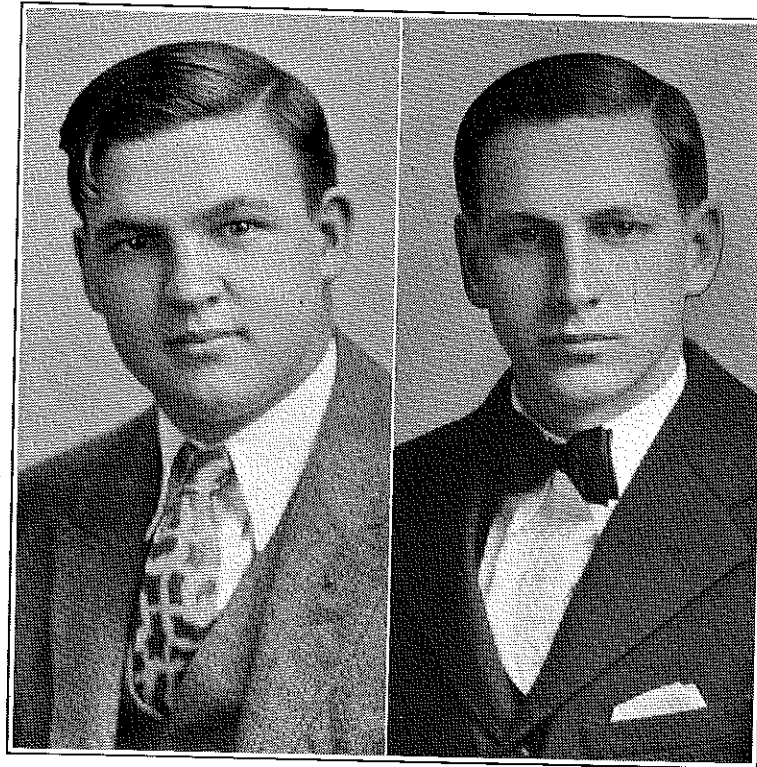


Agricultural Education



Kenneth and Boyd Waite,
Brothers of Winfield, Kansas,
Early American Farmers

(See Editorial Comment)

*Human advancement is possible only where
labor can be spared above that needed for the
necessities of life.*

A monthly magazine for teachers of agriculture. Managed by an editorial board chosen by the Agricultural Section of the Vocational Association and published at cost by the Meredith Publishing Company at Des Moines, Iowa.

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Subscription price, \$1 per year, payable at the office of the Meredith Publishing Company, Des Moines, Iowa. Foreign subscriptions, \$1.25. Single copies, 10 cents. In submitting subscriptions, designate by appropriate symbols new subscribers, renewals, and changes in address. Contributions should be sent to the Special Editors or to the Editor. No advertising is accepted.

Entered as second-class matter, under Act of Congress, March 3, 1879, at the post office, Des Moines, Iowa.

OUR COVER

WE PRESENT another in our series of cover pictures of early American Farmers.

Kenneth and Boyd Waite, American Farmers of Winfield, Kansas, are now filling the role of prosperous farmers in their home community. They are operating on a fifty-fifty stock share lease with their father, Leon Waite, on their 820-acre farm. They own a half interest in about eighty head of purebred Hereford cattle. They own one-half the work stock and one-half of all other stock, which includes the increase of eight brood sows and a small flock of breeding ewes. They pay one-half of all extra labor, furnish all fuel and oil for a tractor, and pay one-half of all machinery repairs.

Both boys are married. Boyd and his wife live in the tenant house, while Kenneth and his wife live in the spacious farm house with their parents.

Both boys are active in community affairs, working in church and Sunday School, and are active in Farmers Union and Farm Bureau work. Boyd is superintendent of the beef cattle division of the county fair. Last year they exhibited their Hereford herd at the county fair and won all firsts in their division. They cull their herd closely, selling only their best for breeding purposes and creep feeding all other calves for an early beef market.

Both boys have held prominent positions in the Future Farmer work. Boyd was first president of the Kansas Association and was fourth vice-president of the National organization. Kenneth served one year as State Secretary. He also represented Kansas in the Regional Public Speaking Contest. Since leaving school, they have been active advisers of their local chapter.

They have taken an active interest in improving the home place since leaving school. All buildings have been repaired and painted. Miles of new fence has been built, and the entire premises presents an attractive appearance.

They cultivate about 100 acres of corn besides their forage crops, 50 acres of sorghum, and 130 acres of wheat. They are operating under the wheat and corn-hog allotment, having 30 acres of corn land and 24 acres of wheat land under contract. They seeded sweet clover this spring on their contracted acres. They plan to build a trench silo this fall to take care of their forage crop. They have 25 acres in alfalfa and harvest 25 acres of prairie hay.

PROFESSIONAL INTROSPECTION

IN these times that try the souls of earnest men in education it should be well for all to do a little introspection. If adversity makes real men strong, perhaps it is only natural to expect that it also eliminates the weaklings. At least the writer has looked in vain for a law of nature that preserves the weak or non-functional at the expense of the strong and the functional, and the field of agricul-

tural education can be no exception. In days of difficulties it is the selfish "leaners" who really cause disaster unless there are enough courageous "lifters" to win the battles of the day. The depression screws have been tightening on education to such an extent that we are hearing much about the "New Deal." But history shows that no "new deal" ever succeeded that preserved the indolent and inefficient at the expense of the industrious and efficient, or the weaklings by the destruction of the strong. Vocational education is not going to be preserved for society if the indolent, non-participating teachers are allowed to secure as much reward for what little they do as the energetic, participating teachers who contribute vitally to a functioning program of work. In these perilous times it would be well for us to use a little introspection in answering for ourselves some such questions as the following:

1. Is my program of vocational education worth what it is costing federal, state, and local community? In other words, is it a real economic and social investment, or is it just another source of expense or another subject?

2. Have I vitalized my vocational teaching so that my students believe that it is worth enough to actually invest some of their own hard earned money in supplies, F. F. A. dues, and other similar expenses that go with all large worth while cooperative activities? Are the results of my teaching textbook grades and credits only, or are they the more vital student interests as represented by social and economic achievements in a functioning F. F. A. program of work?

3. Does the vocational education achievement of my student program of work place me in the do-nothing quartile, or among that 75 percent which maintains the progress of vocational education? Whether I believe the accepted standards of measurement are right or wrong, where do I stand when measured by those professional standards which measure me by the achievement records of my students?

4. Am I making personal and financial sacrifices to maintain my professional position, or do I attempt to follow the easier route and practice selfish thrift at the expense of other members of my profession? Am I a member of the A. V. A.; have I subscribed to our Agricultural Education magazine; do I cut down on my transportation until my program is injured; do I neglect the state F. F. A. program of work to save more of my salary; and do I make contributions to those activities designed to preserve and advance the national program of vocational education? In other words, am I a good sport, graciously and courageously sacrificing for my profession, or am I a selfish, disgruntled individualist, chiselling out of my job all I can personally grasp at the expense of my students and the loyal fellow-workers of my profession?

Yes, a little introspection may lead to worthy action, a clear conscience, and a little of that contentment and happiness that go with knowing that we have at least made an honest effort to deliver a real job while at the same time dealing fairly with the other members of our chosen profession who really have made personal sacrifices for the cause.—R. B. Smith, Arkansas.

ARTHUR P. WILLIAMS

ARTHUR P. Williams, federal agent for agricultural education in the North Atlantic States, passed to his reward on May 31. He was a frequent contributor to this magazine. The magazine has lost one of its best friends, agricultural education one of its noblest leaders. During his fifteen years of service as federal agent, Mr. Williams commanded the admiration and respect of his associates and of those with whom he came in contact. A number of publications came from his pen. He was tremendously interested in methods of teaching. No teacher should fail to read the article beginning on the next page. It should serve as an inspiration and guide for improvements in the teacher's work.

What Constitutes Good Teaching?

ARTHUR P. WILLIAMS, U. S. Office of Education

WHAT constitutes good teaching? This question should concern every teacher and supervisor of vocational agriculture. Let us approach it from the standpoint of observing a unit of teaching, and considering what characteristics we want to look for or what we want to see the teacher do, as follows:



Arthur P. Williams

1. Capitalizing and developing pupil interest.
2. Using appropriate content.
3. Using efficient methods.
4. Using appropriate facilities and devices.
5. Providing for pupil participation.
6. Testing in terms of demonstrated ability and actual use.

These characteristics of good teaching are derived from an analysis of a teacher's functions, namely, (1) to prepare pupils to learn, (2) to present the learning pattern, (3) to supervise practice, and (4) to test.

Of course we must expect that different teachers will perform these functions in different ways for different groups and different units of teaching and with varying standards in mind, but, in any case, a recognition of these functions and related characteristics should help the teacher to plan his work more effectively and should enable the supervisor to evaluate the teacher's work more fairly.

Each of the characteristics listed will be discussed separately with a view to suggesting bases for the evaluation of teaching.

1. *Capitalizing and developing pupil interest.* If a pupil is keenly interested, he is ready to learn, and if this interest is maintained and he is given the opportunity, he will put to use what he has "learned," which is the best measure of effective teaching.

Interest is always a personal matter, depending on direct or indirect values or both. For instance, a boy may so much enjoy working with tools that the teacher has little difficulty in getting him to work enthusiastically on almost any kind of repair or construction job. Pride in turning out a finished piece of work may be a source of interest to another boy. Still another may be interested only indirectly in the advantages of being able to do the job himself rather than having to buy the product ready made. The skilful teacher utilizes all sources of interest. First of all, the enrolment of the boy in a class is con-

tingent upon the discovery of certain basic interests in farming. These interests are worked out more specifically in the boy's farming program. By first discovering these basic interests with the boy, the teacher should have little difficulty in developing interest in the various units of teaching growing out of the pupil's training program. This procedure is much better than trying to "drum up" interest where no real basis for it exists. In some cases pupils may display interest in order to please the teacher and incidentally to get better grades, but such superficial interest can readily be distinguished from the real thing.

If a teacher fails to arouse interest in a given unit of teaching, he must accept the situation as failure on his part rather than on the part of his pupils, for without interest they are not ready to learn.

2. *Using appropriate content.* The appropriateness of teaching content depends largely on the use the learner makes of it. If he uses it, he has usually profited by it. If he does not use it, there may be some informational cold-storage values, but these are not worth much to start with and are constantly deteriorating from lack of use. In the first place, if the boy does not use what he is taught and is not planning to do so while he is being taught, his interest is usually at a low ebb. In the second place, it is difficult for a teacher to secure adequate participation on the part of the pupil in any other way than through a supervised farm practice program. Furthermore, if we accept as our major aim the establishment in farming of such boys as want to be farmers, then the instruction should obviously deal with the activities of an actual farmer-training program in which the boy can participate immediately. The course of study becomes essentially a composite of the programs of the members of the class. This need not involve important changes in the kind of content which would be selected on the basis of the prevailing type or types of farming in the locality but it will involve a change in the usual organization of it.

The course of study for each year should be flexible enough to meet the instruction demands growing out of the pupils' farming programs. Since the boy's farming program should represent a cross-section of farming, the course should be organized on the same basis, with crop and animal work each year. The teaching units should be set up on a job basis and spread as needed over the different years. The instruction in certain minor and contributory enterprises may be completed in one year, but the instruction in a major enterprise needs to be spread over sev-

eral years, in order to correlate with the development of the boy's program. This may be likened to the cafeteria system as compared with the *table d'hôte* dinner service, since our purpose should be to give the boy what instruction he needs when he needs it, regardless of antiquated ideas about the need for a logical organization of subject matter. For instance, right at the start the boy needs to study types of farming in order to plan and launch his farming program intelligently. Formerly this was a part of the farm management course in the last year. For further discussion in this connection see Federal Bulletin 163, "Supervised Farm Practice Planning."

The teacher must decide also as to what content is appropriate for group instruction and what can be handled best by individual instruction. Some schools have gone to the extreme of shifting entirely to an individual-instruction basis, but so far there seems to be no justification for throwing over entirely the advantages of group instruction. On the other hand, provision for more individual instruction will be appropriate in many situations.

Good teaching further requires that the basic agricultural training content be supplemented by interpretive science and related information, in order to satisfy the natural curiosity of the learner as to why certain things happen and to enable him to make his own generalizations based upon an intelligent interpretation of his own experiences. Such related content also provides the basis for transfer of training. This does not mean that all relatable knowledge needs "to be dragged in by the ears" but that training content should be enriched and supplemented by interpretive material whenever there is a real interest in it and use for it. Examples of such related content may be secured from Bulletin 103, pages 52-55, and from other recent federal bulletins.

3. *Using efficient methods.* It is the job of the teacher to assist the pupil to learn. From the vocational standpoint, a pupil has learned when he can do or think what he could not do or think before. There are five basic methods by which the teacher can assist or influence the pupil to learn, as follows:

1. *Demonstrating* or performing the job activity for the pupils to observe and imitate.
2. *Illustrating* or using graphical representations of activities to be learned.
3. *Telling* or using word pictures.
4. *Questioning* for the purpose of stimulating the pupil's

for testing.
5. Directing pupil activity, including assembly, evaluation, organization, and use of facts; development of skill and experience; and performance tests.

The skilful teacher uses a combination of these five methods, depending on the conditions which he encounters. A method or combination of methods is good in so far as it enables the teacher to accomplish his training objective in the minimum time and with the minimum effort.

In operative jobs, where skill is concerned, demonstrating is usually a highly effective method to use.

Ordinarily, illustrating and telling may be used most effectively in combination with other methods. Illustrating may help to simplify a complex situation so that the learner may grasp it as a whole and not be confused with multiplicity of detail at the start. In most cases teaching would be improved by a greater use of this method, provided it is used for a definite purpose and with suitable materials. On the other hand, the use of telling as a method of teaching is frequently overdone because emphasis is apt to be placed on the mere possession of facts rather than on the use of facts. Also, the teacher who talks too much is apt to deprive the pupils of an opportunity to do their own thinking. Practically the same criticisms apply when the pupil gets mere generalizations and ready-made conclusions out of a textbook.

Questioning is a valuable method to use, provided the purpose of stimulating the pupil's thought and action is kept in mind.

Directing pupil activity is a method which a good teacher will use to a considerable extent. He realizes the importance of having pupils use facts and not merely memorize them. He recognizes the need for pupil participation and repetitive experience. He puts more emphasis upon performance tests than he does upon informational tests. All of these pupil activities require careful direction.

It has been estimated that approximately 95 per cent of the world's work is done in a routine way. If this were not so, no great amount of speed and proficiency could be developed. Teaching, however, is an occupation which deals with a great many variables, and hence there is need for much adaptation in methods. Unfortunately, in the past our ideas of method have been borrowed largely from what we may call scholastic procedure; that is, the procedure of "keeping" school. Too often, this has centered largely on maintaining discipline, the assignment and direction of book study, recitation, review, and verbal examinations. The writer is aware that even in the field of general education there has developed a protest against these stereotyped and archaic practices, but, at the same time, anyone who observes teaching must see that we are far from free from the influence of these traditional scholastic procedures.

The significance of methods of teaching has frequently been obscured by

associating the term with certain devices such as "project method," "job analysis method," "problem method," and the like. This merely means that the teacher uses projects or analyses or problems in his teaching. It does not reveal how the teacher gets responses from his pupils nor what responses he desires, except in a very general way. The following table gives a brief classification of methods appropriate to the respective steps of the instructing process:

Teaching Steps	Suggested methods
1. Preparation	Questioning for recall of experience in order to set up a teaching base for the job or a point of contact. Questioning in order to focus attention and stimulate thinking about the job. Calling attention to an interesting, striking, or unusual fact, occurrence, or situation related to the job. Making statements about the nature, significance, and purpose of the job, which the pupil can readily appreciate, but which he does not already know, in order to create a desire to learn to do it and in order to establish confidence that he can learn to do it successfully. Stimulating rivalry by telling what others have accomplished. Stating facts as to the economic return which can be expected from the job. Demonstrating job at vocational speed. Showing product of the job. Comparing product of job done well with average product. Combinations of the above.
2. Presentation	Demonstrating at vocational speed. Demonstrating at slow speed. Demonstrating piecemeal or by separate operations, with statements, questions, or discussion interspersed between the parts of the demonstration, but not done simultaneously with it. Getting someone else, sometimes a pupil, to demonstrate or to help demonstrate. Developing or "pulling out" an analysis of a managerial job with the pupils—an effective way to demonstrate how to use such an analysis. Working with the pupils in evaluating factors on a managerial job—a directed case study for demonstration purposes. Illustrating by use of pictures, diagrams, graphs, and charts. Telling or making reference or survey assignments. Directing study.

Teaching Steps	Suggested Methods
3. Supervision of practice	Directing experimentation or experience-getting. Directing practice in doing or thinking. Providing and assigning equipment and facilities for practice. Providing job instruction sheets or work sheets for supplemental self-instruction. Questioning on completeness and correctness of pupil's knowledge and ability on the job.
4. Testing	Observing pupil's performance on his own responsibility. Observing results of pupil's performance. Questioning on completeness and correctness of pupil's knowledge and ability on the job.

4. Using appropriate facilities and devices. A good teacher should regard himself as a stage setter who arranges suitable learning situations. This involves the use of such of the various devices in connection with the respective methods of teaching as he may choose to employ. These devices, of course, involve equipment, materials, and supplies as well as a setting for the learning. Learning is a matter of experience-getting. The good teacher recognizes the need for first-hand experience and tries to provide it for his pupils. He also recognizes situations where second-hand experience, through words and illustrations, may be of use to the pupil.

In vocational education we are not much concerned with developing memory habits, because we know that if pupils are trained to select, evaluate, and organize facts for some specific use, we need not worry about how many of these facts he remembers. Recent tests have shown that pupils actually remember more facts as the result of working with them than they do as a result of trying to learn them directly and apart from practical use.

The following table is a classification of some suggested devices which may be used with respective methods of teaching:

Methods	Some suggested devices
1. Demonstrating (using things or cases).	A real farm job (actual working equipment and conditions, product used). A farm job demonstration at vocational speed. A farm job demonstration at slow speed. A piecemeal demonstration interspersed with other methods and devices. An actual case-situation for a managerial job. A hypothetical case. A pseudo job (artificial working conditions, product not used).

Methods	Some suggested devices
2. Illustrating (using graphic representations).	A laboratory demonstration for illustrating scientific principles (related science). Pictures, still or moving. Diagrams showing essential parts, relationships, inner parts or connections, cross-sections, construction, composition, and the like. Graphs, charts, and tables, showing amounts, comparisons, relationships, trends, and the like. A combination of the above illustrating devices, together with verbal or telling devices.
3. Telling (using word pictures or symbols).	Lectures, statements, descriptions, books, bulletins, and reports. Instruction sheets. Job analyses. Speakers, radio, and the like. A combination with other devices.
4. Questioning (stimulating pupil self-expression).	Information questions. Yes-or-no questions (true and false). Questions stimulating thought, initiative, organization, etc. Examinations and tests. Assignments. Managerial analyses.
5. Directing (initiating and controlling pupil activity).	Assignments. Supervised study. Class discussion. First-hand experience. Trial-and-error experience. Supervised practice. Performance tests.

5. Providing for pupil participation. In many cases the facilities which serve the teacher for presenting the pattern of learning activities, managerial as well as operative, may serve also for pupil participation and repetitive experience. If the class is large, however, the teacher will have to make additional provision of facilities, or he will have to divide the class into smaller groups working on individual jobs. The teacher's aim should be to provide at least a "once over" of experience for each pupil and for each unit of instruction, some of this at least before the boy attempts to use the instruction in his farming program. This applies particularly to operative jobs where skill is involved. In the case of managerial jobs, the working out of the project plan should constitute sufficient participation for preparatory experience to enable the pupil to proceed safely.

6. Testing in terms of demonstrated ability and actual use. From a vocational standpoint nothing is really learned until it is put to use in normal life-situations. While the pupil is learning and is under the direction or supervision of the teacher, preliminary testing will of course be done in order to weed out any possible errors in the learning pattern. The final test demands performance by the pupil on his own

responsibility and initiative. While it is desirable that testing be done at the earliest opportunity, the teacher should realize that sufficient time for practice must be given before an effective vocational test can be made. This may result in deferring the test for a week, a month, or possibly a year after the instruction is done on some specific unit. There are various ways in which testing of this sort can be done. Where feasible, the teacher should observe the performance of the pupil; in other cases he may observe the results and products of performance. In some instances the teacher may well depend upon the observation of other people, such as the pupil's father. Other testing devices include a descriptive summary or analysis of achievement prepared by the pupil and checked against his plans and estimates.

There is, of course, a high degree of correlation between methods and devices used for presenting and providing pupil participation in a teaching unit and the method and devices used for testing. The teacher who spends the greater portion of his time on informational subject matter will rely largely on informational tests, whereas the teacher who provides for the maximum of experience and participation on the part of his pupils will try to measure his results in terms of actual doing ability.

To these six specific requirements should be added the general observation that good teaching is a matter of professional pride and satisfaction on the part of the teacher. A good teacher should regard his job not merely as a meal ticket nor as a stepping stone to some other position but as a source of satisfaction and self-expression in living "the good life."

Good teaching is likely to occur when the teacher assumes responsibility for self-improvement, when he analyzes the procedures to follow, and tries to evaluate his own efficiency. Such a teacher will try to keep out of ruts, keep up-to-date, and recast his objectives from time to time as conditions change. This is particularly true if the teacher regards his work primarily as making changes in human beings rather than dispensing subject matter. There is no virtue in any subject matter apart from the learner who is ready to use it.

I have pointed out certain ideals—ideals which may never be fully and completely attained, but which should serve as a constant inspiration and guide for specific improvements in the teacher's work. This has been better expressed by the quotation, "Ideals are like stars; you will not succeed in touching them with your hands. But like the sea-faring man on the desert of waters, you choose them as your guide and following them, you reach your destiny."

Ranch Organization of Vocational Agriculture Classes

HAROLD F. THATCHER, Instructor in Vocational Agriculture, Moorcroft, Wyoming

PRESIDENT Roosevelt has said, "Maintaining our boyhood ideals

and applying the wisdom of experience and training is one of the most important factors in bringing about our economic adjustment." Literally, that has a bearing on the success of one's life in almost any circumstance. What one does in his early training period forms and moulds his later life. It is this principle that makes education the greatest service and most important phase of our civilization, a work definitely organized to guide and direct not only those who are naturally inclined to learn and to progress by their own initiative, as Lincoln and others did, but also to help those who must be taught how to progress, by a democracy of training for better citizenship.

The farm boy is no exception. While the doctor's son sees his dad as the servant of all, whose time and home are not his own, the farmer's son, knowing nothing of this experience which the doctor's son has to meet daily, plans to grow up to be a great surgeon. The doctor's son, knowing nothing of the so-called farm drudgery, plans to be a great rancher. This is simply another case where the grass looks greener on the other side of the fence. However, if the doctor's son could be interested in medicine in its idealistic nature as the farmer boy sees it, both would be better able to use their training and environment in preparing for the work each will do in later life. It is good strategy for each to set his goal high. Each will strive to attain the goal he has set up, and in so doing will have to extend himself to greater achievement than ordinarily he would have. There is only that small margin of difference between the champion and the ordinary man.

With those thoughts in mind I organized my vocational agriculture classes to represent the personnel of a large and many-sided ranch, something that matches the boy's ideal and seems worth striving for. The supervised farming program of each boy determines the special line for which he is responsible. As an example, a boy who has beef production as a supervised farming activity designates himself as the beef herdsman and specialist. Because the ranch must work as a unit, everyone must know as much as possible of the other enterprises of the ranch besides being an authority in his own particular line. The boys work aggressively and with intent interest because the supervised farming activity of each is usually that phase of farming in which he is most interested and which his environment has thrust most upon him. Each boy visualizes the possibilities of the ideal ranch and is eager to add to his store of knowledge so that he can do his share of planning and building up a fool-proof organization and management of this ideal ranch. The search for information and the ability to inform fellow classmen on items in the particular field of any boy is of great value to the one disseminating the information and those to whom it is given. The wheatman or the beefman can very successfully relate to the rest of the class just what he would do in any specific circumstance which arises in his field.



Vocational Agriculture and College Achievement in the Ohio State University

L. E. JACKSON, Department of Agricultural Education, Ohio State University

Editor's Note: Here is presented a research study on a subject of much interest to agricultural education. The results of this investigation are corroborated by similar studies in a number of states. Many of these studies are referred to in "A Summary of Measurement Studies in Agricultural Education," in the December, 1933 issue of this magazine, pp. 91-92.

WHAT is the influence of vocational agriculture upon college achievement? This question arises because some of the students graduating from high schools offering vocational agriculture present four or five units of vocational agriculture for college entrance. Are these students handicapped because vocational agriculture has taken the place of certain academic subjects more commonly considered appropriate for college preparation?

In order to make an investigation of the question, the college records were examined for men students enrolled in the College of Agriculture beginning in the autumn quarter of 1929 and ending with the spring quarter of 1931. All students presenting three or more units of vocational agriculture for college entrance were placed in one group, and all students presenting no units of high school agriculture in another. Students presenting one or two units of vocational agriculture or units of general agriculture were not considered. From the two groups of students selected for study, pairings were made upon the basis of high school achievement and percentile rank. At the Ohio State University the high school achievement records of entering students are evaluated and divided into three classifications as follows: E—Excellent, A—Average, and P—Poor. In pairing a student presenting three or more units of vocational agriculture with a student presenting no units of high school agriculture, perfect agreement was secured as to high school achievement, and the agreement as to percentile ranks varies no more than three points in each case. In the accompanying table Group A represents the students presenting three or more units of vocational agriculture for college entrance, and Group B the students presenting no units of high school agriculture for college entrance. Eighty-seven per cent of the students in Group B pursued typical academic college preparatory courses, 7 per cent had a high school major in commercial work, and 6 per cent a major in manual arts. Eighty-three per cent of the students presented four or more units of vocational agriculture for college entrance.

At the Ohio State University a certain number of point hours are awarded for each credit of work given a letter

grade as follows: A, 4; B, 3; C, 2; D, 1; E, 0. Point-hour ratios are determined by dividing the number of point hours received by the number of credits of work taken. In the accompanying table the mean achievement for the composite of work done during the first quarter and during three quarters was computed in terms of the point-hour ratio. The means for the achievement in courses are in terms of point hours received.

In determining the probable error of the difference between means, the technique for determining the probable error of differences between means where correlated was used. The four right-hand columns of the table present from left to right the correlation coefficients, the difference between means, and the probable error of the differences divided by the probable error of the differences. A quotient of 4 in the latter column indicates a statistically significant difference between the mean achievements.

The table shows that Group A students presenting three or more units of vocational agriculture for college entrance are significantly higher in their achievement during the first quarter than students in Group B. The trend of the mean achievement during three quarters of college work is the same, although the difference is not significant.

From these facts it may be concluded that students who have had vocational

FROM these facts it may be concluded that students who have had vocational agriculture in high school may be expected to do as well if not better in their work in the College of Agriculture than students most of whom pursue the typical college preparatory type of high school curriculum. Such a result might be expected if more agricultural subject matter courses were included in the first year's work in the College of Agriculture. A somewhat different interpretation of the results may be recognized, however, when an inspection of the curriculum of the College of Agriculture reveals that most of the courses during the first year are in the basic sciences and English.

A further inspection of the accompanying table reveals that Group A students achieved a higher mean number of point hours than Group B students in English, chemistry, zoology, botany, and mathematics. The trend is consistently in favor of Group A students, but the differences are not significant from a statistical standpoint. The courses just mentioned are taken by students from other colleges in the

university as well as in the College of Agriculture. It probably may be concluded that Group A students could be expected to do as well as Group B students in any type of college work in which achievement in such courses is an index of success. Although this investigation presents no objective evidence to support the claim, it might be stated that students interested in taking vocational agriculture in high school probably may be expected to pursue college courses in applied science, and therefore the results of this investigation apply in indicating that in such college work there is no suggestion that high school vocational agriculture is a hindrance to successful college achievement.

While the study of vocational agriculture in high school may not be a hindrance to college achievement, it may cause difficulty so far as college entrance is concerned. College administrators may well investigate the facts before deciding that certain high school courses be discriminated against for college entrance. Just what type of work constitutes satisfactory college preparatory course is a question. There are too many variables and unknowns to make tenable a static classification of just what should and should not be offered for college preparation.

From the standpoint of the high school counselor it may be stated that if a student desiring to enter college has a use for the type of training afforded by vocational agriculture, there is no indication that the college achievement of the individual will be hindered thereby.

Many studies have been made in other states corroborating the results of this investigation. The various investigations are well summarized in a bulletin of the Virginia Polytechnic Institute entitled *The College Performance of High School Graduates of Vocational Agriculture as Compared with Others*. Vol. XXVI, No. 11, September 1933, prepared by Edmund C. Magill, Professor of Agricultural Education.

A quotation from this bulletin as to an investigation made in Virginia is as follows: "The answer for Virginia and the three Virginia institutions (University of Virginia, College of William and Mary, Virginia Polytechnic Institute) is, vocational agriculture is as acceptable for college preparation as many of the unquestioned traditional courses as they are taught at the present time in rural, large town, and private schools of this state; or even more acceptable."

In conclusion, a statement may be

Point of Comparison	Group A Students presenting three or more units of vocational agriculture for college entrance.		Group B Students presenting no units of high school agriculture for college entrance.		r a b	M-M a b	P.E. of Diff.	Diff. P. E. Diff.
	No. of Students	Mean	No. of Students	Mean				
Quality of work during first quarter of college work. Point-hour ratio	86	2.55	86	2.25	.45-.06	.30	.05	6.0
Quality of work during three quarters of college work. Point-hour ratio.	67	2.46	67	2.28	.42-.07	.18	.05	3.3
Quality of work in college English (3 credits). Point hours received.	66	6.68	66	6.05	.19-.08	.63	.23	2.7
Quality of work in college English (6 credits). Point hours received.	54	14.11	54	13.00	.26-.08	1.11	.42	2.6
Quality of work in college general chemistry (10 credits). Point hours received.	66	24.01	66	22.34	.52-.06	1.67	.58	2.9
Quality of work in college zoology (10 credits). Point hours received.	45	24.22	45	22.77	.37-.09	1.45	.82	1.7
Quality of work in college botany (10 credits). Point hours received.	58	24.31	58	23.44	.20-.08	.87	.92	.9
Quality of work in college mathematics (5 credits). Point hours received.	27	12.20	27	9.40	.26-.12	2.80	.71	3.9

recorded from another investigation by Hohenbaugh, L., and Proctor, W. M., entitled "Relation of Subjects Taken in High School to Success in College," as reported in the *Journal of Educational Research*, Vol. 15, pp. 87-92. From a study of the records of 716 students matriculating at Stanford University it was concluded that from three to five vocational units did not decrease a student's chance for successful college scholarship.

Organization of Young People

H. PAUL SWEANY, Strawberry Point, Iowa
IN Strawberry Point, Iowa, there has been a significant development in which many people of the state are interested. I am writing about it so that others interested may be able to use those features that they think would be possible in their communities. It concerns the organization of the young people of the community who are past high school into groups for the development of the finer side of their personalities through development of their particular interests.

The idea originated with a group of young people who met each Sunday morning in the Congregational Church for group discussion and organized social life. Knowing that other young people of the community would be interested in doing the same thing, the group decided to isolate an organiza-

tion not connected with any church, so that it would appeal to any young person in the community. An organization resulted which promises to provide worthwhile outlets for the energies of the young people of this community.

Certain ideas were presented to the group as worthwhile reasons for organizing a community group:

1. There is an increasing amount of time not spent in occupational labors.
2. In the present depression there are fewer people who find the road to higher education open to them.
3. Our present school system graduates its pupils from high school long before they are old enough to assume a position in life. We need to have in our community worthy activities that will stimulate growth after formal education is complete.
4. Decreases in income make it necessary for people to secure some kind of entertainment not commercialized; most of our present entertainment is commercialized.
5. Present forms of entertainment do not provide for self improvement. They are in no way creative, only entertaining.
6. Our community does not furnish any worthwhile opportunities to the young people out of school which will enable them to develop the finer side of their personalities.

A temporary organization was set up,

and a committee was selected to draw up a constitution. It provided that all the young people would meet together once a month. This was called the general group, and had as its officers a chairman, vice-chairman, secretary, treasurer, and chairman of the house committee. The vice-chairman acts as the chairman of the membership committee.

The constitution provided that as many sub-groups would be organized as there were mutual interests suggested by the membership. Six sub-groups have been organized. They are Literary, Forum, Dramatics, Sketching, Music, and Sports. The constitution provides that each group have a chairman, secretary-treasurer, director, house committeeman, membership committeemen.

The director is an adult who is selected from the community as one who will be able to direct the group activity along a definite and worthwhile line. One who is recognized as being particularly well fitted for the position and having the sanction of the group.

The chairman of each group and the chairman and secretary of the general group make up the central committee. They determine the policies of the group as a whole and provide for the activities of the monthly general meeting.

The vice-chairman and the membership committeeman from each group make up the membership committee. They are making a systematic canvass of the community, to give every young person an opportunity to join the groups interested in.

The house committee, composed of a committeeman from each group, selects the meeting place for the different groups and for the general group. The house committeeman is in charge of the meeting place the night his group meets. This committee has secured rooms above the bank building which the bank has allowed the group to use until further notice. The only rent is the lighting charges above the minimum paid regularly by the bank. This meeting place is satisfactory for all groups except the general group and the sports group.

Plans are being developed along the following lines:

1. Literary. This group will meet twice a month. On these nights it will discuss contemporary writing, beginning with the short story. Its leader graduated from the State University two years ago. A committee has been appointed to select a list of late books which may be used to form a book club. To become a member, a person must contribute a book from this list. Since the town does not have a public library, this method is being developed to increase the available books for those interested in reading. The secretary of this group is employed in the bank, and the books will be kept in this building. She will check them out.
2. Music. The music group meets weekly. This group will be divided into two groups; one an orchestra, directed by a young man who gives private music lessons in Strawberry Point and surrounding towns; the other will devote its interest to chorus singing.
3. Drama. The drama group will

(Continued on page 32)



Supervised Practice



Building a Course of Study in Vocational Agriculture Around Supervised Farm Training Programs

FRATE BULL, District Supervisor, Jackson, Tennessee

THE purpose of teaching vocational agriculture is to train efficient future farmers. In all effective vocational education one must practice in order to learn. It is upon this basic principle that teachers of vocational agriculture in Tennessee build courses of study for the agriculture classes. The method here outlined has been successfully followed by some of the teachers in Tennessee for the past three years, and has given satisfactory results.



Frate Bull

The two big steps in building courses of study around farm-training programs are:—(1) Guiding each member of the class in the making of his individual supervised farm-training program; (2) building the class work for the course of study from a summary of the supervised farm-training programs of all the members of the class.

What to include in each boy's supervised farm-training program.

The chief reason for having boys do supervised practice work in farming is to improve the abilities of boys. It is not to improve farms. To keep our thinking straight, we name and define three kinds of farm practices: (1) standard practices, (2) improvable practices, and (3) new practices. A standard practice is one that is being done on the boy's farm about as well as it should be done and in about the same way on all farms in the community, but the boy does not or cannot do it as well as it should be done. An improvable practice is one that is being done on the farm and in the community, but is not being done as well as it should be done. A new practice is one successfully done on a nearby experiment station or on a few farms in the community, but is not being done on the boys' farms.

Guiding boys in the making of individual supervised farm training programs.

Below is given the procedure that we follow with our first-year classes in agriculture. The goal is for each boy to plan a four-year, supervised farm-training program. This entire study is to be in class work. The boys build the course of study, while the teacher guides them.

1. Start talking supervised practice work when boys first come to class. Talk about money to be made and what boys may learn to do, and make boys want to set up a good

project training program and do supervised practice work.

2. As the first step in helping the boy select his supervised farm-training program, have him make an enterprise survey of his home farm and an outline of the type of farming he would like to fit himself to engage in.
3. As class work, summarize these surveys and rank them as to average yields, income per acre, etc.
4. Lead the class in an economic study of each enterprise shown in the surveys. This study should show what each enterprise contributes to food for the family, feed for livestock, soil fertility, and, above all, what part it plays in the type of farming the boys are fitting themselves to engage in. It should also include a study of present and future market demands for products from each enterprise and the adaptability of each enterprise to the available labor and the soil on each boy's farm.

In Tennessee the study of the four steps described above takes the nature of an orientation course, and each first-year class spends from three to eight weeks in this study.

5. At the end of the above study each boy makes his four-year, supervised farm-training program. To encourage boys to do better supervised practice work, we have classified their programs into first, second, third, and fourth class. A first-class program consists of a major cash enterprise, a contributory enterprise as feed for livestock major or cover crop for a crop major, a minor cash enterprise, and supplementary farm practices. A second-class program includes a major cash enterprise, a contributory enterprise, and supplementary farm practices. A third-class program includes a major cash enterprise and any one of the above. A fourth-class program includes only one enterprise. Our teachers say that many boys strive to have as high class supervised practice program as they can get.

6. Make an enterprise summary and a summary of the supplementary farm practice jobs of each boy's program.
7. Have boys list all the farm jobs and practices commonly followed in conducting each enterprise in the community.
8. Classify these practices as new, improved, or standard for each boy's farm.
9. Check each boy's ability to do the standard practices and leave out of the course all practices that boys know how to do.
10. Make the course of study by placing the jobs, problems, or practices on the course calendar so that these will be taught at the time the boys will be confronted with these ac-

tivities. This will create interest in managerial jobs, and at the time the boys will be prepared to perform operative jobs when these need to be done on the farm. Include in the course only the jobs that boys will need to know in carrying supervised farm-training programs through the first year. Leave other jobs in supervised practice programs to be taught in later years and at the time boys will need to do them.

11. If your course calendar is not full, fill in with seasonal farm jobs or problems not included in the summary of the boy's supervised training programs.

By this method of building courses of study and by continually teaching those practices that are in the boys supervised farm-training programs, the number of enterprises per boy in West Tennessee has increased 50 per cent, and the total project scope has increased 60 per cent. G. D. Cooper of Middleton, Tennessee, who has followed this plan for three years, had 24 boys complete 68 projects with a total of 98 acres, 37 animals, 125 chickens, and 9 different enterprises in 1932. A teacher in the same county who based his courses entirely on farm surveys had 19 boys complete 19 projects with a total of 34 acres and involving only two enterprises.

Benefits Derived from Vocational Agriculture Course

RAYMOND HOOKERT, Vocational Agriculture Student, Buffalo, Wyoming

WHEN I started to high school, I enrolled in vocational agriculture because my father is a farmer and I knew that I would follow farming when I finished high school.

In my first year I took animal production, the course offered to freshmen that year. For my project work I took poultry. I started with one hundred pullets. I carefully worked out an outline for my project in class, and closely followed it after starting my project. Using some new feeding practices which I worked out in my plans, I did very well with my poultry the first year. I believe what I learned about keeping records that first year was very important, as I think that record keeping is one of the farmer's most important jobs.

The second and third year I added bees to my project work, as I was interested in their culture and thought that I could make a good profit in the enterprise. I bought four colonies and the equipment necessary for keeping them. The first year I made enough to pay for the original cost of the bees and equipment. After getting a start, there was not as much expense in keeping them the following years. After the first year, the following years were very dry and not good for production of honey, but some profit has been made

each year. I have increased the number of colonies and have seven at the present time.

The fourth year of my high school work I added sheep to my projects, so I decided to get some information along that line as well as the other enterprises that I had taken for projects. I bought 30 head of lambs to start with. I worked out another set of plans for this project in my vocational agriculture class. The wool money received from the first year's crop, was nearly all used for running expenses; but since that year I have increased the number of my sheep until I have a band of my own.

I believe that vocational agriculture is a very important course in the high school for boys who plan to become farmers or ranchers. The project work gives a boy the chance to get started in some farm enterprises of his own, and at the end of four years he should have a good start for himself. It also gives him an opportunity to learn modern methods of farming. The project planning teaches him to plan before going ahead, to know value of records, and to know how to do a job before attempting it.

Making Project Work a Source of "Livewire" Activity Through Scoring

M. THORNTON, Instructor in Vocational Agriculture, Lexington, Alabama

ALTHOUGH many plans have been set up for aiding in making project work effective, I have found scoring to be one of the best aids to project activity. Many times it is necessary to have the students in vocational agriculture realize that a good, well-planned supervised practice program is a vital necessity. The importance of supervised practice can hardly be too strongly emphasized. Being unable to make visits as often as necessary necessitates a

checking up on project work through classes. Often projects will begin to lag if the proper emphasis is not placed on their importance. Scoring projects can be used as a device in getting a good check on just what is going on.

After deciding with members of the classes that we would work out a score card and use it in scoring all projects, we were interested to notice the comments from various members. When the discussion of scoring projects was suggested as a means of informing each student what the others were doing, many questions were raised, and as these questions were jotted down, the discussion was formed into a score card for scoring each of the projects. From the reactions of the students and various comments the following score card resulted. Each student makes a copy of the scoring of all projects in his class notebook, marking the first scoring "temporary" (T on card). Additional space is left for a final scoring which is to be marked just before the close of the project (F on card).

It should be understood that the first scoring is temporary and is to be followed by a final scoring just before the project closes. The scores given in the chart are some of the actual scores of projects.

Records, self labor, and interest hold their important places on the score card because they are so vital in good supervised practice work. Having their place on the standard as a guide is a good step in leading students to better activity or participation, since they will be constantly referring to the standard.

The student is scored on how nearly he performs the practices (all operative jobs) as they should be done. He is advised to keep his project as nearly in line as possible with the experiment station recommendations. The preparation, planting, and spacing are in accordance with recommendations.

Each student has a standard to use as a guide in carrying out his project.

This item holds a very important place in the scoring, since it has as its purpose the leading of students into correct project activity and operations.

Similar score cards were worked out for the animal husbandry and horticulture classes, which caused the students to realize that this phase of the work is very vital and important. The points on the score card are worked out in a way to place emphasis on the important items connected with project work. In view of the fact that it is very important for the teacher to have a definite line up on the supervised practice program, I should think that this is a valuable instrument that can be used by him in determining where he should center his work. It is not proposed at all to be a measure of the work done, but it is a device to lead students into more concentrated activity in supervised practice work.

What Will We Do About "Rent of Land"?

H. F. GHOLSON, Teacher of Vocational Agriculture, Clarksville, Tennessee

FOR many years, since January 1922 to be exact, I have been trying to reconcile the financial statement of the boys' farm work that I send to the state office with what really has happened. Not that I worry if "products on hand" seem to be valued at war prices or any such harmless optimism, but about the boy who says, "I do not pay anything for land rent or horse labor, I just give half the crop"; or "I work at everything there is to do, and father gives me all I make on two acres."

An unconvincing reply that "the book calls for all this, and I don't see how we are going to get around it" usually follows. The boy knows that a large part of the crops of the region are raised on a share basis, and his opinion of farm accounting, never very good, makes a new low. We are put in the position of not being able to make our figures tell the truth when we want them to.

No doubt a way out of this has been found by many teachers, but none would share their secret with me, despite persistent questioning at conferences. Only last year I arrived at a solution that seems reasonable, is a correct statement, and satisfies the students.

In the share rent case the boy keeps account of all that the landowner furnishes—hours of horse labor, tools and supplies, insurance on barns and so on, as well as the regular record of his own costs. When the crop is sold, the landlord's expense is subtracted from the value of his part of the crop, and the money left, if any, is the true "rent of land." In some cases this is a minus quantity.

Say the crop sells for \$150, and the landowner gets half. From this the boy subtracts all the owner's expense, maybe \$40, and enters \$35 as rent. This gives the boy his practice in keeping costs and shows him both sides of the account.

When the boy does other farm work for his land, he keeps a record showing the value of all of this in addition to the landowner's expense as before.

SCORE CARD FOR FIELD CROPS PROJECT

POINT TO BE SCORED (Each point scored on 100 percent basis)	Walter 3-a hay		Forrest 5-a cotton		Samuel	
	T	F	T	F	T	F
Plan: Temporary Detailed.....	90		80			
Records: Clean, neat and up to date.....	100		90			
Self labor.....	100		100			
Interest.....	95		80			
Part of three-year practice program.....	100		100			
Practice (All operative jobs).....	70		50			
Fertilizers, soil improvement crops, and terracing.....	100		60			
Preparation, planting, and spacing.....	90		20			
Ownership.....	100		50			
Varieties.....	100		100			
Standard being followed.....	50		50			
Total score.....	905		610			
Average score.....	82		55.5			



Farm Mechanics



Difficulty Analysis of Farm Mechanics Projects

R. B. FALL, Instructor in Manual Arts, Cincinnati, Ohio (Former Instructor in Agriculture)

Note: This article is one which summarizes research in the field of agricultural education. A separate phase of the same general problem was reported in *Agricultural Education*, February, 1932. C. R. W.

AN earlier report of a section of this study revealed the types of inquiries in farm mechanics coming from farmers to the office of the Department of Agricultural Engineering at South Dakota State College. That study showed the frequency of inquiry concerning different types of farm mechanics problems—such as woodwork, farm buildings, farm machinery. These were interpreted, and some suggestions given for constructing the course in farm mechanics in vocational agriculture. At the outset, it was evident to the writer that some of the problems raised were quite simple, probably not worth spending much time on by a farm mechanics class. On the other hand, certain of the problems raised in the inquiries were probably too difficult to attempt at all. Evidently, many ranged between these extremes. Setting up a course in farm mechanics requires attention to proper grading of curricular materials, of projects and activities to be used. The whole problem suggested the desirability of some attempt at a difficulty analysis of certain farm mechanics projects commonly used.

Plan of Study

A list of 30 rather common farm mechanics jobs was made up by the writer. These were arbitrarily chosen, and represented a reasonable range of difficulty: from "sharpening a plane bit" to "determining the insulating qualities of different materials." With this list of projects was furnished this scale of difficulty.

Key: (1) Very easy
(2) Quite easy
(3) Medium
(4) Quite difficult
(5) Very difficult (probably too difficult for such a course)

Items on the list were graded as to difficulty, by placing the appropriate number from the key after each item on the list.

These inquiries were sent to state supervisors and to experienced instructors in agriculture. A return of 68 replies from instructors, 81 per cent of those sent out, representing several midwest states was received. Two state supervisors who were competent in shop work replied, and a mechanics instructor at the college filled out the sheets. Thus were secured returns from two specific groups of people: instructors (68), and experts (3).

Results

Table I shows a comparison of the difficulty marks given by these two groups:

Table I. Number of Marks and Their Percent of the Whole Assigned to Each Degree of Difficulty for the 30 Projects by 3 Experts and 68 Instructors:

Degrees of Difficulty	Number and Percent of Experts' Scores		Number and Percent of Instructors' Scores	
	Number	Percent	Number	Percent
1. Very easy	3	3.0	160	7.9
2. Quite easy	22	24.4	475	23.2
3. Medium	25	27.7	760	37.3
4. Quite difficult	31	34.4	444	21.7
5. Very difficult	7	7.7	131	6.4
No check	2	2.2	68	3.3
Totals	90	99.4	2,040	99.8

This table shows the tendencies of these two groups of scorers to agree. The instructors were inclined to consider the problems just a bit easier, on the whole, than did the experts. The use of the numbers to represent degrees of difficulty of project made it possible to indicate, for each group checking, the relative difficulty of each item, and from these numbers, it was possible to assign ranks for each item.

Table II shows in abbreviated form the relative ranks assigned to 29 projects.

Table II. Ranks of Difficulty Assigned to Each Project by Composite Marks by Average of Each Group.

Project	3 Experts		68 Instructors	
	Ranks	Ranks	Ranks	Ranks
Determining season for cutting trees	29	29		
Sharpening plane bits	28	28		
Figuring windows for 20 hoghouse	25	24.5		
Applying paints	25	25.5		
Determining best shingles to use	25	23		
Soldering spout	25	22		
Caring for and lacing belts	25	18		
Filing castings	20.5	26		
Glazing 6 pane window	20.5	17		
Making feed racks	20.5	14.5		
Grinding valves	20.5	12		
Patching tug (harness)	16.5	21		
Laying out fence line	16.5	16		
Making stock loading chute	16.5	14.5		
Selecting and caring for lumber	16.5	13		
Making bulletin box	10	28		
Constructing hayrack	10	19.5		
Mortise and tenon joint	10	11		
Tempering cold chisel	10	7		
Plan water supply	10	4		
Make saw horse	8.5	2		
Make mitre joint	8.5	19.5		
Make cement water trough	5.5	10		
Draining small creeks	5.5	8.5		
Planning septic tanks	5.5	5.5		
Fitting saws	5.5	5.5		
Plan 3-sow hog house	2.5	8.5		
Set up corn picker	2.5	1		
Determining insulating qualities of materials	1	3		

In the table the larger numbers represent the least difficult. There is a significant correspondence as to difficulty between the two groups. The most significant disparities between the rankings of the groups are for such items as "making bulletin boxes" and "making mitre joints," the experts regarding either as considerably more difficult than did the instructors.

A simpler chart than Table II would doubtless be the more practical and usable. From the study, the following projects seem to possess, according to these returns, these respective difficulties:

Degrees of Difficulty

1. Very, and Quite easy
Sharpening plane bit
Applying paints
Soldering
2. Medium difficulty
Making feed rack
Grinding valves
3. Very, and Quite difficult
Fitting saws
Planning 3-sow hog house
Setting up corn picker

It is possible for an instructor to make some use of this rude scale for determining the relative difficulty of a project which he intends to use, by comparing the project in question with the rude scale.

The scale or concept here described may serve to make the instructor conscious of a range of difficulty in projects which he uses. Too frequently, projects too easy for one student or too hard for another are used. The scale may also be of some value in guiding class members to choose projects appropriate as to difficulty, according to their mechanic abilities.

Determining Scope and Content of Farm Mechanics Course

S. HUTCHCOCK, Instructor in Vocational Agriculture, Buffalo, Wyoming

THERE is a lot of difference in opinion as to what a farm mechanics course should contain.

In determining the scope and content of a farm mechanics course for any given community, it will be necessary to make some study of the conditions in regard to that kind of work on the farms of that locality. This study can be made in several ways. One method would be to make a visit to quite a number of farms and to study the conditions found in shop work. Another way might be to send out questionnaires asking the farmers the type of farm mechanics work they are interested in. Still another way would be to find out about farm mechanics work on the farms from the students who attend the evening and part-time schools put on by the vocational agriculture department, and outline the shop work from this information.

I believe however that the best method is to make actual visits to the farms

so that conditions can be noted first hand. In this way the things actually needed can be put down, and the course made up from this information.

In my own case I found, through visits to farms and from talking to all-day students, that farm mechanics work had been sadly neglected on most of the farms in the community. I found that information was needed on all general repair jobs as well as the arrangement for a farm shop and care and repair of tools.

I made up my farm mechanics course with these things in mind. In order to get the information to the adult farmers, I conducted evening and part-time schools along farm mechanics lines. These were well attended, and much interest was shown in them. The results obtained on the farms were very satisfactory.

Arranging the farm mechanics course for the all-day students according to what was found on the local farms should remedy the conditions that exist. With both adults and all-day boys working toward the same goal, much good should be accomplished. With a follow-up program the instructor can soon find out what has been done.

Making the Best Use of Reference Material in Teaching Farm Mechanics

E. P. LEGRAND, Midland, Ohio

ONE authority has said that the minimum standard for education should be to fit individuals for future needs and develop useful citizens. To establish a definite goal, may we adopt this as our aim in teaching farm mechanics. To make the most efficient use of references as an aid in reaching this goal, may we consider the following factors—purposes of references, securing references, organizing into the teaching outline, and their use in the classroom.

1. *Purposes of References*—The proper use of references should broaden and enrich the experiences of both the teacher and the student, by; (a) creating interest; (b) furnishing accurate and up-to-date information; (c) aiding in clear thinking unto understanding; and (d) developing an appreciation of a job well done.

2. *Securing References*—Lists of revised and practical texts can be secured from the state department of agricultural education and from the state supervisors. Extension departments and the United States Department of Agriculture publish revised lists of bulletins available. Farm papers and mechanical magazines publish lists of bulletins, charts, and blue prints furnished free by manufacturers of farm equipment and supplies. Suggested references are to be found in texts, job sheets, and bulletins. Teachers can exchange lists of new references at county, district, and state meetings. Many references are located by the student, and he may gain a valuable experience by writing for the reference himself as well as saving time for the teacher. The securing of new references should be regarded as a

long-time program, and new or revised material should be ordered when it becomes available.

3. *Organizing References*—The teacher's first job in organizing references should be to cull out old material. A plan for a poultry house made in 1905 may be as old and out of date as an illustration in a soils text of a farmer hauling manure to the field and leaving it in piles. At times there will be new references which do not serve any one purpose well. This is especially true of some material received from manufacturing companies. Such material should be discarded. As a guide in sorting out useful references, the following questions may be asked regarding the reference in question: Does it furnish accurate facts? Does it question or tell why? Is it up to date with the present, accepted approved practices? Does it create interest? Does it set up ideals or encourage better workmanship? It is true that the references are few that have all of the desired characteristics, but the reference should answer one purpose well or not be kept.

In organizing the class outline of work, the references should be worked into the outline itself. It may have the function of creating interest, furnish needed facts, or question why. The class outline should give the title and page of the article and the name, number, and volume of the reference. For some parts of the class work, more than one reference may be used. For example, giving facts, and the students asked to compare the value of the two references.

To further increase the efficiency of references, an index should be made, listing all the references to be used. The references should then be filed in such a manner that the teacher and student can find a given book or bulletin with ease. This can best be done by the use of filing cases or by placing the material in shelves and using index cards.

4. *Using References in the Classroom*—References can be most effectively introduced to the student in the assignment or the starting of a new job. The teacher may ask "John, what sources of information have we?" Or to develop interest in a new job, an article may be read to the class, such as, "Separator Should be Checked," page 27 of the March 1932 issue of *Better Farm Equipment and Methods*. The article tells how one farmer lost 43 pounds of butterfat in one month or 8 per cent of the production of the entire herd, by the use of a separator with worn parts and out of adjustment. Surely an article of this type, used at the beginning of the study of adjusting cream separators would help create interest in the job. This may be followed by questions of, "Jim, what is 43 pounds of butterfat worth?" and "Tom, what would be the value of 8 per cent of the butterfat from your project herd in one month?"

Much of the teaching in farm mechanics should be done through demonstrations. Sales experts state that 85 per cent of all sales are made through the eye. And the teacher is a salesman with definite things to sell. The demonstration in most cases should be done first

by the teacher and then by the student, in doing a shop job. Furthermore, the student should be able to demonstrate the job to others if he is to be a useful citizen.

Since most references are inferior in that they state facts only, the teacher should assume the responsibility of questioning, developing judgment values, encouraging progress, and developing individual ability. As a means to this end, skillful questioning is probably the one greatest contribution that the teacher can make toward student development. The teacher should always acknowledge tables, drawings, and charts used by the student. Make him feel that he found it himself, and soon he will be finding things for himself.

As a reference to the art of questioning, may I refer you to "Questioning During a Demonstration to Encourage Thinking and Understanding" by Dr. W. F. Stewart, in the June 1931 issue of this magazine, page 185.

At the completion of each job, all references should be returned to their places in the file. This will prevent loss of references, as well as improve the appearance of the room.

If the four jobs discussed here are done well in your using references in teaching farm mechanics, you should experience greater satisfaction at the close of the school day when you ask yourself, "Is this boy fortunate to have been in my classes today?"

Farm Mechanics in Agriculture

A. H. HOLLENBERG, California Polytechnic School

THE farm mechanics teacher is sometimes at a loss to know just what should be included in a farm mechanics course and what should be excluded. The nature and scope of the agriculture to be found in the community where the work is carried on will be the determining factor. Studies and surveys of the agricultural enterprises will point out the types and kinds of machinery being used as well as the type of buildings to be found.

Legitimate repair projects are good mediums through which agriculture may be taught. They may be of such a nature that the boy is taught agricultural procedure rather than making the work that of merely a repair shop. These procedures may take up the proper care, repair, adjustment, and operation of the various tools and machinery in use in the community. Unless the projects are varied and not too much repetition allowed, the scope of the course cannot be very broad.

Farm mechanics teaching in the final analysis is agricultural teaching, and many times it is difficult to determine where the teaching of the farm mechanics teacher leaves off and where the agriculture teacher begins. For instance, a hog house may be repaired or constructed by a boy in a farm mechanics class for some one other than himself, which would probably be termed a project in carpentry. However, if this same boy repaired or constructed and then used the house for a project of pigs,

(Continued on page 32)



Evening Schools



Teaching Farmers What Form of Production Credit to Use

V. G. MARTIN, Rural Education Department, State College, Mississippi

IN seeking to answer the question, what form of production credit a farmer should use, the first consideration that comes up is, who should answer this question? As is oftentimes the case in matters dealing with the farmer, the mistake of telling the farmer what he should do is likely to be made. It is distressing to reflect on what the results would have been if farmers in the past had seriously tried to do everything they have been told to do by those not farmers, including



V. S. Martin

vocational teachers and county agents. Success in farming, like success in other vocations, results from the decisions the farmer himself makes after weighing certain factors involved in making such decisions and using such information as he has in weighing these factors. Decisions are necessarily the result of weighing factors and using information.

Who should decide what form of production credit a farmer should use. No one but the farmer himself. But it may be said that he does not know enough to make a wise decision. Very correct that he does not *now*, but he can and will know enough *when*. Some one must get this information, carry it to the farmer, and present it to him so that he can understand it.

Then there should follow attention to determine what practices the farmer adopts as a result of the information presented to him.

Following is presented an account of how the vocational teachers of Mississippi have taught their farmers what form of production credit to use.

A CASE

On the night of March 2, 1934, fifteen farmers of _____ Community met to consider what form of production credit to use in 1934. Without preliminary ceremonies the teacher started the meeting by asking:

1. "For what purposes do you need credit this year?"
- Such answers as (1) "buy farm machinery"; (2) "buy fertilizer"; (3) "buy seed"; (4) "buy work

Type and Source of Loan	Amount of Loan	Cost of "B" Stock	Interest Rate	Length of Loan	Total Interest Paid	Appraisal fee Re-	Recording fee	*Other Charges	Total Charges	** Credits	Net Charge	Interest		Other Costs
												Actually Paid	Calculated Annual Rate	
Furnish merchant crop	\$300	0	25%	8 mo.	\$75.00	0	\$1.50	0	\$76.50	0	\$76.50	\$75.00	25%	\$1.50
Commercial bank crop	300	0	8%	8 mo.	24.00 16.00	0	1.50	\$3.50	29.00 21.00	0	29.00 21.00	24.00 16.00	8% 5.33%	5.00
P. C. C. crop	300	15.00	5 1/2%	8 mo.	11.00	3.00		3.50	32.50	15.00	17.50	11.00	3.9%	6.50
P. C. C. crop	150	10.00	5 1/2%	8 mo.	5.50	2.00		3.50	21.00	10.00	11.00	5.50	4%	5.50
P. C. C. crop	75	5.00	5 1/2%	8 mo.	2.75	2.00		3.50	13.25	5.00	8.25	2.75	4.2%	5.50

stock"; (5) "pay debts"; (6) "pay taxes"; etc. were listed on the blackboard.

Next the question:

2. "From what sources may credit for such purposes be obtained?" Some said it was doubtful if it could be obtained anywhere, but possible sources were listed on the blackboard: (1) "furnish merchants"; (2) "commercial banks"; (3) "private individuals"; (4) "life insurance companies"; (5) etc.; and (6) "production credit corporation" (this usually came last.)

3. "What factors would enter into determining what source of credit to use?"

Answers: (1) "Who would lend money to a farmer"; (2) "cost (interest, etc.)"; (3) "security required"; (4) "time of repayment"; (5) "time lapsing between application for loan and getting the money"; (6) etc.

4. "In the light of these factors which of the different lending agencies offers the best proposition?"

At this point expressions as to how much money each farmer desired was obtained from those present. Amounts ranging from \$50 to \$500 were given. The question was then asked, if the farmers present would like to take some of the cases given and see what the cost of getting such a loan from the loaning agencies would be. They were very eager to do this. The first case taken was one for \$300. In making this comparison the form presented below was used. Step by step, questions were raised and information given to answer these questions. Typical of these questions are the ones listed under their respective heads in Form 1.

Information to answer these questions was presented, and as a result the form was filled in step by step. From this the farmers were able to determine what the best source of credit was. Next was considered what the cost of different sized loans would be. Form 1 (blank) was used as a teaching device to answer both these questions, and it was filled in as the teaching progressed. As finally filled in it is presented herewith as Form 1a.

Experience in this method of dealing with farmers leads to the conclusion that they are entirely capable of making their own decisions. To tell the farmer

what to do is *promotion*. To give him facts pertaining to questions that concern him in a way that he understands, and assist him in applying these facts to his particular situation is *education*. Parenthetically, it should be added that progress in farming will have to result from dealing with the individual farmer's situation. What is good for all is unlikely completely good for any one individual. Ultimately it is the farmer who is educated that will get ahead. All agricultural forces should recognize this and shape their methods of dealing with farmers on an educational basis.

Teaching Farm Management to Farm Managers

L. B. FIDLER, Critic Training Teacher, Canal Winchester, Ohio

LAST spring I organized an evening school course in farm management. This is the third such outline in five years. The first question put to the group was; "What do we as farmers most need?"

Quite naturally the answer was, "More money." The next question, "What can we do to help ourselves to get more money?" Suggestions, about a dozen in all, were written on the blackboard. They were discussed and evaluated, and the most significant, according to the opinion of the group, were decided upon. These were: (1) More economic production, (2) more efficient marketing, and (3) a better knowledge of our business. Thus the course in farm management was decided upon by the group. In much the same way we arrive at a decision as to what line we shall pursue each year. One of the most useful helps in making an intelligent decision as to these courses is authentic community data from a community survey. From this can be cited local weaknesses and needs in such an effective way that the chances of wasting time on useless material and discussion are greatly lessened. For example, our choice of "Feeds and Feeding of Farm Animals" as the subject for last year was undoubtedly influenced largely by our survey, which showed an alarming scarcity of legume acreage in the community. So, likewise, the scarcity of farmers who are keeping farm accounts pointed directly to a vital need of the community.

Thus, growing out of conscious need of the group, the course is selected. From this to actual organization is a simple step. For example, in a former course and preparatory to the discus-

sion of livestock management the question was asked, "What mistakes in livestock management cause our greatest losses?" From the list submitted by the group the following four were decided upon as being most important and worthy of careful discussion: poor feeding, lack of sanitation, inefficient marketing methods, and careless breeding practices. Thus we were set for one large section of our course, not by the teacher's assignment but by the expression of the group. In like manner, the setting can be laid for an evening's discussion. As recently as last evening a teaching situation was created by submitting labor incomes and losses from local farm management records for the county in 1932. The figures were startling, yet authentic. Immediately the question arose, "Why the difference?" and again an outline for several evenings' discussion shaped into form, not by the teacher alone but largely by and with the group.

We have left, to my mind, the most important question for the last part of the discussion, namely, "Do such methods of organization and discussion get results? In other words, do the men do any thing about it? Or, do the students carry out supervised home practices?" In answer we might say, as some other has said, "Men are, mostly, boys grown up" and that our experiences are similar to those in our all-day classes. Generally speaking, however, since the men are free to do the things which they decide they want to do, they are willing and often anxious to try out the practices which they themselves decide would be of advantage on their own farms. In evidence of this I list below the supervised improved practices elected by the members of our last farm management course. It will be noted that several of them are of a trial nature, which fact will be referred to later.

Student No.

1. Enrolled in 40-bushel wheat contest. Top dressed 10 acres of wheat for first time with Cal-Nitro.
2. Used Sodium Chlorate to kill 3/4 acre of Canada Thistles.
3. Tried hill fertilization of corn for first time.
4. Hill fertilization of corn, with careful yield and cost check.

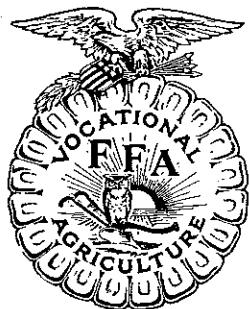
(Continued on page 32)

Form 1
Feb. 1934
FORM FOR ANALYZING PRODUCTION CREDIT COSTS

Type and Source of Loan	Amount of Loan	Cost of "B" Stock	Interest Rate	Length of Loan	Total Interest Paid	Appraisal fee	Recording fee	*Other Charges	Total Charges	** Credits	Net Charge	Interest		Other Costs
												Actually Paid	Calculated Annual Rate	
<p>1. For what purpose is money loaned?</p> <p>2. On what enterprises is money loaned?</p> <p>3. What is this money wanted for?</p> <p>4. What cash crops are grown?</p> <p>1. How is the amount that can be obtained determined?</p> <p>2. What collateral is required?</p> <p>3. What other requirements are made?</p> <p>4. How to get a loan.</p> <p>1. How much "B" stock does the borrower take?</p> <p>2. What are the obligations and privileges of this stock?</p> <p>3. What is "A" stock?</p> <p>4. How is P. C. C. capitalized?</p> <p>1. What rate of interest is charged?</p> <p>2. What determines P. C. C. rate of interest?</p> <p>1. When will loan be repaid?</p> <p>2. May loan be renewed?</p> <p>1. Will interest stop when loan is repaid?</p> <p>2. How much interest will actually be paid?</p> <p>1. What is the cost of appraisal and inspection to farmer?</p> <p>2. What does the P. C. C. pay for appraising and inspection?</p> <p>1. What is the customary charge for recording?</p> <p>2. What is the charge for recording P. C. C. records?</p> <p>1. What are the state requirements as to attorney examination of records?</p> <p>2. What are the P. C. C. requirements?</p> <p>3. What are the charges for record examination?</p> <p>4. What are the charges for acknowledgment?</p> <p>1. Bring forward all charges, including "B" stock.</p> <p>1. What value is "B" stock to the borrower?</p> <p>2. What losses should the P. C. C. suffer?</p> <p>3. What is the loan value basis?</p> <p>4. What is the liquid value of collateral?</p> <p>5. What losses have been suffered by other loaning agencies in the past?</p> <p>1. Deduct value agreed upon for "B" stock.</p> <p>1. What is the responsibility of each individual borrower in determining costs?</p> <p>2. What is the voting privilege of each borrower?</p> <p>Final Questions:</p> <p>1. What is the best loaning agency for this year?</p> <p>2. What is the best long-time loaning agency?</p>														

* Include attorney's fee, and interest on "B" stock if it does not earn any interest, and other costs.

** Value of "B" stock and interest on "B" stock if it earns interest.



Future Farmers of America



Improving Programs of Work for Local Chapters of Future Farmers in Ohio

EVERY chapter of Future Farmers at the beginning of the session formulates a program of work, if it is a chapter worthy of the name. Yet many of these programs lack thought, are poorly stated or conspicuously teacher-dictated. Lester N. Geiger, teacher of vocational agriculture in Ohio, has completed as a thesis at Ohio State, a study of how to evaluate the written program of an F. F. A. chapter and how to build it. His suggestions should be of value to many a reader.

His findings, in brief, were as follows:

1. Programs tended to be strong in providing social and recreational activities, training for leadership, and community service.
2. They were weak in training for thrift, encouraging scholarship, training in character-building, and training in publicity and promotion.
3. The score card is of value not for standardizing programs but for evaluating, discovering weaknesses and thereby developing a better balance.
4. He suggested long-time as well as annual objectives, but that these should be kept definitely separated.
5. Programs should be made up of carefully selected objectives or statements which are student-stated not teacher-dictated; which show definitely the scope or extent; and which can be measured objectively.

A score card was formulated from the nine purposes of the national organization, by cooperative work of four teachers and with the help of others. It was then tried out on 12 programs selected from among the better ones (not the best) in Ohio, and 15 instructors individually evaluated these programs on every criterion. There was decidedly more similarity than disagreement in the evaluations. Here is the program which ranked highest:

"PROGRAM NUMBER 6"

- Long-time program:
To arouse or create the interest of the farm boy in agriculture to complete a high school course in agriculture and if possible attend an agricultural college; to equip himself with a knowledge of the better farm practices that when applied will make farming a more profitable and desirable livelihood to pursue.
- Short-time program:
- | Item | Goal Set |
|----------------------------|--|
| 1. Supervised practice— | Two projects for each member, and supplementary practice. A long-time program for each member, with major projects continued and expanded. |
| 2. Cooperative activities— | Buy certified seed potatoes. Buy books. Buy purebred livestock. Sell seed potatoes. Exhibit at State Fair. |

- Conduct candy and hot dog stand at school activities.
Take charge of, arrange, and keep agricultural library in order.
Hold joint meeting with other chapters.
Help each other in case of sickness.
Help each other dig potatoes.
Put on F. F. A. corn show.
Cooperate with other school activities and raise standards of scholarship.
Raise money for chapter.
Help pay expense of judging team to state contests.
Keep scrapbook of all publicity.
Make farm more attractive and modern. (Name your farm.)
Pest Hunt.
Beautify school grounds. Clean up.
Build fence contest.
Test seed for farmers.
Give agriculture moving picture for community.
Stage county corn-husking contest.
Improve farm shop equipment.

3. Community service—
4. Leadership activities—
5. Earnings and savings—
6. Conduct of meetings—
- Send delegate to leadership conferences.
Enter judging team in state judging contests.
Enter F. F. A. public speaking contest.
Arrange for a study of Parliamentary Law.
Discuss one of the aims of the F.F.A. at each meeting.
Send delegates to F. F. A. Convention.
Send delegates to National Congress. Strive to have at least one State Farmer elected from local chapter.
See that F. F. A. insignia is worn by every member.
See that chapter owns a stuffed owl and the rising sun.

- Each member to earn at least \$75 and to save or invest earnings.
Meet two times a month during school and once a month during vacation.

7. Scholarship—
8. Recreation—
- Hold Green Hand and F. F. A. initiation and get things done on time.
Each member plan to graduate from high school and try to maintain an average of 85 percent.
Parent and son banquet.
Ping Pong.
Basketball.
Baseball.
Two picnics.
One long tour and camping trip.

Criticism of the Program
"It is observed that Program Number 6 has some very strong features in providing for social and recreational activities and in providing for training in cooperative activities; that it is strong in providing for vocational training in agriculture, in providing for training in leadership, in providing for community service activities, and encouraging scholarship; that it is fairly weak in providing for training in character-building and in providing for training in publicity and promotion. It is also observed that Program Number 6 is a strong program, as it scores a total of 823 points out of 1000. It is also observed that its weakest point is its provision for training in publicity and promotion, while its strongest point is its provision for training in cooperative activities."

It was remarkable how indefinite and ambiguous and immeasurable some of the items were as given in the programs.

SCORE CARD FOR THE EVALUATION OF PROGRAMS OF WORK OF LOCAL CHAPTERS OF THE OHIO ASSOCIATION OF FUTURE FARMERS.

Criteria for the Evaluation of Programs	Perfection Score	Score Your Program
Does the program provide for vocational training in agriculture for the members: 1. Through assisting in making and analyzing community surveys? 2. Through demonstrations and local project tours? 3. Through improving practices in production: 4. By encouraging each Green Hand or beginning student to plan a four-year supervised practice program? 5. Through setting farming goals, such as State Farmer degree, farm partnership on graduation? 6. Through setting financial goals?	150	
Does the program provide for training in leadership for the members: 1. Through required participation in F. F. A. meetings? 2. By providing that each member hold membership in one or more committees during the year? 3. By fostering public speaking contests and debates? 4. Through participation in state, county, and community judging contests? 5. Through participation in various community programs, as the Grange, local Farm Bureau, Farmers' Institute, Parent Teachers Association? 6. By providing opportunity to lead discussions?	150	

Criteria for the Evaluation of Programs (Continued)	Perfection Score	Score Your Program
Does the program provide for training in thrift by the members: 1. Through talks by bankers, insurance agents, or successful business men? 2. Through financial participation in projects? 3. Through investments in farming? 4. Through investment in personal improvement? 5. Through the establishment of thrift banks or bank accounts, or investment in life insurance?	125	
Does the program provide for community service activities by the members: 1. Through conservation of natural resources, such as soil, trees, wild life? 2. Through the beautification of grounds and buildings in the community? 3. Through the control of noxious weeds, and pests? 4. Through the promotion of the adaption of better farm practices within the community? 5. By clean-up campaigns?	125	
Does the program provide for social and recreational activities for the members: 1. Through banquets, such as parent and son, father and son, or family get-togethers? 2. Through providing entertainments for the eighth-grade boys, or a party for home economic girls, and similar parties? 3. Through a moderate amount of athletic activities, as basketball, baseball? 4. Through instruction in the profitable use of leisure time? 5. Through a chapter camp? 6. Through provision for teaching love of country life? 7. Through providing picnics for members? 8. Through fishing trips, hunting trips, swimming trips, etc.? 9. Through chapter libraries?	100	
Does the program provide for training in cooperative activities for the members: 1. In purchasing supplies and selling produce? 2. In conducting a chapter project? 3. In service organizations, such as spray rings, cow testing service, and the like? 4. By assisting community organizations?	100	
Does the program encourage scholarship among the members: 1. By providing educational tours and trips, both of agricultural and general educational value? 2. By encouraging each member to graduate from high school with grades in the upper 50 percent of the class? 3. By encouraging members to make an average grade in all subjects higher than the average made by those not Future Farmers?	100	
Does the program provide for training in character-building of the members: 1. By talks on moral and ethical problems? 2. By keeping attendance records of members at church or other religious meetings? 3. By acquaintance with exemplary men and their achievements, such as Master Farmers? 4. By doing a charitable act, such as giving to the poor, helping a schoolmate or a neighbor to do work when the latter is handicapped? 5. By providing library books featuring exemplary lives or traits?	75	
Does the program provide for opportunity for publicity and promotion by the members: 1. Through writing news articles for local, county, and school papers? 2. Through F. F. A. news bulletins or department circular? 3. By contribution to farm magazines? 4. Through F. F. A. displays at local, county, and state fairs and by window displays? 5. By the use of bulletin boards for display of materials of community interest? 6. By use of floats in parades, etc.?"	75	

Mr. Geiger suggests standards for stating objectives as follows:—

1. State objectives that require several years to accomplish.
2. Should be stated clearly and definitely.
3. Should possess a high degree of objectivity if possible.
4. Should be introduced by a verb which states the highest appropriate degree of relationship of the members of the local chapter of Future Farmers of America to the item.

5. Should be worthy of the objective, in terms of the community's needs.
6. Should show evidence of being student-selected instead of selected by the teacher.—E. C. M.

Leadership

"ALL manner of human activity requires leadership. Armies must have generals; steamships and football teams, captains; factories, managers; universities and nations, presidents. It is in the nature of things that some must

lead and others follow. Some people insist that leaders are born and not made, meaning that unless people are endowed with leadership characteristics, all the training in the world will be useless. They aver that leaders are developed through self-owned devices which will be brought into play by the individual's initiative. If we take up their viewpoint, we might as well give up the idea of more and better agricultural leadership. We are of the opinion that many more people possess leadership qualities in greater or less degree, than most people suppose. We agree that leaders are born—this seems common with the race—but they can also be made, in fact always are made by the experiences which they encounter, and can be made more or less artificially by providing the experiences which develop leadership. I believe that the F. F. A. is doing more in providing this experience than any other organization."—Walter Hunt, President, Tennessee F. F. A.

Better Days Through Better Ways

O. B. BOND, Principal, Masontown High School, West Virginia

I HAVE followed vocational agriculture programs with much interest for a number of years and I am convinced that the character of work hoped for is being more completely realized today than ever before. This is largely due to the fact that the type of instruction used puts students more upon their own initiative, leading them to participate in more practical projects and, in fact, teaches them to do by doing.

The programs are programs of realities: projects, problems, and practices that are a part of the boy's experiences today. That Future Farmer problems are realities is readily accepted when one observes the development of an egg-marketing subsidiary from two or three lone-handed producers and distributors into an organization producing and marketing at wholesale over \$325 worth of eggs per month.

Back of this \$325 monthly income the casual observer does not see the experiences many boys have passed through; the boys who, at some time in the growth of the organization have said, "It won't work," "It can't be done," "You can count me out," "I won't stand for that," or "You can take your old organization and go to it," but who are now boosters of the subsidiary. These boys have learned that co-operation pays, that figures don't lie, and that improved practices bring gain. Neither does the casual observer appreciate the strenuous effort of a thoughtful instructor, nor does he enjoy the satisfied expression of the individual consumer and the retail merchant who have been instrumental in helping to pave the way for a successful egg-marketing subsidiary.

That students learn to do by doing has been demonstrated in our vocational agriculture department this year in developing a cooperative chicken fattening, dressing, and marketing project. The original idea of such an F. F. A. project was proposed by one of the older members of our organization who saw an opportunity, because of his own experience in fattening and marketing

birds, for our chapter to finance its activities. The boy was willing to sacrifice some personal gain for the welfare of the local chapter. The boys took hold of the idea with greatest enthusiasm, but the discovery of a walking skeleton under fluffy feathers in the lot of birds first purchased, taught the boys that the purchasing department must know birds. It is also interesting to note the improvement in methods, practices, and skills and to see the effect these improvements made directly upon the amount of money received and the time spent. The difference in the market value of 12 birds was quite noticeable when it is revealed that the profit on the first lot of birds was \$1.45, and the profit on the last, well-selected lot, dressed and marketed, was \$4.29.

The development of the dressing department from a miscellaneous, haphazard group of workers into a systematic well-planned organization is a very important factor in determining the profit in dressing and marketing birds. The dressing time for the first lot of birds was 10 minutes per bird, and the labor return per hour was 7½ cents, while the dressing time per bird for the last lot was 3½ minutes, and the labor return 61 cents per hour. Again, the casual observer must stop to realize how much has been learned, how many practices improved, and how many skills developed in bringing about the marked difference in money value received for the two lots of birds.

To know that the vocational agriculture program is making a worth while contribution to the life of the boys who participate in its activities is but to see young, vigorous chaps discovering their own possibilities through experiences directed into their paths by thoughtful, purposeful, well-planned programs that give them a touch of the rich, fundamental experiences of their future lives.

The dawn of a better day is found in better ways. It is through better ways that vocational agriculture is seeking to help the youth of our country, and I am convinced it is doing it.

Organization of Young People

(Continued from page 23)

rector the wife of the local banker. This group will take up the study of plays, and will present dramatic production.

4. Forum. The public forum group will meet twice a month. It has as its adult leader a local banker who is wholeheartedly interested in the project and who is recognized as one of the most widely read and best posted individuals in the community.

5. Sketching. This group meets twice a month. It has as its leader a young lady who has had training in the Chicago Art Institute.

6. Sports. The sports group will have weekly meetings. The programs will be varied. For adult leader they have secured a local doctor, a graduate of Northwestern University.

Strawberry Point is a town of 1,100 population. It has more than the usual number of young folks between the ages of 18 and 30. Card clubs, dancing groups, and other interests of a lighter social type are developed perhaps in less degree than in the average com-

munity, partly because the facilities for holding dances are limited.

The community has four churches: Catholic, Lutheran, Methodist, and Congregational. Young folks from all four churches are active in the group activities. In fact, with very few exceptions, all of the 50 who have shown interest in the meetings are members of churches.

The rural territory around Strawberry Point has such rural organizations as a Grange and a local Farmer's Union. Four of the young people in the new group are regular Grange members; two or three are attending Farmer Union meetings and are from Farmer Union families.

In recent years there has been comparatively little Farm Bureau and 4-H Club work in this corner of the county. Six of the boys in the original 50 have been in vocational agriculture in high school. Practically all are high school graduates.

Farm Mechanics in Agriculture

(Continued from page 27)

it could not well be called a farm mechanics project.

To successfully teach farm mechanics as a part of the agriculture, it is just as necessary for a boy to properly operate a piece of machinery as it is for him to know how to repair it in the shop, learn its cost, and the parts that will probably wear first. A student may learn how to overhaul a mowing machine, but if he does not know how to operate and keep it up while it is on the job of mowing hay, then surely he has not delved far enough into farm mechanics to become the most successful farmer.

Other types of projects also enter into the farm mechanics course to make it well rounded. In California the project of land leveling and putting a piece of soil in the proper condition for alfalfa or other cultivated crops is a very necessary one. Irrigation systems and land drainage also come into the picture.

The farm mechanics field is too large and the scope of the work too broad for the shop to become a place for tinkering. If the boy brings into the shop a piece of machinery that needs repair, he has a definite job ahead of him, and it is a medium through which much teaching can be done. However, if this boy only takes the machine down, loses a few parts, and then replaces the parts without making a complete and workman-like procedure of the project, he is not only learning very little that is worth while but is forming a poor habit. Tinkering is puttering, and should be kept from our farm mechanics courses as nearly as possible.

The job that the farm mechanics teacher has ahead of him is that of aiding the boy to become a better citizen and a successful farmer.

Teaching Farm Management

(Continued from page 29)

5. Nitrate of Soda top dressing, with cost and yield check.

6. Sowed Sudan Grass for first time as annual forage crop.

7. Used Sudan Grass for first time as annual forage crop. Also kept a year of cost-account records on seven work horses.
8. Used limestone and sowed alfalfa for the first time, on a dairy farm.
9. Checked corn yields on 16 acres of hill fertilization.
10. Joined the 40-bushel wheat club. Won an award. Purchased certified seed corn and joined the 100-bushel corn club. Checked fertilized and unfertilized areas on 10 acres of corn.
11. Kept cost accounts on 12 acres of corn.
12. Tried side-dressing of corn.
13. Broadcast vs. hill fertilization of corn as a trial.
14. Used varying amounts of fertilizer on corn, with careful yield checks.
15. Constructed and used sun porch for baby chicks as a method of overcoming diseased range conditions.
16. Kept farm accounts for first time.

It is evident that corn fertilization tests ranked high in the list of improved practices. This may be explained by stating that this practice had been seriously neglected in the community and that strong evidence from the state experiment station was presented favoring such improved practice. Furthermore, this type of practice offered a comparatively objective type of activity. The teacher and his all-day class in soils and farm management the following autumn checked the yields carefully on these tests. Incidentally this provided a very interesting setting for teaching fertilizers to this class. The data were collected and placed on charts by the boys as a part of their regular class and field work. These charts were afterwards used by the men in giving a report of their past year's experience before the adult group during the succeeding course. By many these reports were regarded as the high spots of the succeeding course. Student number 4 has continued the tests for the two succeeding years and has not only determined some worthwhile facts for himself but has attracted considerable local interest to his work. Some of the results of this year's tests were visually presented at our annual Community Fair this year by this year's class in soils and farm management. The piles of corn were brought into the high school building and attractively arranged, with data to show yields and fertilizer cost and returns for each analysis of fertilizer as compared with no fertilizer.

In conclusion, the author does not presume to be outlining the method for teaching evening classes. It is presented as a way to teach such groups, and is the outgrowth of actual experience, with grateful acknowledgement to the theories, experiences, and advice of others. It grows out of a sincere conviction that (1) evening schools offer one of the richest fields for vital teaching, (2) that teaching should grow out of the actual problems of the group, (3) that the teacher need not be a fluent lecturer but should prepare himself for challenging leadership, and, finally, (4) that supervised and improved practices can be secured, but they must grow out of the genuine need and interest of the group.