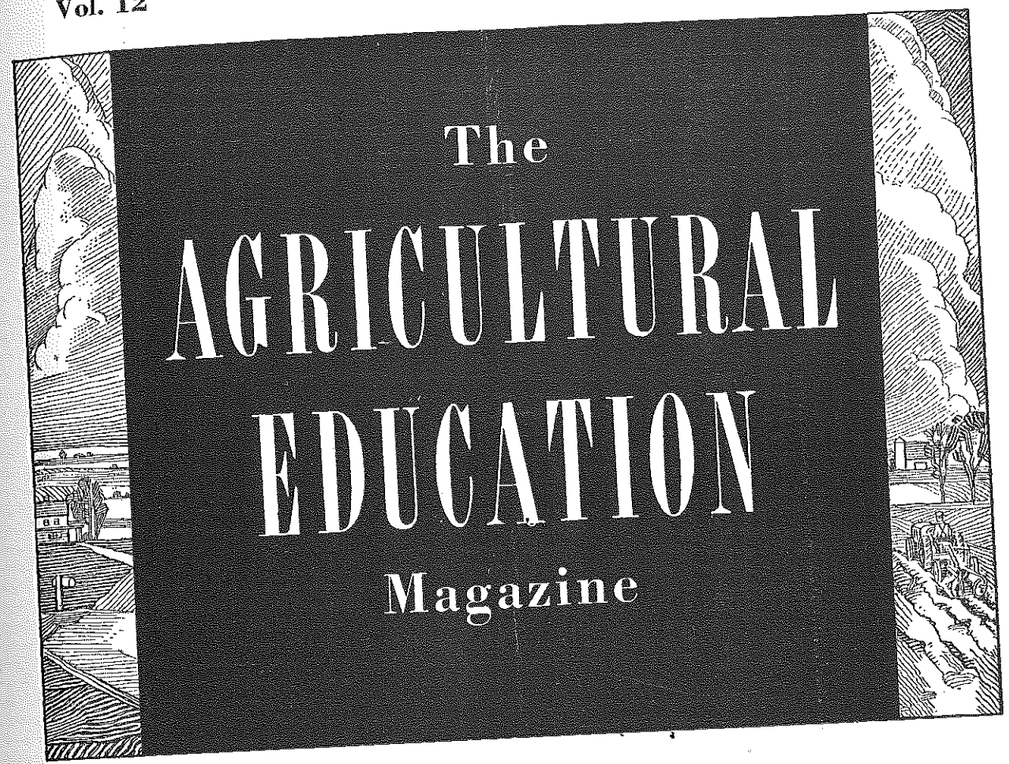
Vol. 12 October, 1939 No. 4



The AGRICULTURAL EDUCATION Magazine

Agriculture affords as stimulating a challenge to intelligence today as does any one of the callings demanding higher education.
—*Charles H. Judd.*

The Agricultural Education Magazine

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

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

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Editorial Comment

The Renaissance in Course-Building in Vocational Agriculture

MOST professional workers in agricultural education are aware that we are in the midst of a period of change with respect to theory and practice in building courses of study in vocational agriculture. For several years rumblings of discontent with courses organized on a logical subject-matter basis have been heard. More recently these protests have become more numerous and articulate and have been accompanied by constructive work in course-building of a new and better type. All of us are aware of the emphasis that has been placed during the last few years on cutting across subject lines and on letting boys' supervised farming programs determine in large degree the content of the courses.

The last five issues of this magazine have carried articles by three teachers of agriculture in three different states. These teachers have based their writings on actual experiences with a type of approach to course-building that is in line with recent trends mentioned. Because of current interest in these course-building trends it has seemed desirable to present an evaluative point of view as a follow-up of these articles. At the editor's request, Dr. G. P. Deyoe of Michigan State College has written the article which appears in this issue under his name. In it he discusses critically the approaches made by the writers of the articles in the series mentioned. The practices heretofore described are weighed in the light of current best theory in course construction. The difficulties teachers frequently encounter in carrying out these newer practices are pointed out.

Many readers have, no doubt, found that some of the course-building procedures advocated by the writers of the series of five articles are not in line with their own interpretation of present accepted principles. Some will disagree with the evaluation made by Dr. Deyoe. Others will wish to add other points on some aspects of the problem. We invite further discussion of the subject in the columns of this magazine.

Democratic Ideals in Agricultural Education

IN THE early stages of any course all good teachers give special attention to the formulation and acceptance by pupils of high ideals of attainment. Pupils who reach advanced levels of achievement are those who have first set up such goals for themselves.

The way in which goals are stated is more important than many realize. Should a boy determine to become the "best" farmer in the community, or should he aim at developing into as efficient a farmer as he is capable of becoming? Ideals of Future Farmers, such as "becoming the best feeder of beef steers in the class" or "being high man on the winning livestock judging team," are of little value. Only one boy can possibly reach such goals. The others must of necessity "fall short." But it is possible for every boy in class to reach or even exceed certain goals or standards if stated rightly.

It is fortunate that advancement to higher degrees in the F. F. A. is based on the extent to which certain goals or standards are attained. With the exception of the two higher degrees it is theoretically possible for every member to reach them. In some states awards for judging are designated as "superior" and "excellent." Progress along this line is also being made in some F. F. A. shows.

It follows that this principle should carry over to teachers in setting goals for themselves. We recently heard an address by a school administrator who stated that he did not want a teacher who aspired to become "the best in the system." He said, "Such teachers have a tendency to emphasize activities that will lead to self-promotion and they might not be inclined to help other teachers. I want a teacher who will *work with* other teachers to make school experiences significant as is humanly possible to help boys and girls achieve more abundant lives." It might be possible in a mediocre system to actually become the "best" teacher and still fall far short of the ideal that should be set.

It is trite to say that individual competition has been greatly overworked in education. Yet real achievement will come in proportion as teachers and pupils set goals of attainment, not in terms of being better that someone else, but in terms of their own potentialities and the needs and possibilities of achievement in the task at hand.

Sarcasm—Never

WHETHER the target is "dumbness" in class work or misbehavior, sarcasm is always a boomerang. The real victim is either the teacher himself or the cause he represents. Sarcasm brings resentment on the part of the intended victim and often of the other members of the class. It sometimes appears, at the moment, to get the desired result but never gets co-operation. It is a savage and cowardly weapon and leaves salt in an open wound.

Often a teacher has a misunderstanding of all the facts involved, and sarcasm leaves no retreat except apology. The pupil feels that the teacher has abused his position of authority. If the teacher postpones the caustic statement he is tempted to make, he will never make it but will attempt something constructive instead.

While the teacher seldom intends deliberately to hurt the pupil, whenever I hear sarcastic remarks by any teacher I feel embarrassed and sorry for that teacher. I am sure the pupils lose respect for the teacher and often resent it.

Any reference to limited intelligence, whether true or not, is out of place in the presence of other pupils. Personal defects should be discussed privately, if at all. A failure to discuss a question well may be due to a failure to study, but often it is the result of poor assignments by the teacher or poor instruction. Lack of interest has definite causes which require inquiry, but sarcasm closes all doors to further discussion. The "smarty" and the boy who misbehaves will tempt you to ply the lash, but put down a black mark against yourself if you yield to the temptation.

After more than fifty years, I still remember with resentment certain smart and sarcastic remarks of teachers who did not wait to understand the situation on which they passed snap judgment. Unfortunately, these remain in my memory more clearly than even the kindly things spoken by other teachers who never said anything unkind. Yet I loved some of the strictest teachers who had to put me in my place quite frequently but who remembered that I was human.

The use of sarcasm becomes a habit which finally expresses itself almost automatically, with the teacher scarcely conscious of its use. Be kindly, even when you must chastise. How many boys have left your department because they were "sore" at you for unnecessary personal remarks?

Finally, constructive and positive treatment is always preferable to the negative, and sarcasm is never constructive. Sometimes a successful teacher apparently ignors temporarily the situation which tempts him to be sarcastic, but remains alert for a better solution. Nothing is lost by this delay, and often the boy shortly falls in line with the program under way and even with a voluntary apology. Each teacher must watch his step lest he fall into this undesirable habit.—Editorial, *Massachusetts Staff Letter*.

Contributions of Leading Americans to Agriculture

ARTICLES in the series on "Contributions of Leading Americans to Agriculture" have not appeared in the last three issues. This break in the series was necessary because of unforeseen difficulties experienced by some of the authors in the preparation of their articles. With the November issue we will resume this series. Thus far, ten articles have appeared.

A. M. FIELD

Methods

The Cross-Sectional Course in Theory and Practice

G. P. DEYOE, Teacher Education,
Michigan State College

"Any theory and set of practices is dogmatic which is not based upon critical examination of its own underlying principles."—Dewey.

G. P. Deyoe

THE cross-sectional plan[1] of organization for courses in vocational agriculture is being considered favorably by increasing numbers of persons in agricultural education. As a significant movement of this type gains momentum, it is to be expected that differences will arise both in theory and practice. In the opinion of the writer, these variations are to be encouraged, as they may lead to new levels of understanding and to refinements in procedures.

In a series of articles on the cross-sectional plan which appeared in recent issues of this magazine, three teachers in three different states (Minnesota, Louisiana, and Illinois) have provided many suggestions of value.[2] In the present article, an attempt is made to examine these contributions from the standpoint of (1) similarities and differences in practices, (2) the consistency of their suggestions with the theory and underlying principles of the cross-sectional plan as recognized by its leading exponents, and (3) the adequacy of the suggestions for meeting the difficulties commonly encountered by teachers who undertake the cross-sectional plan. It is probable that other persons, in turn, may disagree with these reflections and evaluations. The writer wishes to encourage further discussion in which these differences are indicated.

A Starting Point With Respect to Theory

At the outset, it is well to present the major premises which comprise the theory of the cross-sectional plan of organization as it is conceived by its leading exponents. These premises and their underlying principles serve as a "frame of reference" for certain portions of the discussion which follow. *This is not to imply, however, that these premises in themselves are necessarily fixed and permanent.* Future research related to processes of learning and further experience with the cross-sectional plan may lead to desirable modifications.

Many persons who still think of the cross-sectional plan of organization as a uniform pattern will not find much substantiation from the articles in question. In the general suggestions for organization, however, there is agreement that courses should be built around activities which emerge from programs of supervised farm practice. It appears that this is the important point for orientation for all teachers who undertake the cross-sectional plan. Despite the fact that the terminology in certain portions of the articles may be quite clear to the writers and to others who happen to be schooled in the same "pedages," the fact remains that teachers are frequently confused at the outset by a multiplicity of detail, or by terms with various shadings of meaning to different persons. It appears relatively unimportant, for example, whether the groupings of activities are designated as "jobs," "learning units," "teaching units," "problem areas," "abilities," or just plain "units." In one article, readers are likely to be confused by the use of jobs and problems as terms which are interchangeable.

In one article in particular, the course materials are subdivided and organized in considerable detail. In fact, the general impression of many teachers who inspect them is that the detail and mechanics of the organization are confusing. In another of the articles, the general impression may result that little or no preliminary planning of the course is desirable or possible, but that it should unfold for each boy as he progresses. In the opinion of the writer, the latter is more nearly the ideal, but it should not be interpreted as meaning that there should be no planning in advance on the part of the teacher. Herein is one of the major difficulties which confront teachers in the development of course materials. How to make plans in advance which are sufficiently flexible to meet the emerging needs and growing interests of the pupils and how to avoid a "hit or miss" type of instruction are two problems associated with the development of cross-sectional courses.

IT appears that techniques of course-building need further elaboration than was possible in the articles in question or in the present article. It may be that for certain teachers, the transition from the conventional organization of courses to the cross-sectional plan should be a gradual process and not an "either—or" proposition from the start. For example, teachers may be encouraged to distribute over a period of years the activities for one or two major farm enterprises found in the programs of supervised farm practice of the students. Some teachers have been doing this for some time, and it seems comparatively easy for them to move further in the direction already started.

Teachers who are somewhat reluctant to tackle the cross-sectional approach may be encouraged by the fact that much of the best teaching as it has been

theory of the cross-sectional course. These are as follows:

(1) It (the cross-sectional plan) provides for flexibility in meeting student needs and interests as these are associated with the programs of supervised farm practice and other activities in vocational agriculture.

(2) It permits a gradation and distribution of course materials in keeping with successive levels of understanding as each boy gains maturity and experience.

(3) It makes possible the organization of activities which approximates a "farm-as-a-whole" approach to the study of agriculture from the start. Presumably, by learning to farm "the way that proficient farmers farm," the boy gains an integrated understanding of the complex interrelationships of the activities in a well-planned farm business.[3]

The first two premises are grounded in principles of learning which most informed persons are willing to accept as sound. Suffice it to say that these principles imply that learning at its best is a process of experiencing and one which involves the higher thought processes in the intelligent solution of problems in keeping with needs, interests, and varying levels of maturation of the learners.

The third premise is one which is being given increased emphasis in various phases of education. As yet, there is room for considerable disagreement relative to the interpretation of integration and the ways of bringing it about. The integration of the products of learning is commonly recognized by educationists as being basic to intelligent behavior. The "integrating" individual senses underlying meanings and interrelationships, meets new situations by utilizing appropriate experiences, and is himself undergoing continuing growth in the process. It appears that integration is most likely to occur in the activity type of course in which thinking and acting are going on more or less simultaneously within relatively broad units of the environment.[4] Learning, for each individual, thus becomes the process of continual rebuilding on higher and higher levels.[5]

Should Mechanics and Terminology Interfere?

While this is admittedly an inadequate treatment of the basic theory of integration, perhaps it is sufficient for proceeding with a consideration of the

with minor modifications. Teachers who are inclined to seize upon courses developed elsewhere and use them mechanically in their own situations should recognize that the best preparation for the cross-sectional approach is their own active participation in the development of course materials.

Making Teaching Functional

There is general agreement in the articles in question that courses in vocational agriculture should be centered upon problems which emerge from the activities of the students, and that experience is the essence of the learning process. Considerable emphasis is also placed upon planning by individual students with respect to formulating goals and selecting jobs or activities for both short-time and long-time programs. These recommendations are in keeping with one of the major premises of the theory underlying the cross-sectional approach, namely, that course materials should be organized around the needs and interests of the students. Such procedures and techniques are basic to making instruction functional.

In the articles, recognition is given to orientation as an essential step in the development of students. There seems to be general agreement that orientation is of value for broadening the horizon of students, for familiarizing the students and parents with the program in vocational agriculture, and for directing attention to student needs and to the facilities and opportunities on the home farms in initiating programs of supervised farm practice.

Relative to the recommendations presented in one article, the question might be raised as to whether or not the giving of a "broad overview of American agriculture" may reach the point where it is no longer effective, particularly if it is based upon reshuffled subject matter *about farming* with little or no provision for functional relationships *with farming*. It would seem that *there are many opportunities thruout all years of vocational agriculture for making meaningful these broad relationships* and that this would be more effective than extended concentration in the first year.

In the activities which provide opportunities for functionalizing instruction, primary consideration in the series of articles is given to the utilization of jobs and problems from the programs of supervised farm practice. In one case, it appears that the resulting instruction for each boy will be somewhat restricted, due to the narrow interpretation of supervised farm practice. With the exception of one article, little mention is made of the possibilities of incorporating various activities of farm mechanics into the programs of supervised farm practice and of its relationship to the "farm-as-a-whole" approach.

In the series of articles, only passing mention, at best, is given to activities which contribute to functionalized instruction *in addition* to those directly connected with the individual programs of supervised farm practice. Group projects, group aspects of other projects, community services, certain activities of Future Farmers of America, field trips, school fairs, and demonstrations include possibilities for activities which will serve to broaden the base for nature. Further exploration of the possibilities along these lines is needed.

One wonders why the students interested in entering occupations related to farming should be "filtered out" before they enter the second year of vocational agriculture, as was recommended in one of the articles. If they are eligible pupils for the first year, there appears to be no logical reason for excluding them thereafter. Besides, orientation to related occupations may be included to advantage at various places in the ensuing years, as well as provisions for instruction of value in certain of these occupations. Faint signs are now in evidence that the concept of vocational agriculture is broadening sufficiently to encompass various agricultural occupations, instead of restricting it solely to the vocation of farming as such. To be sure, there is need for developing techniques which will provide functionalized instruction for these occupations related to farming, if consideration for them is to be included in vocational agriculture.

The role of the teacher in leading students to plan their programs and define their problems has been given consideration in the articles in question and is recognized as being important in the functionalization of instruction. Teachers in general have not sensed the need for directing their students in *problem-finding* as a part of the process of providing instruction which is functional. Consequently, in some instances, students and teachers as well have gained the impression that the cross-sectional approach is a "do-as-you-please" process. Teachers should realize that it is their responsibility to stimulate and guide their students to distinguish between passing whims or transitory desires and needs of primary importance.[6] *Many teachers* who find it difficult to make the transition from the subject-matter concept of vocational agriculture to that of instruction based upon the "farm-as-a-whole" approach *are themselves poorly oriented to the practical problems of farming and fail to sense the interrelationships within a well-balanced program of farming.*

The Place of Individualized Instruction

The foregoing comments have included certain elements which deal with individualized instruction, and thus the stage is partially set for the discussion which follows. Most teachers who undertake the cross-sectional approach become increasingly aware of differences in levels of ability and in the needs of individual pupils. Some of them are uncertain as to instructional procedures which may be used for meeting these individual differences.

It is encouraging to note that the articles under consideration provide suggestions of value for individualizing instruction in vocational agriculture. Considerable emphasis is placed on having the students individually analyze their needs, set up objectives and standards, formulate long-time plans, find satisfactory solutions to their own problems, and make applications in the programs of supervised farm practice. Furthermore, it is implied that each boy should proceed on a level and at a pace in keeping with his capabilities. *Guidance* is indicated as an important responsibility

In the actual direction of the learning process, an interesting contrast is provided by two of the articles. In one, it is suggested that the differences in boys and their situations "lead them to select project programs from very different combinations of enterprises," with an implied need for each student to work independently most of the time. In the other, emphasis is placed on the determination of the "community farming type" which leads to "participating programs" that usually have many elements in common. Teachers in general find it difficult to find a satisfactory compromise between these two schools of thought. Many of them seem to have the impression that individualized instruction implies the elimination of most or all types of group activity. Most of these teachers feel inadequately prepared for handling even a moderate amount of individualized instruction.

When viewed from one angle, there is need for a separate course of study for each student in vocational agriculture. On the other hand, these individual programs are likely to have many elements in common, and *there appear to be possibilities for group activities which will serve individual needs to advantage,* stimulate increased interest, and lead to a type of thinking and achievement not likely to occur if each student works independently practically all of the time. Also, consideration should be given to group instruction wherever practicable in order to utilize the time and energy of the teacher to best advantage.

As we grasp the full significance of functionalized instruction which is based on broad programs of supervised farm practice and other activities, we are more likely to find elements for which a high quality of instruction can be provided in groups, and to note places in which the learning process proceeds best with each individual working by himself or in small groups. The present tendency on the part of teachers is to adopt an "either—or" attitude. In instructional practices in vocational agriculture, it would appear that we are far from realizing the potentialities which exist in an effective combination of the two. Perhaps, in time, better criteria will be found for differentiating situations which are best handled by having "Mark Hopkins on one end of the log and the pupil on the other" from those which can be handled effectively by group activity.[7] Incidentally, very little consideration in these articles is given to the potentialities of the supervisory visits to the home farms for individualized instruction.

How Integration Takes Place

As previously mentioned, one of the premises prominent in the theory of the cross-sectional plan is that it renders more likely the integrated development of each student for vocational proficiency in farming. In the series of articles, integration is mentioned or inferred in several places, and a few suggestions are provided for instructional activities which have integrative values.

In one case, the course itself is called an "integrated course." This is a questionable use of the term, as it appears more appropriate to use it in describing the unified development of the individual on successively higher levels. Its

fusing; in fact, this use led one of the writers to make the anomalous statement that a given procedure is of value because it aids the student "in unifying the integrated work."

Among the suggestions provided in the articles, the following appear to have some positive bearing on integration: (1) analyses and long-time planning by students in connection with programs of supervised farm practice, (2) provision for varied and extended experiences thru expanding programs of supervised farming which ultimately touch all important phases of farming and contribute to an integrated understanding of the complex interrelationships in a farm business, and (3) frequent evaluations of progress by individual students, with special emphasis on indications of a growing awareness of the interrelationships in a unified program of farming.

In one article, it is indicated that the activities of each student are centered almost exclusively around three to six "projects." From the illustrations given, it appears that some of these may be of minor importance and it is likely that many are narrow in scope. It does not seem likely that such programs of supervised farm practice will result in a very high level of integration for the individual boy with respect to the entire farm business. It appears that broadened programs of supervised farm practice must be adopted by individual boys, supplemented by other activities, if the greatest possibilities of integration are to be realized.

It is well to emphasize that the cross-sectional approach in and of itself will not guarantee integration. Rather, the instructional techniques which accompany it are of major importance. In fact, it is possible that learning may become more disconnected than under the conventional organization of course materials; altho in general the cross-sectional approach appears to have certain inherent advantages in this connection if they are properly utilized.

IT SEEMS that, in addition to the previous suggestions, there is considerable merit in the "apprenticeship-with-Dad" philosophy in connection with a considerable portion of the supervised farm practice, as indicated in one of the articles. It is important, of course, for the father to appreciate the desirability of allowing increasing responsibility on the part of the boy in decisions and plans for major aspects of the farming program. Some phases of supervised farm practice, especially projects of the improvement type which are broad in scope, have special possibilities in this connection. Examples are the following: (1) the keeping of complete farm accounts, followed by interpretations, recommendations for improving the operation of the farm, and participating experiences in carrying these recommendations into practice; (2) planning complete cropping programs which provide desired feeds and cash crops and include consideration for the conservation and improvement of soil resources; and (3) assuming increasing responsibility for managing and improving major livestock and crop enterprises.

Various instructional activities with groups and individual students can do much to promote integration. Encouraging broad generalizations, directing their thinking in making varied applications of these generalizations, stimulating them to unify and interrelate, and guiding the learning process in such ways as to preserve sequences and internal connections are worthy of consideration. At various times, the "principle of balance" in farming operations should be given consideration, especially with respect to the factors which contribute to profitable production within enterprises and between enterprises, and to the relationships between production, consumption, and abundant living.[8]

It seems well to emphasize that integration is a continuing process, and even tho much is done during the years when the boy is enrolled in day-school classes in vocational agriculture, there will be further possibilities in follow-up instruction of various types. Integration and how to bring it about are deserving of careful consideration and extended development. The cross-sectional organization of course materials, if accompanied by techniques which contribute to integration on progressively higher levels, has potentialities for educational development which as yet have scarcely been touched in practice.[9]

Evaluating Student Progress

In one of three articles contributed by one of the writers of the series under consideration, a somewhat detailed system for evaluation is outlined. This system includes a rating scale for evaluating personal development, and mention is made of the use of check lists of approved practices applied to programs of supervised farm practice. In an article by another writer, mention is made of the use of questioning in individualized instruction, which to some extent has possibilities for evaluating as well as directing the learning process. Self-evaluation is mentioned or implied in at least two of the articles. Some of these suggestions for evaluation are worthy of consideration, although *additional attention should be given to the evaluation of as many as possible of the specific types of changes in the students* which are facilitated by the courses in vocational agriculture.

It would appear that too great an emphasis is placed on a numerical point system in connection with the evaluation guide described in detail in one of the articles. It is doubtful if a highly quantitative technique of this type is as reliable as one in which considerable emphasis is placed on qualitative evaluation. So far as the present writer is aware, there is no valid procedure for determining the numerical weighting which should be applied to personal traits, to each approved practice put into effect, and to various other phases of the program of supervised practice. Furthermore, the emphasis on amassing points may have the effect of directing the attention of the boy away from the more important features of achievement which are represented in growth in abilities and other desirable changes in his own makeup.

Perhaps too little attention is given to the various uses of evaluation in improving instruction. In one of the articles the use of an evaluation guide as an aid to integration was mentioned, but this may or may not be a significant outcome. It would seem that emphasis should be placed on the use of various techniques for measuring the types of growth implicit in recognized objectives, for diagnosing pupil difficulty, for individualizing instruction, and in other ways for improving the instructional program.

The problem of how to evaluate pupil progress under the cross-sectional plan is one frequently raised by teachers of vocational agriculture. Fundamentally, the principles which are basic to acceptable forms of evaluation are no different from those which should be applied to instruction under other forms of course organization. It is possible that the lessened emphasis on the acquisition of subject matter and increased emphasis on development in terms of abilities and attitudes has made evaluation more difficult. Furthermore, emphasis on individual growth has made clear the need for measurement devices which will make these types of evaluation possible. If the cross-sectional plan has focused the attention of teachers on the need for improved procedures in evaluation, this is perhaps one of its most significant contributions.

Final Statement

Let it be said in closing that the contributors are to be commended for the many valuable suggestions which are included in their articles. Each writer has made some distinctive contributions which supplement the others to advantage, and there is sufficient variation to stimulate further thinking. The writer realizes that the comments which are included in the foregoing paragraphs may in places do injustice to the intentions of the persons in question, as he recognizes fully the limitations of words and statements in discussions of this type. If in some small way the strengths and weaknesses are seen more clearly, to that extent progress has been made.

"There is no inherent opposition between theory and practice; the former enlarges, releases, and gives significance to the latter; while practice supplies theory with its materials and with the test and check which keep it sincere and vital."—Dewey.

1 Various other terms are used separately or in combination for designating this general plan of organization. Among these are "horizontal," "unified," "integrated," and "individualized." Probably the term "cross-sectional" is the most appropriate as a term descriptive of the general way in which the materials are organized.

2 Raine, Thomas W., Vol. 11, No. 11, May 1939, pp. 208–209; Vol. 11, No. 12, June 1939, pp. 226–228; Vol. 12, No. 1, July 1939, pp. 8–9. Hebert, J. O., Vol. 12, No. 2, Aug. 1939, pp. 28–29; Baysinger, Walter, Vol. 12, No. 3, Sept. 1939, pp. 48–49.

3 Raine, Thomas W., "A Minnesota Plan of Individualized Learning." *The Agricultural Education Magazine*, Vol. 11, No. 11, May 1939, pp. 208–209.

4 Everett, Samuel (Editor), *Integration—Its Meaning and Application*, D. Appleton-Century Company, New York, 1937. See especially Chapters I and XIII.

5 Kilpatrick, W. H., *Remaking the Curriculum*, Newson and Co., New York, 1936. See especially pages 28–30.

6 An excellent discussion of the place of the teacher in guiding the selection of experiences is included in *Education and Experience*, by John Dewey. (The Macmillan Co., New York, 1938.)

7 An excellent treatment of procedures for effective instruction in groups and with individuals is provided by Frederick, Ragsdale, and Salisbury in *Directing Learning*. (D. Appleton-Century Co., New York, 1938.)

8 For a further elaboration of the "principle of balance," the reader is referred to *Profitable Farming and Life Management*, by W. J. Fraser, the Interstate Publishers, Danville, Illinois, 1937.

9 For further references which deal with integration, the reader is referred to Everett, Samuel (Editor), *Integration—Its Meaning and Application*; Kilpatrick, W. H., *Remaking the Curriculum*; and

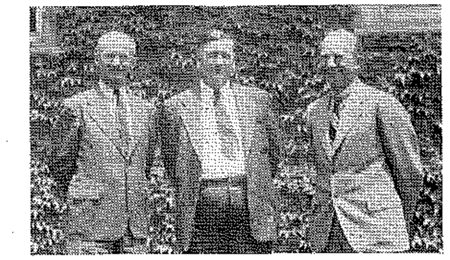
Seventy-Seven Years in Vocational Agriculture

BIRON E. DECKER, Adviser,
Agricultural Education, Erie County, Pennsylvania

THE Keystone State Association of F. F. A., during the annual convention at State College in June, called upon H. C. Fetterolf, J. S. Champion, and L. R. Guillaume to appear on the stage before 1,200 F. F. A. members. The three pioneers were greeted by Robert Craig, president of the association. He gave a brief résumé of their 25 or more years of service to agricultural education in the state of Pennsylvania and awarded each a beautifully engraved gold medal indicating 25 years of service in their respective fields.

Mr. H. C. Fetterolf, Chief of the Division of Agricultural Education, Department of Public Instruction at Harrisburg, has served in his present capacity for 25 years. Mr. Fetterolf, commonly known as "Chief," has guided our ever-expanding program in vocational agriculture, with a knowledge of what has gone before. In response to the presentation, Mr. Fetterolf stated that the future looks bright and that the next 25 years present greater opportunities and even greater expansion in the field of vocational agriculture.

J. S. Champion, also a 25-year eligible, has a 26-year record, having served as supervisor of agriculture at Honesdale, Pa., 1913 to 1920; county supervisor of agriculture for Lycoming County, 1920 to 1926; State Supervisor of Vocational Agriculture, Department of Public Instruction, 1926 to 1936, and now senior adviser of vocational agriculture for Allegheny County. Mr. Champion, too, has an enviable record of splendid service. His supervisory position in Lycoming County was the first of its kind in the country.



Left to right: J. S. Champion, H. C. Fetterolf, and L. R. Gillaume

Mr. Guillaume has served as supervisor of agriculture in Pennsylvania over a period of 26 years, all in one school, Troy, Pennsylvania. Troy has probably won more state honors than any other department where vocational agriculture is being taught.

Maps of Home Farm Used Effectively as Teaching Device

R. F. TRAUTLEIN, Trainee,
Cornell University, Ithaca, New York

DURING spring recess I had the opportunity to participate in what I consider to be an excellent procedure for teaching farm management in Agriculture IV, while doing student-teaching at Dansville, New York, under the direction of Mr. Ray M. Finch.

In the fall, the Agriculture IV class is taken on a series of field trips to the home farm of each boy. After these trips, each boy draws a map of his home farm on a piece of heavy wrapping paper, 3 ft. by 3 ft. or larger. All maps are placed on a rack in the classroom.

After the maps are completed, each farm is studied with respect to the various farm management efficiency factors. A large chart is made with the figures for these efficiency factors for the labor, capital, and other factors of all the farms. This chart is hung on the rack near the maps.

Each boy writes a plan for the management of his home farm for the coming year, giving reasons for any changes that he proposes. These plans are checked and graded by the teacher and returned to the boys. Every boy is then called upon to present his plan to the class. While this is being done, his map is placed at the front of the room so that he may point out certain things to the class. After he has read his plan, the class questions him and criticizes his ideas. He must defend his plan, or revise it.

This appears to be a good method of using the home farm as a basis for subject-matter content in vocational agriculture. Moreover, management of the boy's home farm is improved. The boys learn to think intelligently in making decisions. They learn to formulate and express their own ideas on farming programs.

Nu Chapter of A. T. A. Active in Developing Teachers of Vocational Agriculture

HERBERT J. RUCKER, Secretary,
Urbana, Illinois

NEWS of Nu Chapter of Alpha Tau Alpha (University of Missouri) gives us a good word picture of what a group of men interested in their training for a definite work are doing for themselves. Compare the 14 activities listed in their program of work for 1938-39, with the nine major purposes of Alpha Tau Alpha. These are:

Activity Program for 1938–39

1. Reflect the purposes and aims of Alpha Tau Alpha thru live chapter activity and membership initiative.
2. Stimulate interest and growth in Alpha Tau Alpha by conducting semi-annual initiations, inviting desirable and qualified men who have chosen to teach agriculture.
3. Meet each second and fourth Tuesday evening in Mumford Hall, with something of a challenging nature on each program.
4. Become better acquainted with vocational teachers and students over the state during the time they are in Columbia attending spring contests and conference in April.
5. Sponsor the Hotel D'Cot, annual dinner, and registration, and assist in other ways possible at the vocational-agriculture contests in the spring.
6. Award each individual winning 1st, 2nd, and 3rd in the project-planning contest gold, silver, and bronze medals
7. Award the school winning 1st in the project-planning contest a large 3- by 5-foot F. F. A. banner.
8. Add to the Alpha Tau Alpha bookshelf in the library as money is available.
9. Have a full page for the chapter in the Savitar.
10. Enter a float in the Farmers' Fair parade.
11. Prepare a booth for the educational exhibit held in connection with Farmers' Fair.
12. Become acquainted with genuine professional ideals, thru talks by men in the field and discussions on important problems.
13. Give each member a chance to get an unbiased character rating of himself, by means of each member thoughtfully and carefully evaluating every other member according to a rating card adopted by the chapter.
14. Administer the fund left in trust by the University F. F. A. for the purpose of awarding a scholarship to the outstanding Future Farmer entering the College of Agriculture each of the next succeeding three years.

The Purposes of Alpha Tau Alpha

1. Increase personal acquaintance and friendship among men in agricultural education—

    Thru regular meeting.

    By fraternal relationships and initiation ceremony.

    Thru special semi-social affairs and trips.

    By more contacts with men in the field.

2. Develop a highly professional attitude toward the teaching of agriculture.
3. Provide an opportunity for training in leadership.

    Give training in parliamentary procedure.

    Develop ability to lead discussions.

    Learn to speak in public.

    Give preparation for F. F. A. advisership.

4. Give an opportunity to discuss informally the problems which are vital to members of Alpha Tau Alpha.
5. Provide means whereby closer contact between students and faculty may be attained.

    Regular meetings more informal than classes.

    Social meeting and other activities sponsored by the fraternity.

6. Secure national linkage among those interested in agricultural education—thru chapters of Alpha Tau Alpha.
7. Offer direct service to vocational-agriculture students and their activities.

    Assist at spring contest at Columbia.

    Circulate service letters.

8. Stimulate membership to higher personal and professional ideals.

    Inspirational talks by members, faculty, and men in the field.

9. Assist students in determining their qualifications as prospective teachers of vocational agriculture.

Supervised Practice

H. H. GIBSON

Thirteen Years of Growth in Supervised Practice at Trenton, Missouri

C. O. RODA, Teacher,
Trenton, Missouri

C. O. Roda

FIFTEEN years ago a project to me was a farm enterprise, handled by a boy who was expected to use it, plus some information on agriculture acquired in the classroom, to carry out this project. If the project was to be livestock, an animal from the home farm would probably be used. If a crop was the project, good farming practices would be expected of the student and the location of the field could be of his own choice. In other words, a project was something tied to a course in vocational agriculture, if such a course was to be taken.

Ten years ago boys found out that they could show livestock successfully. This offered a means of making money, and also answered the project requirement. Boys interested in feeding and showing animals found that livestock on the home farm wasn't good enough, and soon better animals were being purchased elsewhere. These practices of securing satisfactory livestock from good breeders in many instances led to the production of better livestock on the home farm, either by the parent, by the boy, or by both.

Six or seven years ago many teachers became aware of the fact that boys should develop a flock or herd of livestock of their own so that when the time came for them to shift for themselves, they had a start. Along with this thought came the practice of farming on a small scale. They would thus gradually grow into the farming business. Max Oyler, a recent graduate, who will be 21 next year, has the following layout: three Spotted Poland China brood sows that will farrow soon, 20 grade Shropshire ewes that have been crossed with a purebred Southdown ram, and a purebred Southdown ram. He has planted 25 acres of wheat, and will plant 40 acres of corn in the spring. He also has purchased 20 acres of land.

We Supervise Differently Now

Troubles in supervision here have been just as marked as anywhere else and they are very much as mentioned by Ronald Brooks of Minnesota in his September, 1938, article on "Difficulties in Conducting Supervised Practice Work." I occasionally recognize as a project 25 chicks that are to be brooded under an electric light bulb or 1/6 of an acre field that is to be used for potato production. Some records, particularly from such projects as these, are anything but good. On the other hand, many boys, the first year, have asked to go out with me for the purpose of buying a purebred calf, gilt, cow, or sheep. Before the end of the year several of these boys have, with their parents, gone with me to find a purebred sire for their home livestock. Sometimes a number of such boys have bought an animal co-operatively.

Before the Trenton Chapter of Future Farmers was organized in 1933, there appeared to be a lack of pride in their coming profession. Since organizing, a feeling of loyalty has developed and evidences of leadership have appeared. They appear to feel that if they are to be the future farmers they must do some farming. I doubt if projects are tacked on to the agriculture course any more. In many instances, were it not for the projects, a course in vocational agriculture most assuredly would not be taken.

Some Cases in Point

Nine years ago, Vernon Crawford enrolled in agriculture. Soon afterward, he purchased a purebred Hereford calf from E. J. Moberly, a purebred Hereford breeder in this community. This calf was fattened and shown at the American Royal where a good prize was won and some publicity received. Similar projects of calves and grain crops followed. Vernon's brother Dale came along and continued the good work. Dale made contest teams that went to Columbia and even won the school's second achievement medal. Donald, another brother, soon came to high school and he had behind him junior project work. Donald took part in about all the activities that the department could offer, going so far as to be one of the members of the state livestock judging team. Donald is assembling a herd of purebred Hereford cattle, and now has three cows and two young heifers. He is also feeding three beef calves for the fall shows.

What happened in the Crawford family happened in the Tom Veatch family and in the Mike Bay family. Ovid Bay went one step further when he won the first achievement medal of the high school. In two years, the spotted hogs owned by the Bays apparently came from "nowhere," and became the most talked of herd in the community. In each of these families there have come to my classes at least three boys, and more are coming. The last brothers have had a decided advantage over the ones who came before. Then, too, this kind of work is catching and some of the neighbor boys have picked it up. Ralph Jobe, a second-year student, has two fine purebred gilts, six grade Shropshire ewes, a third interest in a fine purebred Southdown ram, and is going to plant his father a good purebred Spotted Poland China boar. This year Carl, a brother, started a junior project with a gilt from Ralph's last year's project.

We have taken many prizes at the big shows where we market our livestock. This showing and selling of market animals will probably be continued. Most other projects are modeled after those which are most successful. Boys raising potatoes try to follow the plans of top producers, some of whom have produced 250 bushels per acre. Other crops are handled in a like manner. When pastures are needed as supplementary projects the boys plant them.

Supervision has, like "Topsy," just "grown up" here at Trenton. One boy left his brother a good practice or perhaps gave it to a good neighbor. My part has been to approve these practices. This year there are a great number of new boys following the practices of their predecessors, and all that I have done is to help them find what they want, or to acknowledge that their judgment was good under existing circumstances. My greatest worry is generally to attempt to avoid possibilities of losing money. Good practices have made business good, and apparently the work of the boys has been a good source of publicity for the department of vocational agriculture.

Statistical Comparison, 1926–1939

In the fall of 1926, there were 12 boys in the vocational-agriculture classes. In 1937 there were 55 and in 1938 there were 75. The membership of the Trenton Chapter of Future Farmers numbers 85 and it is the largest paid-up chapter of Future Farmers in the state of Missouri. The following reports of different years selected at random show some changes. Where boys originally had one project, now they may have two, three, or more.

In 1925–26 there were eight sow-and-litter projects, two calves, and one mare-and-colt project. The profit produced was $1,063.11. In 1928–29, there were 20.5 acres of corn, 69 ewes, two sow-and-litter projects, 97 chickens, 1.5 acres of potatoes, one acre of gardens—and the total profit amounted to $1,073.64. In 1932–33, there were 64.5 acres of corn, 4.5 acres of potatoes, 50 acres of soy beans, three acres of Sudan grass, two acres of popcorn, eight acres of oats, three acres of lespedeza, one acre of tobacco, one-tenth acre of onions, five sow-and-litter projects, 1,356 chickens, one-fourth acre of sweet corn, and one-fourth acre of strawberries. The total profit amounted to $1,578.00.

In 1936–37 there were seven sow-and-litter projects, 26 ewes, 19 beef calves, two veal calves, 16.7 acres of corn, 510 chickens, 1.5 acres of potatoes, one-fourth acre of garden and 10 acres of oats. The total profit was $3,110.64. In 1937–38 there were 18 beef calves, 10 sow-and-litter projects, 23 ewes, 1,600 chickens, and over 37 acres of grain, potatoes, and grapes. The total profit was

A Joint Vocational Program that Results in Improvement Projects

M. THORNTON, Teacher,
Lexington, Alabama

PROJECTS carried co-operatively by boys and girls are the outgrowth of a joint program of the departments of vocational agriculture and homemaking of Lexington high school during the past school term. The program was planned jointly by the two vocational teachers, Anne Buis and M. Thornton, and Mr. N. C. Turpen, high-school principal.

The lessons included in the plans were based on needs of the pupils as shown from Lauderdale County statistics and two surveys, one a personal survey and the other a survey of the home. After studying and developing a unit on personal improvement the students planned a social affair which provided opportunities to practice the social graces learned. To conduct a study of home improvement the students made a survey of the grounds in order to show up existing conditions. They later made detailed plans for improvements which included sodding lawns, planting shrubs, building walks, painting the house, repairing roofs and door steps, and doing other needed jobs. The principal's new home located on the school grounds was used as a joint class project to demonstrate the proper placement, selection, and arrangement of plants. The school nursery furnished a portion of the shrubs which were used in all projects; however, students are beginning to plan nursery rows of their own in the home garden. Over 4,000 cuttings are in the process of rooting at this time. Practically all the home projects are conducted jointly by the boys and girls, usually neighbors or relatives. In order to maintain nursery plots at school the girls have made cuttings and the boys have lined them out in rows to be rooted this summer.

The Senior I Class planned and completed a joint school project of planning and outfitting the school cafeteria kitchen. The girls made plans for placement of the range, sink, refrigerator, cabinets, and shelves, and the boys installed the water boiler, range, and built-in cabinets which aided in making a complete kitchen.

Efforts have been made to get joint projects established at the homes in order that boys and girls might have opportunity to plan and work together and use information taught at school. In this way the students can carry school experiences into the home and onto the farm. Thus teacher and pupils are partners in raising the standards of living.

Typical Joint Projects

Long-time projects carried out by several students from one farm are possible and worth while. One such group is composed of one brother and two sisters of a landlord, with two brothers of a tenant. This group is conducting projects which will be completed in five to ten years. All five of these pupils have studied or now are studying vocational agriculture and vo-

include two home improvement projects, landlord's home and tenant home; half-acre nursery project; three acres of sorghum and trench silo; building kitchen cabinets in both houses; laying out and maintaining a flower garden; supervision of erosion control system; building doorsteps; and adding a home library.

Another joint project carried out by a brother and sister both in vocational classes resulted in considerable home improvement. Four new rooms and two porches have been added; hardwood floors laid; new kitchen with built-in cabinets planned; and a sink with hot and cold water installed. A hydraulic ram delivering water to two homes with an overflow into the stock lot was installed, and an old building was converted into a brooder house to grow 200 baby chicks. At present the boy is working toward completing the bathroom and septic tank and plans to assist in painting the house, while his sister is planning and assisting with interior decoration of the home.

Other joint projects by brothers and sisters include building a living-room suite, building porch swings, building lawn chairs, planning kitchens, putting out rows of shrubbery. Every home has its own particular needs.

THRU individual and group conferences teachers have learned that many of these jobs and improvements so important to better living at home would not be done if the projects were conducted by only one person. This type of project work enables the teachers to be of more service to the family by approaching problems related to the whole family.

The projects will aid in creating more comfortable and cheerful living conditions, more love for the home, and possibly help in preventing an undue amount of migration from the rural areas to cities. The projects will aid in solving health problems which could hardly otherwise be reached. The joint work seems to assist in orienting the students better to school and home relationships. Thru these lessons and projects, along with conferences and visits to the homes, it might be possible to direct the trend of thought toward national problems, finally "tieing" the home and school so as to be in harmony with worth-while progressive movements.

A few years ago our school area was limited to a radius of approximately five miles. At that time 92 percent of the boys enrolled in agriculture were from families who owned their own homes. At present the radius of our school area is about 10 miles. This expansion has materially changed the picture. Our school enrollment has doubled and only 65 percent of the boys taking agriculture belong to families owning their homes. It is the hope of teachers and students that thru joint project work we can raise the standard of living in homes of tenants as well as farm

Book Reviews

American Farming, Agriculture I, by Andrew Boss, Harold K. Wilson, and William E. Peterson, edited by A. M. Field, and published by Webb Book Publishing Company, 526 pp., price $3.50. This is the first of a projected series of four texts and is designed to give the students a better appreciation of the problems involved in agriculture. The book is designed for the last year of the junior high school and is perhaps more informational than vocational. It is the hope of the authors that the book will enable the teacher to carry the work on in such a way that the students will have time to formulate their interests and build a good background for more definite work on a strictly vocational basis in the senior high school. Farm practice work for students enrolled in Agriculture I should be appropriate for the age, experience, interest, abilities, and needs of the student. For many students it will serve as exploratory occupational experiences, while for others farm practice work will be in the form of one or more production projects. The nature and scope of the work in farm mechanics for Agriculture I are left to the discretion of the teacher. Twenty-nine chapters, covering the broad field of plant and animal production, provide practice work for exploratory occupational experiences, as well as a basis for continued study. Farming as a Vocation, The Growth of Plants, Beautifying the Home Grounds, and Vocational Guidance in Agriculture are chapter headings, in addition to the usual treatment of production and management problems in the broad field of plant and animal production that give an insight into the purposes the authors had in mind in formulating the text. Agriculture I should prove helpful to both student and teacher at the pre-vocational level of agricultural education.—A. P. D.

Farm Management, by Hudelson, Robert R., published by The Macmillan Company, 396 pp. illustrated, price $1.80. The text is written for pupils of high-school level and approaches the problem from the viewpoint of the farm operator. The treatment is divided into three parts, namely: Organizing the Farm Business, Operating the Farm Business, and Farm Finance and Farm Accounts. Forty-three tables are included. Nineteen tables are included in chapter eight, which deals with budgeting the feed supplies. This chapter should prove especially valuable to students planning livestock programs. The selection of content is sound, the text well written and easily read. *Farm Management*, by Hudelson, should prove helpful to teachers of vocational agriculture and others interested in studying and teaching the problems included in this broad field.—A. P. D

Rustic Construction, W. Ben Hunt, published by the Bruce Publishing Company, cloth-covered at $1; paper-covered at 50c. Seventy-eight pages are devoted to the preparation of articles of rustic construction under the headings of slab furniture, interior fixtures and equipment, fences and gates, arbors, bridges, wayside stands, road signs, and

V. G. MARTIN

Farmer Classes

J. B. McCLELLAND

Professional Growth Thru Evening-School Instruction

By
"A Former Evening-School Instructor"

Editor's note: This article is published anonymously, at the request of the author, for personal reasons which will become obvious to the reader as the article is perused. The exceedingly important role of the superintendent of schools as a co-operator in adult farmer classes is pictured so clearly as to warrant the suggestion that teachers bring this story to the attention of their local administrators.

FOR those who are teaching evening-school groups for the first time, a few of the experiences and some of the philosophies which have been developed during 20 years of evening-school instruction may be a source of comfort and of some assistance.

My First Evening School

How well I remember my first class. With fear and trepidation I had ventured forth to invite the farmers of the neighborhood to attend a series of meetings which were to be held in the agriculture rooms of the local high school. The experiences of that first meeting are indelibly impressed upon my memory. Would anyone come? What could I do, as a professional agriculturist, to help those men who might come?

Two men came in before eight o'clock. Nervous as I was, I made those two men welcome and launched into conversation relative to crops, weather, and the prices of products. The two men started inspecting the department and asking questions about what I was trying to teach the boys of the neighborhood.

Before 8:30, seven more neighbors came in, and until 9:30 the seminar continued in the form of a discussion of what was being done to instruct their sons and the other neighborhood boys.

In desperation, I finally launched into the objectives of the course for the men, and attempted to determine what I could do to help them and what problems we could take up to make our series of lessons successful.

I had been instructed by my state supervisor and teacher-trainers concerning the methods of conducting and developing an evening school, but for me none of the rules seemed applicable. When I was well started in my plan for conducting helpful meetings, one of the members spoke out, "Boy, you can't do much for us old dogs, but why don't you help us develop a program for our community? Let us help you with the kids."

My despair was complete. The only response left for me was to ask, feebly, "What do you suggest?"

In immediate reply came the suggestion that I take the full time at the next meeting to set forth the program that was being followed in the instruction in agriculture for their boys.

The sessions were progressing smoothly when the third one was interrupted, about the middle of the period, by the entrance of a farmer well known for his glib use of blunt criticism well decorated with superlatively profane diction. What he wanted to know was why he had not been invited and what his neighbors were doing at school without him. We tried to explain, but I was a faltering, much disturbed missionary of agricultural knowledge to a group of heathen.

Several weeks later, the pastor of the community church met the profane member and remarked, "I understand you are attending the night class at the school. Are you learning anything?" Imagine my embarrassment when the answer was, "We are not learning anything, but that young fool teacher is finding out all we know."

After 14 sessions had been held, the rush of spring work closed the term, much to my pleasure and relief. No one could have made me believe at that time that I would hold 19 more evening schools!

That first school had one important and happy outcome for me. I learned that I had about a dozen tried and true friends to whom I could turn for help, advice, and the use of their farms to aid in the instruction of the boys in the regular day classes.

The second winter was less strenuous and quite successful, and when a "call" came to a higher paying position, it was with deep regret that I severed relations with the "gang." When I had the pleasure of aiding a forum discussion in that locality 16 years later, I was happy to find that the leaders of the group were former members of that first evening school.

A Superintendent Helps Out

When I entered my second position, an evening school was not to be included in my local program, but after the first visit of the state supervisor, I discovered that he had "squealed" to my new superintendent. He had reported that I had taught evening schools, and had requested that there should be no time lost in starting this important part of a balanced program of community education.

Superintendents have a way of refusing to accept any opinion that is contrary to the will and pleasure of the State officers. Thus, my third year found me again pounding the roads from farm to farm, soliciting members for another great attempt. At that time, I believed it would be better to avoid farmers living too close to my own school, so I launched forth on my new endeavor about 12 miles from school. I wanted to offer units of agricultural instruction to the men, rather than to have their assistance in the program for the boys.

The third series of meetings was quite successful and ended happily. The attendance was regular, but the fears developed each Monday night, before the class members really arrived, aged me considerably. The preparations that I was compelled to make in order to attempt to meet the demands of those members proved to be a source of great growth for me.

Two locally prominent dairymen came to class with attitudes which I interpreted as being definitely evil in intent, for they maintained a determination to get me in a position of not knowing my subject matter. In desperation, I carried my troubles to my superintendent. He began to attend the evening-school sessions to aid in the analysis of the members. That superintendent was a really great educator. Thanks to his loyalty, understanding, and kindliness, I was able to overcome the difficulties, for he helped me to develop a program of changes within myself, changes by which I was able to avoid many obstacles.

As I look back on those meetings, my personal attitudes were doubtless responsible for irritating some members of the class. My difficulty was due to maintaining a somewhat belligerent attitude on the need for those farmers to keep better accounts. They actually kept better records than they were in the mood to admit, and found great pleasure in harassing me on every point I tried to make. Ending that session was highly unsatisfactory for me. The members called me "Bud," for they claimed that I was just beginning to understand the management of farms. How thankful I was for an early spring and the inherent demands of spring work.

I RESOLVED that there surely would be no more evening schools for me. Another round of seasons, however, found the fall season appearing again in turn. A number of the members of that old evening school began to ask, "When do we start our meetings?" I meekly said that I did not know, for I definitely hoped to avoid any more adult classes. Some of the members finally asked the superintendent to attend the meetings with me and suggested that he prod me a little, for I seemed indefinite in setting a time for the sessions to start.

How clearly I recall the plausible excuses I gave for not holding evening classes, but with a friendly, frank, yet stern comment, the superintendent

with you to your first meeting a week from next Monday."

That particular group brought maturity to me. About the second session, the members suggested that we have coffee and doughnuts after our meeting. How well I remembered our teacher-trainer insisting that these schools were for instruction and not *Kaffee Klatsches*. Again I was faltering when the superintendent spoke up and said, "You fellows should try my coffee." Since then, I have learned that my State officers criticized our having lunches, but they never refused to eat and to visit with the members between gulps.

The sessions that year were centered about the problems of planning for the long view and long trends in agriculture. With Warren and Pearson's "Agricultural Situation," supplemented by copies of O. E. Baker's maps and other data, we really dug in. The group finally concluded that their hope lay in the direction of planning for the opportunities for their children. Would the local community or employment in the city provide the greater opportunities? But, as Kipling would say, "Thereby hangs another tale."

The Human Side—A Tragic Case

One evening a member who had been with us for three years was not partaking of our lunch. Much friendly banter was aimed at him, but while I was washing dishes, he came to me with an apology for not eating. Doctor's orders had put him on a strict diet. He asked me if I would go out to his place within the next few days at some definite time. I agreed and set the time.

As I reached his doorstep at the appointed hour he was waiting and said that he wanted to show me his horses and cows. His wife was insistent that we go into the house, but, sensing the serious atmosphere of the visit, I suggested that I wanted to look at the stock. I was taken to the corner of the barn, where he told me the situation, "Mr. ——, I need help, and your meetings over at school have mother and me thinking. The doctors say I can't live more than six months, and here I am with the farm—and our children all daughters. Two of the daughters are of high-school age."

I wanted to cry, but in controlling my emotions found relief in much nose-blowing and wiping beads of perspiration from my brow on a cold, clear day in December. I finally said, "I will be back tomorrow, for I must sleep over this situation."

Immediately I turned to my loyal friend, my superintendent, with his many years of experience. He warned me at once that this was a type of confidence common to school people, that it was a sacred trust and must be kept so. We developed a plan, and finally advised with a third person who was trustworthy, with the result that I was able to go back the next day and suggest a tentative solution. It was with heavy hearts that we closed our evening term two months later, for we had all attended the funeral of our friend the previous Friday. Many wondered at the evidences of emotion on my part at that funeral, but sacred trusts are sacred trusts. Fortunately, our plan worked, and the mother is now enjoying security

A stirring of personal ambition provided the urge to take part of a year off to attend Cornell University. Upon my return, the same group of men started a new series of meetings. In the first meeting, some of the men began to jest, and they decided that, as a result of the extra education, they believed that I had grown and was now worthy to be called "Sprout" instead of "Bud." Unexpectedly, they decided that they would like to know the trends of thought and the new programs which my professors had been advancing.

My Evening School Makes a Change in Direction

About the third or fourth meeting, a visitor appeared in our midst—the farmer who represented our district at the state legislature. In due respect and honor, we requested him to talk to us, but he answered that he had come to be a member and not a speaker or a vote-getter. On learning of our discussions, he turned to the group saying, "Do you fellows realize there are some serious educational problems coming before the legislature in the session about to convene? If you would, I would like to have you fellows discuss the program of action you would like to have me take." Little do Professors Eaton, Stewart, and Works realize what influence they had in determining a state program of education that year. Even the other members of the legislature wondered what had happened to one rebel who was fighting for the program of education whereas, in previous sessions, all that he had wanted was to have less money spent.

In answer to possible inquiries as to whether we were conducting a regular, accepted type of instruction for properly organized adult education, allow me to say that our objective was "The Improvement of Our Farms and of the Community," and, interspersed with all of the discussions, this objective was uppermost in our minds. We developed practices, taught skills, and added to the knowledge of members of the group.

At the close of the meetings that year, we had an oyster stew; and in appreciation of our legislator member, we allowed him an extra bowl of stew without paying his share of the cost. While consuming the stew, one of the fellows remarked, "We talk all winter about plans, crops, and livestock, but never get to see the practices and organizations in operation. Why can't we get together during the summer months for a series of meetings?"

All the literature and teachings that I had had were to the effect that evening schools were off-season winter-time classes, but all I could say was, "Surely. How shall we organize the program?" The dishes were not washed and stored away until 1:30 a. m. at the meeting, and I was saddled with a summer series of meetings. We did succeed in the summer meetings, too, holding them early in the evening while daylight was still present and during twilight, breaking up at 8:30 or 9:00 p. m.

Comments were beginning to be heard that I was giving more time to one section of the patronage area than to others, so there was nothing to do but tack on other groups for other sections. My heart was with that first

I Develop a Philosophy of Adult Education

Some highlights of the meetings stand out as distinct fundamentals in the development of a philosophy of adult education in farming occupations. For example, one individual 72 years of age became regular in attendance. He went out of his way to express his pleasure at being made welcome and, in passing, remarked, "You know, boy, I am only holding down a seat here, but I have lived my life among these neighbors and I enjoy taking part in these talks. Besides, I want my son to come, for he needs the benefit of these meetings, and if I don't insist on coming, he would not come. He really is not a good farmer, and before I die, I hope that he will get understanding so that he does not lose the home place by his present shortcomings. Will you be kind to him and try to help, though he is not much interested now?"

As long as evening schools provide an opportunity for friendly, neighborly discussions of the problems of a community, with a definite purpose of improving farm homes and farming communities, and as long as men feel that their sons can be benefited by such meetings, adult education for farmers will function as an important educational project.

Many sessions were staggering in the range of serious problems which an individual instructor in agriculture would be asked to assist in solving. One evening Mr. X followed me to the kitchen and opened his conference with, "I liked the ideas the class has developed about old age and savings, but here I am, 69 years of age, my wife dead, and my son unable to be of help, which leaves me alone with the farm. I can't bear to rent it to outsiders who would allow it to run down, for I have spent my life in building it up. I want the happiness and contentment the class members have suggested, but what can I do? I know you can't answer offhand, but if you have any ideas, I would be glad to listen to them. Will you come out some day so we can talk over my situation?"

With grave reluctance and greater doubts as to my ability to counsel wisely in this matter, we held the conference. After exhausting all of the plausible solutions that I could think of for settling his problem, I finally suggested in a semi-jesting manner that he might marry a congenial individual and thus provide security and contentment for two persons. Imagine my amazement when he immediately requested my opinion as to "what would the neighbors think?" Sacred trusts are trusts to be kept, and about six months later, when Mr. X and Mrs. A were married, a part of my farm practice supervision was devoted to developing approval for such a splendid union. A kind providence

L. B. POLLOM

Farm Mechanics

Teaching Economy Thru Farm Shop

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L. S. Crawford

IF THERE is money to spend, any farmer can go to the hardware store and buy new equipment, but fortunate and economical is the farmer who can reclaim his broken tools and who can also make new ones out of scrap iron and wood. It is the latter type of farmer who invests his spare money, which he saved thru his own economy, to bridge the lean years that every farmer knows will be his visitor sooner or later. Teachers of vocational agriculture must have foresight and knowledge of this fact in order to prepare boys to make a success of their chosen vocation, that of farming or ranching.

All farm-shop instructors can well heed the plea of not making a manual training class out of the farm-shop class, but they should also strive to make the farm-shop class jobs thrifty and economical as well as useful. It is easy to buy new stock if money is available, but boys should also learn how to accumulate and use discarded material.

Shop projects made of new materials were scarce during the so-called depression years, because money was scarce. Remodeling and repair work easily headed the list, but even these jobs ran short and soon the boys were out of shop jobs. Something had to be done. Idleness could not be cultivated because these boys were there to be trained as industrious and successful farmers.

A Farm Shop Class Discovers Scrap Iron

After carefully analyzing the situation one instructor realized that few of the boys either sensed the value of scrap materials already on hand or had a knowledge of how to use them. The object, therefore, was and continues to be the teaching of evaluating materials on hand, over that of purchasing new stock.

Nearly every ranch or farm has a scrap pile; then, too, discarded material can be purchased. By scouting around, this instructor found that the railroad would sell box-car springs and other scrap iron for 75 cents per cwt. Auto wrecking yards also would sell brake rods and U-bolts at 50 cents per cwt. Each farm shop class visited the city car dumps to secure enough screws to last a year. These were placed in a free "gimme box." Bolts, handles, strap iron, aluminum, and rods were secured for the taking of them. One of the the lumber that had been used for shelves was sold to the students for about a fourth of the price of new lumber.

Not only did the boys buy second-hand iron and lumber, but they also purchased two fair-sized piles of old harness for $5.00. This was to be used in repairing other harness.

The boys were urged to bring in old iron and steel, bolts, rings, buckles, rake teeth, hardwood pieces, wagon spokes, leather straps—in fact, everything that might even have a possible value. Of course, some material had to be discarded, but it was surprising how much could be used to good advantage.

From the information found in the survey which was made by the instructor, the greatest need for instruction appeared to be in forge work. A regular forge was assembled. Then each boy made staples and hooks from brake rods until his work met with the approval of the instructor. It may be said as an explanation that this particular job was chosen for preliminary practice because it contains all of the fundamental practices of forge work. Each boy then made a list of forge jobs that he wished to perform; and to this the instructor gave his approval after weighing the value of the jobs listed. All of the preliminary preparations had been made and the students were ready to start to work in earnest.

No attempt is made to discuss in detail the methods used. However, the general use to which this scrap material was to be put as well as a brief description of the finished article may be of interest. Out of the coiled box-car springs the boys made wrecking bars and clevises. Old crowbars and pick heads made the best of hardies, fullers, and anvil horns. Model "T" magnets made the finest chisels and punches that a rancher would want. Nail sets, chisels, and punches became useful articles when made out of discarded rake teeth. The shop boys made garden trowels as well as tire tools from old car springs; wooden handles were set into some of the trowels, while others were made with solid metal handles.

In this locality, poison weeds prove a hindrance to sheep and cattle. The trowels became useful tools for class use on field trips to dig up and study poisonous plants.

Useful Farm Tools From Scrap Iron

Many of the students made queen links out of U-bolts taken from old cars. The steering rods and axles became useful crowbars. Various types of tongs, such as pick up, bolt, straight lip, link, and ferrior's tongs were made from this scrap iron and mild steel. Repair grab and hay hooks, and hinges all came in for their own share of the showing made at the final exhibit.

The majority of the students made one or more hunting or skinning knives for themselves out of Model "T" magnets, and out of octogon steel; the latter proved to be the more successful. Deer and antelope horns formed the handles. Several of the boys made ferrior's knives for horse shoeing. A few of the boys placed small compasses in the butt of the knife handle. These brought a nice price when some were sold at the end of the school year.

Thru the process of making hammer heads up to the size of small sledges, the boys learned the job of "upsetting" iron. Other iron jobs such as rope swing hooks, trailer hitches, camping grates, fireplace sets, andirons, cold and hot cutters, prospector's picks, iron wall lamps also included welding and tempering as some of the processes involved.

Scrap aluminum proved to be one of the most interesting materials with which to work. This was melted up in homemade iron ladles and poured into desired forms made of molding clay. Stirrups, spurs, and bridle bits made from this material were featherweight, yet serviceable; and they polished beautifully. Many of the boys inlaid their aluminum work with pieces of copper or brass to give them a more decorative finish.

Farm Shop Students Make Home Appliances

At the Christmas season many of the boys made dressing-table seats or bathroom stools for their mothers and sisters out of nail kegs. A top was hinged onto the keg before the pleated skirt was attached. A bag of the same material formed the lining of the keg and also insured a safe receptacle for hose and silk underwear. Of course some of the boys had help with the sewing from the feminine members of their families, but other boys did this simple sewing themselves. The top, when padded, formed a nice seat.

Hammer handles, made from wagon spokes, proved to be some of the nicest repair jobs. These spokes and other hardwood pieces also made axe handles as well as those for files, knives, etc. Saw handles made from the larger hardwood pieces dressed down nicely to fit the individual user's hand.

In harness work, old halters were patched. Sometimes two broken ones would make a good halter. Belly bands, hame strings, lazy straps or tug hangers, throat latches, back pads, and quarter straps were repaired or made out of old harness straps.

Reins were repaired and made safe by cutting out the patched, broken, and worn parts. New leather, which is bought by the side and sold out by the pound to the shop students, replaced the worn portions of some lines while others were repaired by good portions from old lines. Many of the sets of harness that came into the shop to be

wire and rope. This emergency repair material was all removed before the harness was well scrubbed and oiled. Here the instructor insisted that the harness sewing should be the best that could possibly be turned out. In fact, the boys developed a great pride in turning out good leather sewing as well as neat repair work. Of course the new leather work commands the most attention from the mere onlookers at exhibits, but let a farmer or rancher see neatly repaired harness and he will truly smile from real pleasure. If his boy is the repairman, he will bring his friends at once to see the work that Johnny has done.

Another shop job that proves popular with boys is that of rope making. This rope is made out of binder twine by means of a simple machine, easily made from wood, heavy wire, and iron. Ropes of various lengths can be made for all uses on the ranch and farm.

Aids to Home Beautification

Flower supports made out of old wire coat hangers were found especially suitable for peonies. They were made with three to five upright spokes which were held together with a wire band at the top and center. The bottom tapered in, while the top definitely spread out in order to accomodate the stems without crowding. These have to be placed over the plant in the early spring while it is still small.

Nail, screw, and other supply boxes made all the same size and shape from tin out of old furnace heating pipes went to make up drawers for a cabinet in the shop. The boys each made one for the shop and one for themselves. Many of the boys who worked fast made complete cabinets for their own farm shops.

A complete set of leather stamps, made from nail heads, is now in continuous use in the shop. Principally, these were made from spikes and bolts and the designs were filed or cut into the heads. Care had to be taken in order that the edges were smooth and even, or the impression in the leather would be uneven when stamped.

A few of the jobs made from the second-hand lumber consisted of footstools, large and small tool chests, gun cabinets, end-tables, various types of feeders, horse-shoeing boxes, shoe-shining boxes, saw horses, saw handles, lawn chairs, repairs for wagon boxes, trailer boxes, milk stools, saw clamps, gates, panels, and nests.

Ferrous Metals in the Farm Shop

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M. R. Wilson

FOR those who have not had experience in working with metals in connection with farm machinery repair, forge work, and welding, it is sometimes difficult to determine just what sort of a piece of iron one has picked up from the pile of scrap iron. Boys should be encouraged to utilize scrap iron for repair work where possible, rather than new pieces of iron for the repair job.

It is true that in the past few years, a large amount of scrap iron has been removed from the farms and shipped, but there is still some scrap iron that can be utilized for repair work and for the making of useful shop tools. Many farm repair jobs may be completed by using material at hand, providing some of the characteristics of the material are known.

This article is written with the thought in mind that possibly it would furnish some elementary information on iron and steel to those men who do not have the background of the trained engineer or metallurgist.

A vocational farm shop teacher should be able to recognize a spring leaf taken from an automobile spring or a part of one. If not, he should disassemble a complete automobile spring sometime, scrutinize it closely, test it with a file, and try to drill it. It will be and if a new file is used, the file is soon drilled. Grinding is the best procedure for dressing. In most instances it is not easy to drill through a piece of spring steel. It will depend, of course, on the carbon content, which varies in springs from .95 percent to 1.15 percent. The carbon content is sometimes designated by points. Steel with a carbon content of .95 percent would be known as 95 point carbon content steel.

If one finds a piece of a car spring that can be drilled, it probably is spring steel containing the lowest amount of carbon it is possible to use and still be called spring steel. But in most cases, spring steel is difficult to drill and must be punched while red hot.

Taps and dies should never be used on spring steel, because spring steel is too hard, and one cut with the average tap or die on spring steel and the tool is ruined. Of course, drills should not be used to drill spring steel, in most cases, but in the farm shop it is easier to replace a drill than to replace a tap or die that is ruined.

Spring steel is plentiful, but from the foregoing discussion one can see it is not very useful in the average run of repair work. If hammered out thin enough under the proper temperature, a very serviceable butcher knife may be made of spring steel. Of course, it is usually necessary to punch the holes for the handle while the metal is hot.

Spring steel will make a very nice long slender tire tool if the metal is handled properly. In the proper handling of the metal, it is never worked too hot or too cold, but it must be annealed and probably left in an annealed condition without being tempered. Some experimentation is necessary to determine the exact procedure for the piece in hand.

Other useful articles can be made of spring steel, such as chisels, punches, drifts, wrenches, gear puller arms, etc., but it is rather useless for the average run of repair jobs where strap iron is

Some other sources of spring steel from which some of the smaller tools can be made are rake teeth (some of the older rakes had teeth that were one-half inch in diameter, which make excellent punches, chisels, or center punches) the coil spring of a shock absorber as used on the Model T Ford some years back, and broken bendix springs, which may be straightened out and used.

An instructor should make it a rule of his shop that no boy may use the taps, dies, or drill bits on a piece of old iron (or new either, for that matter) without first asking the instructor to test the piece for hardness.

Pieces of used iron often brought to the school shop are very destructive to taps and dies. These pieces may be spindle bolts, piston pins, shackle bolts, and transmission counter shafts. (If you do not know what these articles look like, ask your local automobile dealer to show them to you.) These articles are case hardened. In other words, they have an outer "skin" that is glass hard, but the inner section is comparatively soft. This outer skin may be softened if the article is properly annealed, but be sure it is soft before applying a tap or die.

It would be well to gather up all of the magnets from Model T Fords it is possible to find and store them for future use, as they make excellent punches and chisels. This is a better quality of steel than is usually found in springs, and the size is more adaptable to farm shop uses.

There is a large group of steels known as the mild steels that is very useful for repair work and construction purposes. The shapes most useful in the farm shop are squares, rounds, flats, angles, and channels.

The carbon content of most of this group is from 15 to 20 points carbon. This means that the carbon content is too low in this group for any of this steel to be used for punches or chisels. But it is very useful for repair work of various kinds, and the shop teacher should accumulate as large a supply of these pieces as possible. Many pieces in the mild steel group may be obtained from old headers, binders, combine machines, corn binders and various other farm implements. A little paint on these pieces and they serve the purpose just as well as new iron and at about one-fifth the cost. Many old implements in the fence corners will yield serviceable pieces of mild steel. A good cold cutter and a heavy hammer will quickly clip any rivet heads that may be troublesome. Old car frames also come in this group, and the frame members may be utilized for many useful projects.

Any of the steels in the mild steel group may be worked cold as well as hot. That is, they may be filed, drilled, cut, and bent to shape without being heated. When making difficult bends, the piece should be brought to a red heat, otherwise cracks may develop at the bend.

The test, of course, for a piece of steel in the mild steel group is whether or not it is easily filed or sawed. The shape will not always tell the true story, as a round piece may be a piece of drill rod or tool steel, and a flat piece may be a piece of spring steel.

Studies and Investigations

C. S. ANDERSON

Derivation of a Basis for Travel Funds in Alabama

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M. G. Anderson

IT HAS been felt for a good many years in Alabama that conditions under which teachers of agriculture work vary to such an extent that some plan should be worked out whereby a travel fund could be allotted to the various departments on a basis of the existing needs. The plan that has been in use in Alabama is to set aside the same amount for a travel fund for every teacher of agriculture in the state, regardless of the size of the school area, the number enrolled in organized instruction, the density of population, or any other factor which might show a need for increased travel funds. At the end of the school year, any fund not used for travel by any teacher on a mileage basis would be re-apportioned the next year. No provision was made on this basis for any teacher in a large school area, with an amplified program, to do the increased amount of travel which was required.

Methods of Investigation

The results of this study are submitted to show that there is a need for variation in the amount of travel fund allotted the various departments over the state. The study includes nine schools in seven counties. Three large, three medium, and three small schools were selected. Questionnaires were mailed to the teachers of agriculture in these schools. Three weeks after each teacher received the questionnaire, he was interviewed. A map was made of each school area, showing the location of all pupils in organized instruction, all roads that could be used for travel, the condition of the roads with respect to the kind of materials from which they were constructed, the location of all possible evening-school centers, and the distances they were from the school. This map was made to show not only the present need for travel, but for the need based on future development of the possibilities in each area. A large number of factors were represented in the questionnaire. Those appearing to be most significant are described here.

Summary of Data

In summarizing the data secured in this study, each item was taken separately in the light of the data given for that question.

The number of square miles in each school area varied from 100 to 300. Five of the nine schools had over 250 square miles each. The average was 222 square miles.

The number of white families in the school areas varied from 170 to 1,700, which was the largest single variation of the entire study. Four of the nine schools had over 1,000 families each and three schools had less than 500 each. The largest school in number of square miles had the smallest number of white families.

The number of evening-school centers varied from four to 20. Four of the areas had as many as 10 centers each. The average for the nine schools was 13 centers.

The number of prospective part-time school members varied from 25 to 215. The largest number was found in an area of 190 square miles which had 1,350 families. The smallest number was found in one of the largest areas, 300 square miles, with only 170 families.

The number of evening-school members enrolled varied from 15 to 110. The average number of evening-school pupils for the nine schools was 59. The average number of pupils per evening school was considerably higher in schools where two or three classes were held.

The number of all-day pupils enrolled varied from 24 to 66. Four of the schools enrolled more than 40 each. The average in the high enrollment group was 51, and in the lower enrollment group was 33.

The average distance of evening-school centers from the schools did not vary as much as might be expected. The greatest variation was from a low of 6.25 miles to 10 miles. The three largest areas were 300, 260, and 300 square miles. These areas showed an average distance to evening-school centers of 10, 8.5, and 8.5 miles respectively; while three of the smallest areas—100, 145, and 190 square miles—had a distance of 7, 6, and 6¼ miles, respectively.

The total number of miles traveled in visiting all pupils in organized instruction varied from a low of 1,500 to a high of 3,584 miles. The second highest number of miles was traveled in the smallest of the nine areas. In this area of 100 square miles, the teacher traveled 3,000 miles. However, this school tied for first place for the highest number of individuals in organized instruction, having 147, while the school which showed a distance traveled of 3,584 miles in an area of 300 square miles had only 49 pupils in organized instruction. Thirty-one hundred of the 3,584 miles were traveled on unimproved road. The area composed of 100 square miles showed 20 percent of the 3,000 miles were traveled on hard surface. Five of the nine teachers did no traveling on hard-surfaced road. The school which showed a mileage of only 1,500 had an area of 260 square miles and had 68 pupils in organized instruction. homes was the greatest of the entire nine schools.

The school having the greatest number of miles traveled in organized instruction showed among the fewest miles traveled in doing community work.

There were only two schools that showed less travel than this for community work. They showed 479 and 730 miles. The teachers traveled 2,200 and 2,325 miles respectively in supervising the work of enrolled pupils. About the same ratio of the travel was done on the various kinds of roads as was done in organized instruction. The greatest number of miles traveled by a teacher in doing community work was 4,708. This teacher traveled 1,787 miles supervising the work of 121 pupils, in an area of 252 square miles.

The schools showing the greatest amount of travel in the interest of their programs were the schools having the greatest percentage of their roads unimproved, showing in the opinion of the writer that the strength or weakness of the individual teacher has as much to do with the need for travel fund in an area as the conditions found within it.

Recommendations

From a careful study of the factors discussed, it appears to the writer that some should be given much more weight than others in determining the need for travel fund. The factors thought to be of major importance and the values assigned them in making recommendations are as follows:

	Points
Number of white families in area	30
Number of all-day pupils	25
Size of school area	20
Number evening-school centers	15
Number part-time school prospects	10
	100

With the possible exception of the number of all-day pupils, the above factors will not vary in a given area with the strength or weakness of the teacher.

The various schools were compared mainly in the light of the factors listed above, and given a ranking as follows:

"A" grade: Those with 100 percent of full travel recommended

"B" grade: Those with 80 percent of full travel recommended

"C" grade: Those with only 70 percent of full travel recommended

Most of the other factors studied were of such nature that their variation was due in the main to the difference in personality and ability of the individual teacher, which would mean that even in a small school area an outstanding teacher could justify the use of a large amount of travel fund; but since in this study, recommendations were made on the basis of the amount needed for each area, rather than each teacher, it seemed that the above factors should be

A Follow-Up Study of Distinguished West Virginia Future Farmers

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W. H. Wayman

A FOLLOW-UP study of the 64 West Virginia Future Farmers who had received the State Farmer degree in the West Virginia Association of Future Farmers prior to July 1, 1937, was made in 1937–38 by the writer. Seven of this group had also received the American Farmer degree.

A questionnaire was mailed to the members of this group, and later post cards were mailed to those who had not returned the questionnaire in a reasonable length of time. The writer also made personal visits to several of the members and helped in completing the questionnaire. The data were organized in two parts: first, the data secured from 22 members receiving degrees during 1920–32; and second, the data secured from 34 members receiving degrees during 1933–36.

Analysis of the Data

The average age of all the members at the time the replies were returned was 22.2 years. All of the members except one had graduated from high school. The average amount of instruction in vocational agriculture received by boys was 3.3 years. Sixteen members were married. Nine of the married members had children totaling 11.

At the time the replies were received 18 members were working full time at farming. Ten were farming part time and doing other work away from the farm. Eight members were attending an agricultural college, while three were attending non-agricultural colleges. Two members were attending high school, one was taking a post graduate course. Three members were in occupations related to farming, and 12 were in non-agricultural occupations.

Four members of the 18 farming full time owned farms; four were partners in farming; three were working at home for definite wages; five were working at home for indefinite wages; and two were working at home with income from one or more enterprises. Three other members had purchased farms and were working part time at other jobs in order to increase their income and help pay for their farms.

THE average value of livestock owned by the first-period group was more than double that of the other group. Members of the first-period group owned on an average three times as many acres of crops, but valued only about 30 percent more than the second group. Members of the first-period group during the four-year period (1933–36) had purchased equipment and supplies worth almost four times as much as that purchased by the second group during the four-year period (1933–36). They also spent twice as much time and over four times as much money in making permanent farm improvements.

Twelve members listed their reasons for not farming full time as "attending college" or "earning money to attend college." Ten members stated that they did not have available finances. Eight members gave no reason, while one stated he did not like farming any longer.

Fourteen members expect to farm as owners; six as partners; four as managers; three as renters; and seven members expect to farm on a part-time basis, three as owners and four as partners, during the next five years. Four members expect to go to college and, with nine other members, go into related agricultural work. Three members are undecided and six expect to do non-agricultural work.

Conclusions

Ordinarily it takes a period of years for a farmer to establish himself and it appears that many of the distinguished members of the West Virginia Association of Future Farmers of America are making progress toward that goal at an accelerated speed.

The original data indicate that those who received degrees before 1933 have made more progress toward becoming established in farming than the group which more recently received degrees.

Nearly two-thirds of these distinguished members are now farming or are planning to enter farming during the next five years. Some members are farming part time and a few plan to continue on that basis.

A few members lack the opportunity and finances to start farming at the present time.

Part of the members are working at jobs using agricultural knowledge, while other members are doing non-farm work requiring little capital in order to earn money to secure additional agricultural education or to establish themselves in farming. Some members have secured, and others are pursuing, additional agricultural training.

Most of the members are participating in some of the agricultural, social, and religious activities of the community by taking an active leadership in various community organizations.

The original data indicate that there have not been any significant differences in the recent vocational progress of the "American" Farmers and "State" Farmers.

The data indicate that these members are above average of the vocation in their progress toward becoming established in farming.

Since this has been the first systematic attempt to determine the achievements of the distinguished members in the West Virginia Association of Future Farmers, the results of this study should be an aid in guiding the efforts of the organization as it supplies trained leadership for the rural population of our country.

It would appear that this organization is gradually accomplishing many of the purposes of its establishment as

How Much Emphasis on Part-Time Work

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PART-TIME classes should be more important than all-day classes because all the boys who attend have definite plans for becoming farmers. These boys may be classed as farm owners, farm tenants, farm laborers, or farm partners. Boys who are eligible for part-time classes have more mature minds and more technical problems than all-day students. Part-time education provides the opportunity to study economic and social changes which will enable the boys to make adjustments.

Part-time classes have been a regular part of the educational program in vocational agriculture at Idaho Falls for several years. It is the responsibility of the teacher of agriculture to continue the agricultural training of his students after they have graduated or dropped out of school. A teacher will then realize his greatest satisfaction in working with a group of fine boys who have already established their goals and objectives and desire to make the most of future opportunities. The teacher is provided the opportunity of rendering a more complete, a fuller, and more fundamental service. The following table shows the previous training of part-time students, attendance, and number of meetings (for a period of three years).

Previous Training in Vocational Agriculture	Number Attending 1934–35	1936–37	1937–38
None	2	7	7
One year	4	5	5
Two years	7	9	4
Three years	6	2	6
Four years	8	10	11
Total attending	27	42	33
Number of meetings held	22	24	27
Average attendance	16	24	14

It is interesting to note that the highest group were students having had four years of agriculture. The smallest group were farm boys with no agricultural training. In fact, altho these boys were visited and invited to attend the classes, only a small number enrolled. Boys in the "no previous training" group had had high-school training, but had not taken vocational agriculture. The total enrollment for the three years was 102. The total number of different individuals enrolled was 77.

During the year 1934–1935, economic problems of special interest to farmers at the time were studied. Auto mechanics and Diesel engines formed the basis of the course in 1936–1937. During the present year, 1938–1939, problems of soil conservation are demanding our attention. It is planned to continue holding meetings for the whole group once a month. It is also planned to hold a series of group meetings in each community to take up special problems.

We believe that we are accomplishing the main objective of vocational agriculture, "training for proficiency in farming," and to aid the students to become established in farming, as given in the following statement by J. A. Linke, Chief, Agricultural Education Service, Office of Education, Washington, D. C.: "We do not have the farm boy in high school long enough to give

Future Farmers of America

L. R. HUMPHERYS

F.F.A. and N.Y.A. Co-operate in Building State Camp for Rural Youth

T. G. WALTERS, Executive Secretary,
Georgia Association of F. F. A.

THE Georgia Association of Future Farmers, in co-operation with the National Youth Administration, is building one of the most outstanding camps for rural boys in the nation. At the present time the value of the buildings, equipment, and land is conservatively estimated at $125,000.

In August, 1937, the Georgia Association of Future Farmers of America purchased 150 acres of land on Lake Jackson in Newton County, which is located approximately in the center of the state. After the property was purchased, officials of the Division of Vocational Education and the National Youth Administration visited the site of the camp, which was impossible to approach by car. The group traveled 17 miles up the lake by motor boat and then had difficulty landing at the site, due to the thick growth. Today, the physical plant and development of the property give evidence of the successful effort of co-operation between the two organizations responsible for the project. N. Y. A. boys living within a radius of 30 miles were transported each day by truck, to the work project, for the first year.

Officials of the county in which the project is located had a 30-foot road constructed leading to the camp site which is valued at approximately $6,000. First, a number of cottages were constructed, each to accommodate from 20 to 40 boys. Work progressed on the construction in the summer of 1938 far enough to provide accommodations for about 150 Future Farmers each week. However, dining-hall facilities were not available; so outside cooking grills were used by the boys during their week's stay.

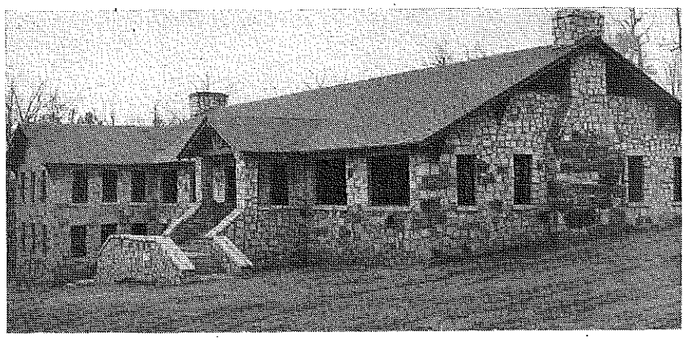
During the spring of 1938 a large dining hall was started to accommodate from 300 to 400 boys. This dining hall was completed the following fall and a resident project with the N. Y. A. was opened early in October. Since that time approximately 150 boys have been in attendance.

Buildings completed at the camp at the present time include: director's cottage, dining hall, seven student cottages, two fully equipped work shops, two guest cottages, storage building, one 25,000-gallon water tank, two bored wells, one incinerator, power distribution system, and one walk-in-type storage unit with freezer compartment.

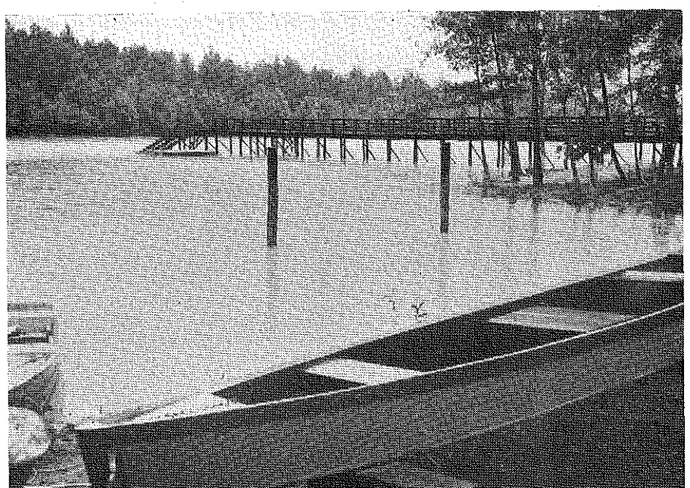
This camp is to be used in the summer by the F. F. A. chapters in Georgia to spend a week during the summer months. It will also be used for conferences for teachers of vocational agriculture, and for holding state conventions of the Georgia Association of F. F. A.

Practically every chapter in Georgia has made a pledge of $3 per member to be used in the construction of buildings. Total pledges at the present time amount to approximately $20,000. A number of donations have also been made toward the construction of the camp, in addition to splendid help from the National Youth Administration.

This project is a splendid example of the co-operation evident thruout the state between the Division of Vocational Education of the State Department of Education, and the National Youth Administration of Georgia. In fact, the National Youth Administration is making it possible for 150 boys from low-income families to receive vocational training that will fit them for making a better living. These young men range in age from 18 to 24, inclusive. While in attendance at the Jackson Lake project they are given training or work experience on the actual construction of buildings and also training on non-construction and miscellaneous work projects. These young men are given special training in a number of jobs, such as carpentry, rock masonry, plumbing, wood work, metal work, electric welding, auto mechanics, electric wiring, concrete work, hog production, soil conservation, production of various field crops, forestry, landscaping, vegetable crops, and home orcharding. Before any job is actually done on the project the boys are taught in the classroom the job on a "doing level" in order that they will have all the information needed before the actual work is started. The faculty at the camp consists of teachers who are trained in these spe-



Large, spacious dining hall built from stone quarried on the camp property by N. Y. A. boys. This building is a semi-two-story structure and has facilities for accommodating approximately 400 boys



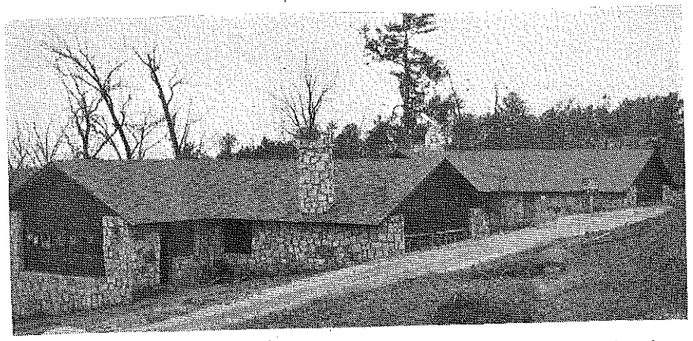
nection with the project, which enables the boys to receive splendid training in agriculture.

The original plan for the project consisted merely of construction work to be done by N. Y. A. boys to provide facilities for a summer camp available to all F. F. A. chapters in the State. When a few of the physical facilities neared completion, it was obvious that to confine the facilities of the camp to summer camping purposes would result in only a fractional part of the value that might be derived from the plant. The organization and development of an N. Y. A. resident training project to make use of the physical facilities available during the fall, winter, and spring seasons was a natural step.

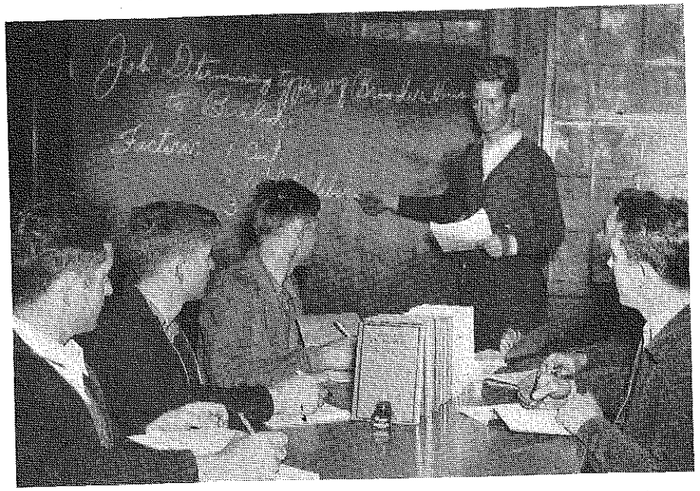
In the eyes of the leaders of vocational education and the National Youth Administration officials, there is no fundamental distinction between an N. Y. A. youth and an F. F. A. youth. Many boys on the N. Y. A. programs are also members of F. F. A. chapters; likewise, many F. F. A. members seek assistance available under the N. Y. A. program. All are interested in the same goal, giving rural youth an opportunity to enjoy a fuller and more adequate social and economic life.

The educational program is under the direct supervision of the Division of Agricultural Education. Group meetings are held with the staff members once a month with some member of the teacher-training staff of the Division of Vocational Education in charge of the discussions.

Plans are under way to construct a large gymnasium or assembly hall next winter. This, together with a large concrete swimming pool under construction, will complete the buildings needed to carry on a satisfactory training program with N. Y. A. boys and also give complete facilities for a summer camp.



Two large shop buildings where boys are given special training in wood and metal work. The shop will be used during the summer months by teachers of vocational agriculture, who will be given special training in farm shop work



H. E. Rogers, teacher of vocational agriculture, teaching class of N. Y. A. students the job—determining the type of brooder houses to build on the project

F.F.A. Well Represented at World's Poultry Congress

G. C. COOK, Teacher Education,
East Lansing, Michigan

THIRTY-FIVE states were represented by F. F. A. demonstration and judging teams in the poultry contests held in the Hall of States and Nations in connection with the Seventh World's Poultry Congress in Cleveland on August 3 and 4.

Problem of Expense Solved in Variety of Ways

In raising funds to make it possible for these teams to attend the congress, a number of ingenious methods were used. In some cases boys were able to secure traveling expenses from friends while others provided all or a part of their expenses thru their own efforts. The following indicates how some of the teams secured funds.

The Newark, Delaware, team was sent to the congress thru funds contributed by state and local F. F. A. organizations. The members of the local chapter contributed funds earned by caponizing and culling poultry for farmers in the county.

Illinois were provided with funds by state poultry associations.

Kansas boys raised money from the sale of tickets to the poultry congress by local chapters.

The Florida judging team received help from the Florida World's Poultry Congress committee, a prominent mail order concern, a manufacturing corporation, and from boards of county commissioners.

The team from Montana secured funds from the local school board, the American Legion, sale of tickets to the Poultry Congress, and from the proceeds of a dance and raffle.

The Ohio team was financed by a poultry farm.

Demonstration Teams

Demonstration teams were composed of from two to four boys. Subjects of the demonstrations included caponizing; control of poultry parasites; the value of quality eggs; prevention of poultry diseases; poultry culling; poultry feeding practices; sanitation in producing poultry; mixing balanced rations; and poultry selection. The awards in this contest were on the basis of "superior," "excellent," and "good." The demonstration teams from Delaware, Indiana, Oklahoma, and Pennsylvania were given

Judging Contests

Thirty-four states were represented in the poultry judging contests, which involved judging of breed and variety characteristics. Awards were made on the basis of "superior," "excellent," and "good." The teams winning superior classification were: Florida, Indiana, Missouri, Oklahoma, and Oregon.

F. F. A. Bands Furnish Entertainment

The Future Farmers of America Band from Solomon, Kansas, directed by Paul Chilen, teacher of vocational agriculture, attracted considerable attention. This band played a variety of music including swing arrangements of popular songs. Sleeping quarters on the way from Kansas were furnished by local chapters of F. F. A. The Kansas State Legislature appropriated funds for a part of the expense of the trip. The band uniforms consist of yellow shirts and blue overalls.

The Michigan State F. F. A. Band of 68 pieces played on the general program and for special concerts, and paraded over the grounds and thru the buildings. Expenses for the trip were provided from an extra ten-cent entry fee for contestants during the state Future Farmers Week and from funds received from the Michigan World Poultry Congress Committee.

Emphasis on Part-Time Work

(Continued from page 75)

him sufficient training for successful farming. Therefore, it is necessary to continue his training thru a series of years in part-time and evening classes, after he leaves high school. If we can carry on a program of training with students of vocational agriculture for 10 or more years, then we can hope to reach our goal."

If we make training for proficiency in farming our aim, then it is necessary to organize a continuing educational program for boys after they leave high school for the farm. These boys should be coming back to school in part-time classes for further preparation for farming. This is the period when they can be devoting their entire time to building up their farming activities in preparation for becoming established in farming.

Data for Idaho Falls department of agriculture show that out of a total of 76 persons 16 are farming (full responsibility and management, 10 owners and 6 tenants, married men); 47 in partnership with fathers; three farm laborers; and 10 in occupations other than farming.

Professional Growth Thru Evening Schools

(Continued from page 71)

gave the few years of happiness, security, and contentment so thoughtfully sought for.

Down thru the years, I came to appreciate my critical member, who had declared that I was learning more from the members than I was giving them. I realized that I was growing in understanding with each adult school that I had the opportunity to conduct. Observe, please, that I now say "opportunity," rather than thinking of evening schools as demands from the state supervisor that had to be satisfied, or as steps in the re-making of the farming occupations of the community.

Appearing in class for a series of meetings was one elderly individual, 76 years "young." One evening he broke out, "You don't expect to teach these boys anything, do you? I taught them to read, write, and do their sums when they were boys. I even had to use the stick a couple of times on them." My meeting broke into a series of reminiscences, and I listened in silence while the "boys" relived the gamut of three generations, from the time the land was homesteaded, and heard the conditions of early days compared with those of present times. Reliving the life experiences of those men who had been in country school together, later living as neighbors to their school teacher who had engaged in farming in the community, was indeed a study of lives and outcomes, with the attendant contributions of a community to the service of a nation. My group represented those who chose to drop anchor in their own environment, while those who migrated to the cities found their greatest happiness in returning again to associate with old were among the greatest values of life.

We gained some recognition in making our community known agriculturally in the state. This cannot be credited to the teacher of agriculture but rather to the co-operative efforts of the group. For me, out of all these experiences, have come an understanding and a belief that the position of an instructor in agriculture means a life of service, of honest education, and of the development of individual friendships and a community trust. "He knows himself rich who has a friend." We have many friends.

Ferrous Metals in the Farm Shop

(Continued from page 73)

Reinforcing rod varies in its carbon content over a wide range. Sometimes it is possible to pick up a piece of reinforcing rod which will make a good punch, chisel, or wrecking bar.

Many parts of the various farm implements are cast iron or malleable cast iron. Malleable cast iron is cast iron that has gone thru a heat treating process, and the casting will bend to some extent before it will break. This is desirable in those places on an implement that are subject to shock and strain. An analogy may be drawn between cast iron and mild steel on the one hand, and glass and celluloid on the other. Cast iron and mild steel both have strength. Glass and celluloid both have strength. If you hit a cast iron casting with a hammer, it will break. A piece of glass will also shatter if hit with a hammer. On the other hand, neither the mild steel nor the celluloid will shatter if struck a blow with a hammer. The celluloid may bend or tear and the mild steel may bend, but neither will shatter, as cast iron and glass will.

Cast iron contains a high percentage of carbon. The carbon content of cast iron is approximately 3½ percent.

Cast iron has some distinguishing characteristics. It is seldom that a piece of cast iron is as smooth as a piece of mild steel, unless it has been dressed in a planer or lathe. Often it is possible to find some flaws, such as blow holes on a casting. A seam sometimes shows on cast iron. This is the parting line between the upper and lower parts of the flask in which the casting was poured. It is seldom that cast iron is used for an angle iron, a small round section, or a flat narrow section.

Cast iron is more easily filed than mild steel, altho there is usually a hard thin skin on a cast iron piece that sometimes discourages the best file or lathe tool, but once thru this outer skin, it is easier filed than mild steel, and the file does not fill up with chips when filing cast iron, as it does on mild steel.

Broken cast iron castings are repaired easily by means of the welding machine, either arc or oxyacetylene. Sometimes it is possible to put a mild steel plate on either side of the broken section and make the casting serviceable.

In the days of the buggy, spring wagon, and surrey, a form of iron known as wrought iron was used to a great extent on these vehicles. Wrought iron contains practically no carbon, is easily welded in the forge. Wrought iron is not in very common use at present, altho it is used for rivets, horseshoes, and pipe. Wrought iron pipe resists the elements better than some other forms of pipe. Its softness and ductility or workability when cold is its distinguishing characteristic.

"Black Diamond" tool steel is a tool steel that is sold extensively thruout this territory for the use of blacksmiths in the making of punches, chisels, etc. The carbon content of this steel and other steels sold for the same purpose will be from 75 to 90 points carbon.

Cast iron as well as the steels may be identified quite readily after a little experience by the spark test. Every piece of iron when held on the emery wheel will give off a spark that is characteristic to that piece of iron.

Carbon is only one of the ingredients put into iron to give it certain characteristics. All of the parts of an automobile have other ingredients put into them to give them strength. Carbon alone increases the hardness and elastic limit of steel. Carbon decreases the ductility, toughness, and weldability. It increases the resistance to fatigue, but decreases resistance to shock.

Other ingredients added to steel are:

1. Manganese which increases the strength, but not so markedly as carbon, and also increases the resistance to wear. The chief uses of manganese steel are for jaws and wearing parts of rock crushing machinery and similar apparatus, for railroad frogs and crossings, for railroad rails on curves, dredger-bucket teeth, and parts for mills used in grinding grain.

2. Silicon and manganese in moderate amounts give steel great resistance to shock. Such steels are used chiefly for springs and gears.

3. Nickel increases the toughness and tensile strength of steel and decreases the ductility only slightly. The chief uses are for structural work in bridges, automobile axles, frame, and engine parts such as crankshafts, piston pins, and connecting rods.

4. Chromium is used in the production of chrome steel, either above or in conjunction with vanadium, nickel, or molybdenum. Such steels have a high elastic ratio. Chromium steels are particularly adapted for armor-piercing projectiles, for 3 and 5 ply plate, for plowshares, and for automobile gears, although nickel-chrome steel is more generally used for this latter purpose.

5. Vanadium is used as an alloy to improve the physical properties of steel, such as increasing the resistance to shock, and is largely used in conjunction with chromium.

Henry Ford used vanadium for many years in the steels used in the Model T Ford with excellent results. The Model T would carry a maximum load with a minimum of weight. The axles were comparatively small, but they had great strength. Model T drive shafts and axles make excellent crowbars, wrecking bars, and pinch bars.

High speed steel is used in metal cutting tools, and the shop teacher may come in contact with high speed steel in drill bits. They are more expensive than the carbon steel drill bits and will break just as frequently, so it is poor economy to purchase high speed drill bits that are easily broken in the hands

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