance which cannot be overemphasized. This, however, understandably is not easy to achieve among the present generation. But with foresight, it can be achieved with reasonable success in the next generation or two.

2. *For a forward-moving agricultural economy, a sound educational foundation is needed.* While the pres-

ent efforts to enthuse and educate the present generation cannot be abated, parts of the economy inherited from preindependent days preclude immediate improvements in agriculture. The best bet in the circumstances is to lay the foundations for a sound agricultural economy with the youth of the nation through agricultural education. Appreciations, knowledges and skills in agriculture, as in other subjects, can best be taught during the receptive and malleable school age.

3. *Modernization of Indian agriculture requires an educated corps of farmers.* As improvement of agriculture proceeds, involving increased use of machinery, chemical fertilizer, insecticide and pesticide, engineering skills, etc., more education will be needed on the part of the farmer and his associates.

4. *The increase in agri-business will entail an increase in agricultural education.* The increasing volume and role of agri-business—grading, processing, manufacturing, packing, preservation, selling, financing—will demand persons with training in the many components of agri-business.

5. *Every educated person should be expected to know something of the art and science of agriculture.* Agriculture is basic to life. Knowledge of agriculture is general education.

6. *The teaching of agriculture in all schools will raise the status of agriculture and of the rural people as a whole.* It will help reduce the yawning gap between the rural and the urban, between the "elite" and the "country."

7. *The teaching of agriculture can spearhead leadership movements.* At present, youth, particularly rural youth, have no well-organized, wide-spread organizations to provide them opportunity for development of their leadership potential. The teaching of agriculture can well provide a common platform for the development of rural organizations.

8. *Rural schools can become nucleus adult education centers.* The schools have a direct obligation to the entire community. The agriculture teacher can help his school discharge this obligation, for he is in a position to organize and conduct systematic instruction in agriculture to out-of-school youth and adults. He can effectively supplement the efforts of the Community Development Program in adult education.

For these reasons, not in the least exhaustive, the investment in the introduction of the teaching of agriculture in all elementary and secondary schools in India is bound to pay vast dividends in incalculable ways.

"Oh, yes, this is all very easy to say. But how can it be done on such a large scale? What about the enormous cost involved? How can so many teachers of agriculture be supplied?" These could be some of the reactions to the proposition in the article. But I believe that, enormous as the undertaking may be, it is not impracticable. If history or geography could be taught to all children, so can agriculture be, and with greater benefits. I also believe that it is more than time to take a decision in the matter. □

Approved Farm Practices Studied in South Dakota

ALFRED H. HOLZ, Teacher of Vocational Agriculture, Volga, South Dakota

In a study of approved practices used by farmers of Brookings County, S. D., it was found that many factors were associated with high usage of approved practices. Farmers who specialized in fewer livestock enterprises and who had large enterprises were using more of the recommended practices for livestock.

Young operators had the largest median number of dairy cows and used 56.7 per cent of the dairy practices as compared to a median of 46.2 per cent of the dairy practices used

by dairymen 55 to 75 years of age.

The middle-aged group of operators had the largest median number of cows in their beef herds, and also had the largest swine enterprises. The median number of swine in the enterprises of the middle-aged operators was 124.5. The farmers aged 55 to 75 years generally had beef as their major livestock enterprise.

Large farms were associated with a large number of enterprises per farm, and a high percentage of approved practices used in each of the three

livestock enterprises. The size of the swine herd was not associated with the size of the farm, however.

Owners had an average of 1.87 livestock enterprises per farm and renters had 2.12 per farm. Renters used fewer beef practices than owner-renters. The median percentage of beef practices used by renters was 45.5 and the median for owner-renters was 64.5.

A record of the livestock enterprises was kept by only 21 percent of the beef operators, 11 percent of



the dairymen, and 28 percent of the hog producers.

As a result of the study these following recommendations were made:

1. Check lists of approved practices should be used to plan student projects and used each year with the out-of-school classes. Class time should be used to develop interest in practices not generally used. On-farm visits should be made to help the operator put the practices into use.
2. Increased size of livestock enter-

prises should be stressed. This could be brought about by assisting in setting up father-son partnerships and instruction in the use of credit. In all classes the instructor should stress the importance of size. Field trips should be taken to see farms with large livestock enterprises.

3. Specialization should be encouraged. Two livestock projects per boy should be considered ample. A broader farming program should be encouraged by including crop production projects.

4. Testing station results, farm record summaries, and farmer testimonials should be used to help students appreciate the value of the use of approved practices.
5. A list of timely approved practices should be published each month.
6. Better farm record keeping and analysis should be stressed. Farmers must become more familiar with efficiency factors in livestock production. Teachers of agriculture should review records when making farm visits. □

Farming Status of Negro Farmers in Charleston County, South Carolina*

BOOKER T. McINTOSH, Assistant County Agent, Charleston County, South Carolina



The purpose of this investigation was to determine the present farming status of Negro farm operators of Charleston County, South Carolina. Status factors studied were: (1) type of farming, (2) sources of farm and family finance, (3) farming practices followed, (4) crops and livestock produced, and (5) educational status of the Negro farm operators. A personal interview farm survey was made of 139 operators.

Size of Farms

Only one farm owner owned over 161 acres. Three farm operators did not own any land. The average size of farm for the State was 39.1 acres. In Charleston County it was 181.6 acres. Forty-seven operators owned some land and rented additional land. Ninety-four per cent of the operators owned from 1 to 40 acres of tillable land. Sixty farmers operated livestock and crops farms. Eighty-two farm operators did no off-farm work. Eighteen farm operators did off-farm work over 90 per cent of the time.

Indicators of Level of Living

Seventy-three operators occupied homes which they believed were not in need of repairs. Fifty-five operators maintained homes that were in need of repairs. Electric type refrigerators

were owned by 107 farm operators. Forty-two of the operators who used electric type refrigerators were owner-renters. No renters owned electric refrigerators. Twenty-two, or 15.8 per cent owned deep freezers. There were four operators who owned no type of refrigeration. Sixty-one operators used wood stoves, three used kerosene stoves, and fifty-six operators used gas stoves.

The majority of farm homes used coal or wood heating stoves. Fifty-one of the operators used a combination of type of heating systems to heat their homes. Eighteen of the operators were using kerosene type heating equipment in their homes. Radios were owned by 123 farm operators. Television sets were owned by 108 of the farmers in this study. Fifty-eight were owners and 47 were owner-renters. Telephones were maintained in 23 or 16.5 per cent of the operator's homes.

The Livestock Enterprises

Thirty-one operators raised 11 to 20 pigs per farm. Twenty-six of this group kept from 1 to 2 sows per farm. Eighteen farm operators raised from 21 to 30 pigs. Six farm operators raised over 51 pigs per farm. Thirty operators kept no sows and raised no pigs. There were 110 farm operators who kept no beef cows. Twenty-four operators who kept from 1 to 4 beef cows raised an average of 1.2 calves per year. Six farm operators kept 1

to 6 beef cows and raised an average of two calves per year. Forty-five operators kept 1 to 40 hens and raised 1 to 20 young chickens. Forty-five operators kept 1 to 60 hens and raised 21 to 40 young chickens. Twenty-three farm operators kept dairy cows for the production of milk for home use. No renters kept dairy cows. Eleven farm operators maintained two dairy cows and three operators kept four dairy cows.

Home Gardens

Seventy-one operators maintained year-round home gardens. Sixty-eight operators maintained no year-round home garden. Twenty-two of the Negro operators did not use any of the available marketing facilities for marketing their truck and garden crops. Thirty-nine operators marketed their farm produce through the county market, 21 through the city market, 38 used a combination of marketing facilities and 18 operators sold through independent produce buyers.

The improvement of the economic and living conditions of the Negro farmers of Charleston County must be brought about by the improvement in their individual farm businesses, by the obtaining of part-time off-farm employment, or by the training of these individuals for full-time off-farm employment. These objectives should be the goals of personnel in agricultural education and agricultural extension. □

*Field Study, Master of Vocational Education, July 1962, Iowa State University of Science and Technology, Vocational Education Department, Ames, Iowa.

News and Views of the Profession



NVATA REGION I OFFICERS' MEETING

This group of Vo-Ag teachers, representing officers from six state associations from Region I, met at Port Angeles, Washington, in June to discuss state, regional, and national problems. They also appeared in a panel discussion, "How do you do it?" on the Washington Vo-Ag Teachers' Conference Program. Seated, L to R, are Art Nelson and Charles Gronewald, Washington; Byron Forsyth, NVATA Vice President, Region I; and Don Kabler, Oregon. Standing, L to R, are Fred Hansen, Nevada; Earl McCollum and Carl Devin, Oregon; Bob McKay, Washington; Roland Wentzel, California; Leo Peterson, Arizona; Clay Ballance, Oregon; and Gail Stensland, Montana.

TIPS THAT WORK

Storing Drill Bits in the Shop

G. W. McMASTER, Teacher of Vocational Agriculture, Lodi, Calif.

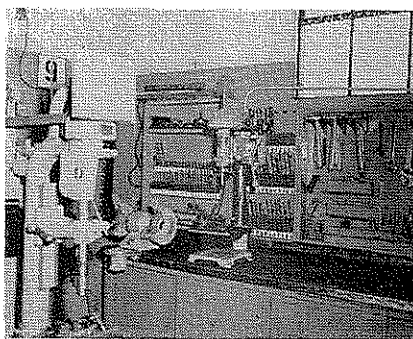
Are your taper shank twist drills stored in drawers? Do they rattle around in boxes? Or, are they in an unsightly, hard to maintain rack on the wall? Mine were in all three categories for ten years.

I started by taking an inventory of the sizes of drills I had on hand for each size shank. Then by looking in a suppliers' catalogue for the sizes of drills available for each size taper, I made a list of the drills I wanted.

Next, I bought a supply of tubing and pipe that would fit each size of taper, and cut enough pieces of each size for the number of drills I planned to rack. A piece of 1/16 or 1/8 angle iron for the platform and a matching piece of strap for a hanger on the end, a bit of brazing and welding and, I have a neat drill stand. It can be easily made, makes good jobs for students and is a gem to keep in order.

Where there is no drill to fill a space in the rack a piece of dowel

tells me at a glance. The dowel is near the same diameter as the rack pipe and is cut the same length so students can't move them around. Yet,



they are easily removed by lifting the plug with a 1/4" bolt from the bottom.

In assembling the pipes on the angle iron I bolted each on with a 1/4" bolt and a washer to hold it in position for brazing.

A little paint, and the sizes painted on by hand on a white background, and they are finished.

The racks can be made any length, to fit between studs, inside a cabinet, or by using angle instead of a strap, they could be mounted flat against a wall. I made mine 1/8 inch shorter than the openings to assure a fit. □



N.V.A.T.A. News

from
James Wall
Executive Secretary

An outstanding NVATA Convention has been planned for all NVATA members and their wives of Milwaukee starting Dec. 1. The Saturday and Sunday meetings make it possible for teachers within 300 miles of Milwaukee to attend without losing teaching time. Additional sessions carry on through Thursday, Dec. 6. The program has been shortened a day and a half from last year. A feature of the program will be a panel discussion by the first executive committee officers of NVATA. The NVATA will pause to recognize its return to the "birthplace" of the organization and to honor the first officers.

Convention speakers will include Dr. A. W. Tenney and Dr. Frank Sievers of the U. S. Office of Education, Dr. Lowery Davis of Clemson College, Dr. George Sledge of the University of Wisconsin, Donald McDowell of the Wisconsin Department of Agriculture, Dr. Milo Peterson of the University of Minnesota, and Ralph Palan, a Minnesota teacher of vocational agriculture.

The Executive Committee sessions will begin Thursday at 1:00 P.M., November 29 and continue until noon Saturday.

The new president of the NACAA, Paul Barger, will greet the vo-ag teachers Saturday afternoon. On Monday, the NVATA program of work sessions and joint AVA sectional meetings will be held. The Manpower Act will be discussed. Emphasis Tuesday will be on improving farm management instruction.

The International Harvester luncheon will be Tuesday noon and the Allis-Chalmers NVATA awards breakfast for Wednesday morning. The Wednesday afternoon program will feature "Guidance in Vocational Agriculture" and "Farm Management" in the sessions Thursday morning.

The final business session of the AVA ag section is to be held on Thursday afternoon. Tuesday, Wednesday and Thursday evenings will feature AVA general meetings.

There will be a combined ag section reception for the men and their wives Sunday evening from 4:30 to 6:00 P.M. The A & P luncheon will be Thursday noon. □

Stories in Pictures



Donald Noah of Marengo, Ohio, believes that firearms safety can best be taught in the field.

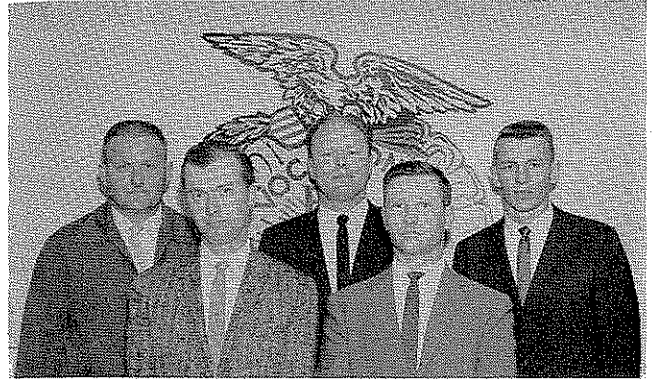


Farmer Dwight Miller helps student Jack Stevens make field adjustments on a hay chopper. Mr. Miller is a former Vo-Ag student and member of the adult farmer class at Firelands High School in Ohio.



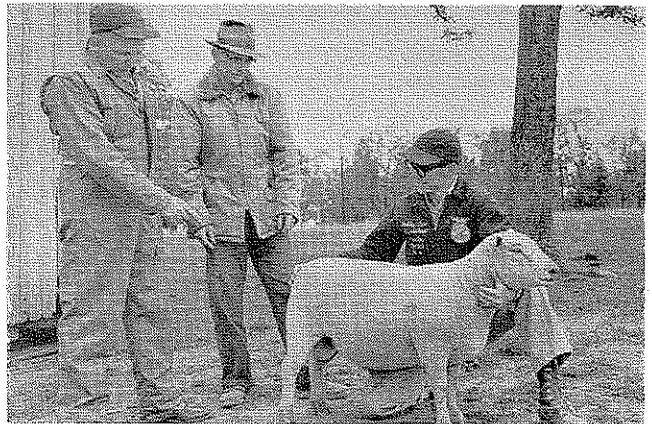
An additional source of income for this Kentucky vocational agriculture student comes from bluegrass seed. The picture shows Bobby Charles Thompson and his teacher, Leonard Hinson, Bryan Station High School, Lexington, Kentucky, examining the bluegrass to see if it is ready for stripping (harvesting). The machine attached to the tractor is a bluegrass stripper.

Bobby Charles owns the necessary farm machinery to carry out a supervised farming program including tobacco, corn, sheep, registered Angus cattle, hay, and bluegrass pasture.

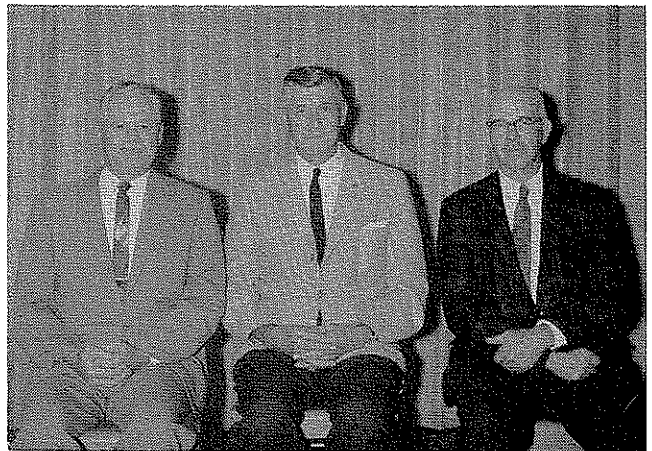


These five North Dakota vocational agriculture instructors received \$200 scholarships for graduate work during the summer. Left to right, they are Eric Arntson, Watford City, William Well, Medina, Virgil VandeWalle, Bottineau, Verne Spengler, Minto, and Arlo Howe, Tioga.

The scholarships were provided by funds contributed to the North Dakota Vocational Agriculture Association by the Farmers Union Grain Terminal Association. A committee of vocational agriculture instructors selected the men to receive the scholarships.



This combination gets results—a teacher of vocational agriculture, Harlan Veal, Jessamine County High, Nicholasville, Kentucky; Billy Lee Bradshaw, a student; and his father, Avon Bradshaw. They are discussing one of Billy Lee's registered Southdown rams. This young man's supervised farming program includes 88 ewes, 42 head registered Aberdeen-Angus cattle, 12 meat-type Hampshire sows, tobacco, hay, corn, and pasture. Billy Lee was the 1961 Kentucky Star Farmer, following brother Ray who attained this honor in 1952.



Three Michigan Vo-Ag teachers were awarded life memberships after having taught for thirty-five years. They are, from left, Ted Knopf, Hastings; Albert Ackley, Ovid; and Jake Meachum, Millington.