

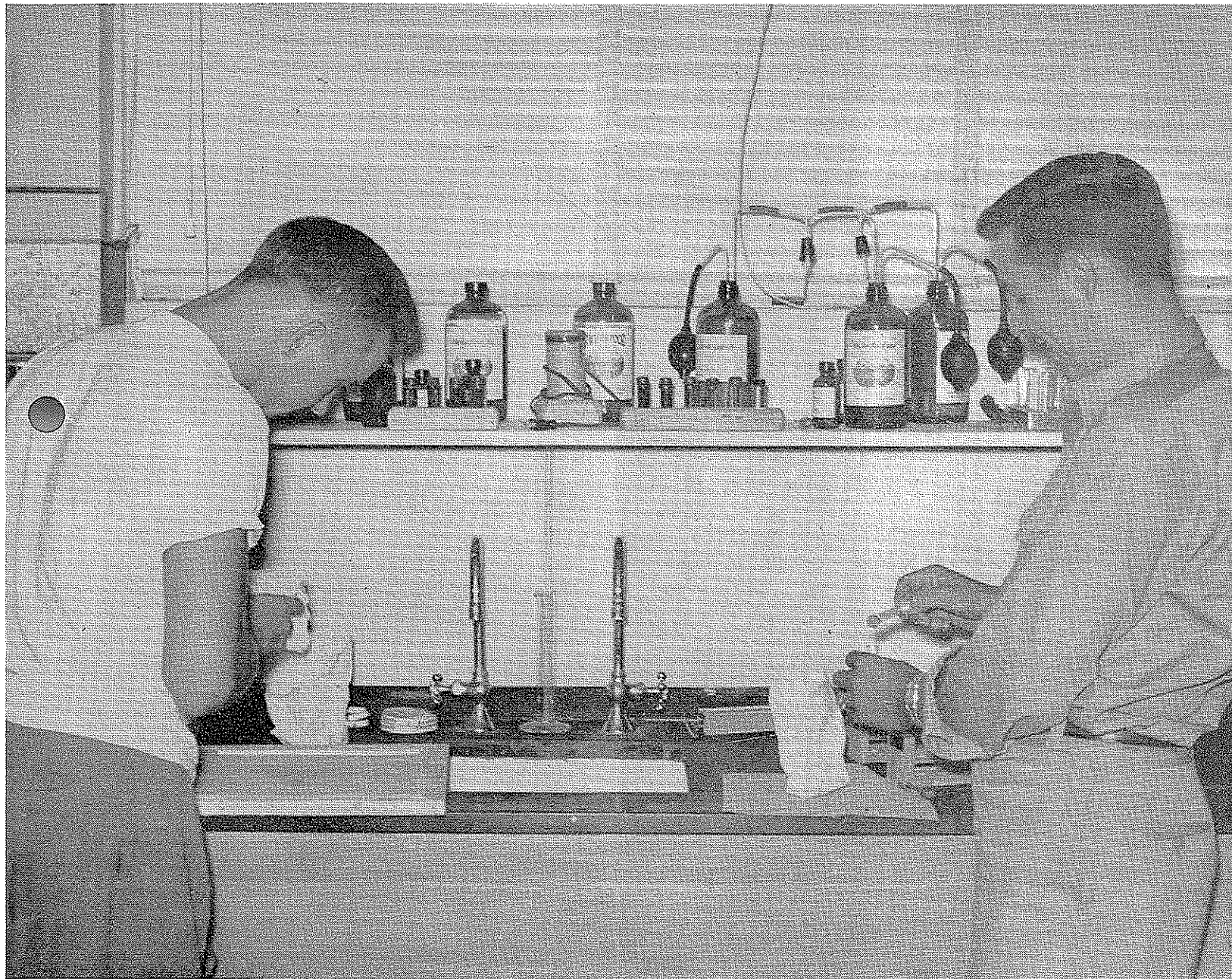
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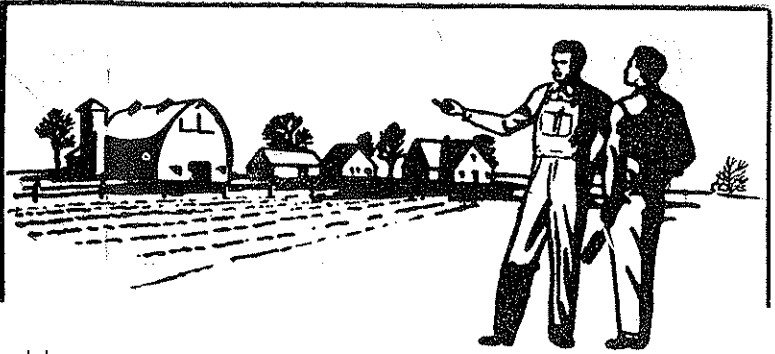
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Featuring— Improving Techniques
of Instruction

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 Interstate Printers and Publishers, Danville, Illinois.

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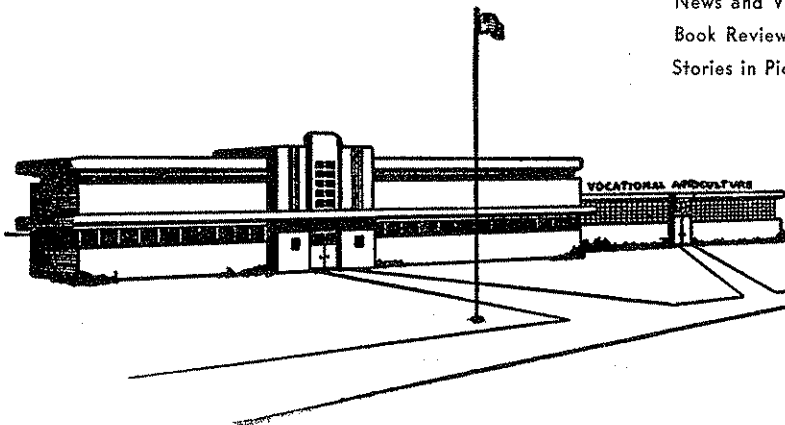
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Editorials

Improving Techniques of Instruction

C. E. BUNDY, Teacher Education, Iowa State College

We have in industry efficiency experts who analyze the materials used, the time required, the methods followed and the product produced by individual workers and by divisional operations. They recommend from time to time changes in materials or methods which will increase efficiency. New tools may be perfected or new techniques may be introduced. A saving in minutes of time or cents per unit of production may mean the difference between profit and loss. The changes may result in an improved product. Some technicians devote their entire time to the improvement of the product.

Vocational agriculture instructors would profit materially if the efficiency analysis program used in industry could be applied to their profession. Teachers of vocational agriculture, however, do not have trained personnel available to evaluate their individual effectiveness. The principal or supervisor in the local school, and the district or state supervisor of agricultural education, may provide some help. The extensive demands for their time, however, do not make it possible for them to analyze objectively and completely each activity of the individual instructor. Improvement in effectiveness of teaching in vocational agriculture is largely a self-help proposition.

The magnitude of the responsibilities in teaching vocational agriculture tend to keep the instructors so busy in doing what they consider to be necessary tasks, that they spend too little time evaluating the results of their effort and their effectiveness in doing the job. At times instructors devote too much time to "side show" types of activities and too little time to the "big tent" agricultural education program. There is little value in improving techniques unless the objectives are sound.

Most workers in agricultural education will agree that our primary function is to train present and prospective farmers for proficiency in farming. Our program must be beamed to meet the needs of farmers yet it must not be limited to them for this is the best type of high school preparation for those who will later engage in nonfarm agricultural occupations.

Our effectiveness as vocational agriculture instructors is dependent largely upon (1) how well we develop in the student the desire to learn and do some-

From the Editor's Desk "Student Planning" or "Student-Teacher Planning"?

Of the myriad of techniques involved in good teaching, the use of "student-teacher planning" seems to be the most abused. Student-teacher planning is a technique with great potential, but it has fallen into disrepute in the minds of many good teachers because the "teacher" has so often been left out and only "student planning" remains.

The major misconception with regard to student-teacher planning appears to be with regard to the amount of responsibility for planning which can be turned over to the students. Some persons have even gone so far as to say that the teacher needs no preparation for teaching; that all he needs to do is to walk into the class and start where the class is.

It is, of course, possible to have students plan their entire course of study, but it is not a wise use of student time. Planning the course of study is the teacher's task. The teacher doesn't have time to teach the students how to construct a course of study properly; without proper instruction in building a course of study, the job will not be well done. The result could only be an inadequate high school program respected by neither the students nor the teacher. Eventually the teacher gets to the point where he is uncertain as to just what instruction has been provided any of his classes and confusion reigns.

Students can more profitably devote their time and energies to planning farming programs, farming program activities, and FFA activities. Student planning in connection with course content is best limited to the analysis, guided by the teacher, of broad problem areas into the problems the students face in connection with the problem areas on the farm. This will make it possible for the teacher to have a well organized program of instruction respected by the students and other persons concerned with the program. This concept of the place of student planning is one which can be defended and, in addition, can be adapted for use in other subject matter areas.

Let us not abrogate our responsibilities as teachers through the misuse of student-teacher planning. Not only do we not do as good a job of teaching as we are capable of doing when we turn over to the students too much of the responsibility for planning course content, but we also contribute to the misinterpretation of an excellent teaching technique. □

Explain

Charts, Graphs, and Tables

D. E. McPHERSON, Vo-Ag Instructor, Bartlett, Tennessee
V. R. CARDOZIER, Teacher Education, University of Tennessee

In spite of the trend toward more use of films, slides, charts, and other visual and audio aids, most teaching still relies on the printed word as a source of information. Students in vocational agriculture need to read more now instead of less.

In most states, publications of the agricultural extension service are used in teaching vocational agriculture, although they are written primarily for use by farmers. Because of the widespread use of these publications in Tennessee vocational agriculture classes, a study was conducted to find out how well high school vocational agriculture students could read and understand them and to determine what teachers need to do in order to help students get the most out of them. The study was also designed to help extension service editors and authors improve the readability of future publications.

The Study

Subjects in the study were high school vocational agriculture students at Nicholas Blackwell High School, Bartlett, Tennessee, where the senior author is vocational agriculture teacher. There were 16 freshmen, 9 sophomores, and 18 in the combined junior-senior class.

With the assistance of the editorial office of the Tennessee Agricultural Extension Service, 15 extension service publications were chosen which seemed representative of the various subject-matter areas—two each for field crops, poultry, animal husbandry, farm mechanics, and the others. A test to determine the students' understanding of each publication was designed and administered to the students. They were permitted to use the publication during each test. Questions were of the "best choice" type and were designed to measure understanding of both text material and charts, tables, graphs, and other illustrations.

Students were advised in advance that the grades they made on these tests would be included in computing their marks for the year. Without exception, students applied themselves diligently during the series of tests.

The 15 publications were also analyzed for reading ease with the Flesch readability formula. In addition, a

panel of 19 students who had "normal" reading ability and who had lived on farms most of their lives was selected to give their opinions of the material in the publications.

Prior to administering the tests, students were given the "Otis Gamma Quick Scoring Mental Ability Test" to determine I.Q. and the "Gates Reading Survey" to determine reading ability. From school records, each student's grade point average was secured. In addition, students were questioned regarding their reading habits—whether they read for pleasure, read newspapers, magazines, books and the like.

Findings

Table 1 shows the reading ability, I.Q., and scholarship levels of the 43 students who participated in the study. In each class, there was a range in reading ability of five to six grades. Similar variations were found in I.Q. and scholarship grade point averages.

Table 1. Reading level, intelligence quotient, and scholarship of students.

Year in Vocational Agriculture	Reading level, average grade score		Intelligence quotient		Scholarship, grade point average	
	Range	Median	Range	Median	Range	Median
Freshmen.....	5.1-10.6	7.9	94-123	104	69-90	78
Sophomores.....	6.5-11.7	7.6	62-103	96	72-85	80
Juniors and Seniors.	6.4-12.1	10.2	91-126	111	79-97	83

The survey of reading habits showed that all but six students read newspapers regularly. Boys with higher reading level scores read more magazines and books, but several boys with lower reading levels read three to six magazines regularly and 15 to 20 books a year. Hence, there was no significant relationship between reading habits and reading ability.

An analysis of the 15 publications used in the study showed that they had a "reading ease score," according to the Flesch formula, ranging from 35.1 (difficult) to 72.3 (fairly easy). Four ranked difficult, six were fairly difficult, three were standard, and two were fairly easy.

In general, it appeared that one-fourth of the publications could not

be understood by the freshmen. The sophomore class was so erratic as to provide no valid conclusions, due in part perhaps to the small number involved.

A big majority of the junior-senior group had satisfactory understanding of two-thirds of the publications. In general, juniors and seniors with an eighth grade reading ability could read and understand most of the publications. Only one of the publications required a ninth grade reading level.

Most of the difficulty in understanding the publications centered about the tables, charts, and mechanical drawings, although the latter two appeared less frequently in the publications used than did tables. The reason for the lack of understanding of charts and tables became evident when the students reported that they usually skipped over charts, tables, etc., in their reading. Students also indicated that they had trouble understanding technical terms, chemical symbols, and abbreviations.

There appeared to be no relationship between farm experience and reading ability, as measured by the Gates Reading Survey, and ability to understand publications used in the study.

Implications

Even though the number of subjects used in the study was smaller than would be desired, it seems likely that the findings might have implications for departments of vocational agriculture elsewhere. The wide range of reading abilities within a single class (Table 1) suggests that the teacher of vocational agriculture needs, in so far as his time will permit, to offer small group and individual assistance to students in the classroom if poor readers are to understand fully what they read.

It also suggests that teachers need to choose carefully the materials that they use in teaching. Generally speaking, publications of the agricultural

Soil Color Made Easy

An aid teachers will want - - -

ELLERY L. KNAKE, Teacher Education, U. of Illinois

Now you can eliminate the time consuming task of collecting and preparing a multitude of soil samples for teaching soil color. You can do away with the muss, fuss, and inaccuracy of teaching soil color from jars, sacks, and pans. How? It's easy if you use a convenient set of pocket-size soil color charts.

Color Important

Color is the most obvious, and can be the most easily measured, characteristic of soil. It is one of the criteria used for evaluating soil whether it be for land appraisal, soil type mapping, or for land judging contests.

Soil color is important, not directly, but because it is associated with such soil properties as organic matter content and permeability to air and water, which in turn are related to the productivity of soil. Dark colors, for example, are associated with high organic matter content. Reds and browns usually indicate good drainage. Thus, color is important as an indirect measure of other more important soil properties that are not so easily and accurately observed.

Difficult to Describe

Although easy to see, color is not always easy to describe accurately. Two people may describe a color very differently, even though neither is color blind.

Experience with land judging contests has probably made you aware of the uncertainties that often arise through personal differences when soil colors are described. One student may tend to see brown in most soils, another may describe the same soils as grays, another sees more red in them and so on. To make matters worse, some students resort to bizarre color names, more picturesque than accurate, such as chocolate brown, mouse gray, tan, rusty brown, or lemon yellow.

Standards Needed

Soil scientists, using color differences as one of the major criteria for classifying soils, realized many years ago that a standard method for referring to soil colors was needed. To meet this need a set of standard soil color charts was developed by the

U. S. Department of Agriculture in cooperation with the Munsell Color Company, a non-profit organization devoted to the standardization of colors and color names, their understanding and use.

Perhaps you have seen a soil surveyor use these charts and have asked him where you could get a set. Then when he told you the price of his professional set—\$18.50—you didn't bother to take down the address. But, the Munsell Company is interested in helping teachers and students. In answer to requests for soil color teaching aids, they have cooperated with Vocational Agriculture Service of the University of Illinois in preparing simplified and economical soil color charts.

Instead of seven charts with 196 color chips, as used by soil surveyors, Illinois teachers use three charts with 84 color chips. These cover the color range of 90 per cent of Illinois soils. Additional savings are made by let-

ting students paste the color chips on the charts. This has made it possible for teachers to obtain materials for the three charts for \$2.75 from Vocational Agriculture Service.

Using Color Charts

When you first look at the charts, the terms hue, chroma, and value may puzzle you. If you can raise hybrid corn without knowing what heterosis means, you can use these charts without knowing what hue means. However, a brief explanation of the color terms accompanies each set of charts in case you are interested.

Charts with actual colors are needed to help you describe soil

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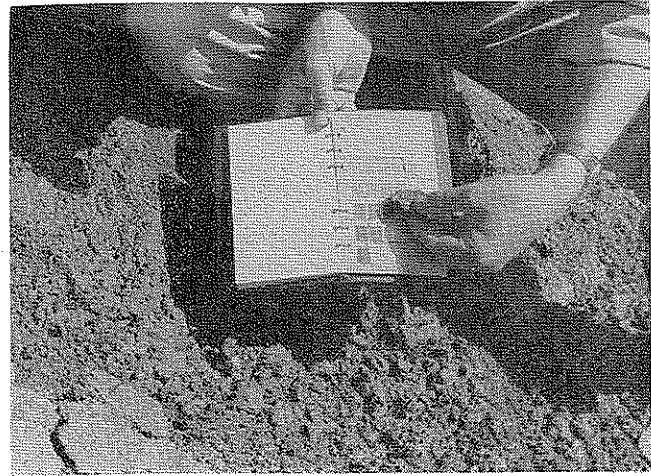


Figure 2. Soil color charts make accurate determination of soil color easy.

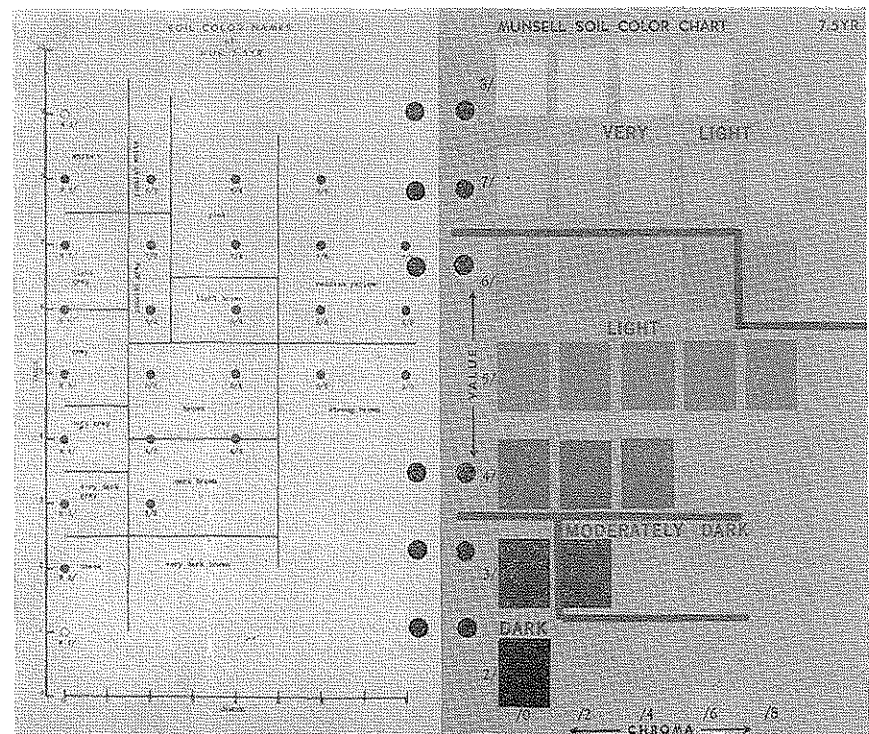


Figure 1. This is the 7.5 YR soil color chart. Actual size of each page is 7 1/4" x 4 1/4". The color chips located on the right are actually each of a different color. The color names diagram is on the left.

Soil Color Made - - -

(Continued from page 101)

colors; but let's make a dry run using the black and white illustration shown here. Can you count to 10? Then you're all set to find the color name of a soil. Follow these simple steps:

1. Moisten the soil.
2. Find the color chip on the right hand page that matches the color of the soil.
3. Note the number to the left of and below the matching color chip.
4. Find the same numbers and location on the left hand "soil color names diagram," and you will see the color name in the same blocked off section with the numbers.

To make the process even simpler, Illinois teachers use a clear plastic overlay marked into the four divisions—very light, light, moderately dark, and dark. These four divisions correspond to those on the Illinois land judging score card. Students don't even have to read numbers—all they have to do is match the soil they are judging with the chips in one of these four divisions.

Which Charts for Your State

Dr. Roy Simonson, of the U. S. Soil Survey, has recently reviewed the soil colors found in each state. He has suggested the 2.5 YR, 10 YR and 2.5 Y charts for Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

The 5 YR, 10 YR and 2.5 Y charts are suggested for Arizona, California, Delaware, Indiana, Kansas, Missouri, New Jersey, New Mexico, Ohio, Oregon, Pennsylvania, Washington, and West Virginia.

The remaining states can use the same charts that Illinois teachers have been using—the 7.5 YR, 10 YR and 2.5 Y.

Dr. Simonson warns that soil colors may be found occasionally which are not on these suggested charts. Teachers in a few areas may wish to add other charts to their sets. However, the above charts should cover the color range of most soils and will probably be adequate for you and your students.

If you teach in one of the twenty states that can use the same charts that Illinois teachers are using, you can obtain your charts from Vocational Agriculture Service, 434 Mum-

ford Hall, Urbana, Illinois. Charts for other states may be obtained directly from the Munsell Color Company, Inc., 10 East Franklin St., Baltimore 2, Maryland. Ask for "Student Sets of Soil Colors." □

Charts, Graphs - - -

(Continued from page 100)

extension service in most states have received better editing than any other group of publications so that persons of lower reading abilities can read and understand them. The fact that part of the 15 publications used in this study were too difficult for students to read suggests that other publications need to be examined thoroughly before being used in teaching.

The study revealed findings that should help extension service authors and editors as well as other writers. Most writers tend to use terms which are to them commonplace but may be strange to the reader. For instance, the well-known symbols N, P, and K, while used by many farmers, are often foreign to high school freshmen and need to be explained in writings for that group. Publications aimed at high school students abound in other more complex symbols and terms.

This study suggests that more attention needs to be given to the selection of teaching materials, determination of their readability, and to determining how various materials may be presented to vocational agriculture students so that they will get the most out of them. It also seems likely that additional studies along this line should be made using agricultural books, farm magazines, agricultural experiment station publications, and other materials used in teaching vocational agriculture. □

Improving Techniques - - -

(Continued from page 99)

thing about his situation, (2) how effective we are in developing the desired understandings and abilities, and (3) the extent that the student puts into operation on his farm the abilities and improved practices learned.

Periodically teachers of vocational agriculture must evaluate their instructional techniques and make necessary changes. If the instruction is to be centered around the students (high school, young farmer and adult) and their farm problems, then the instructional techniques must also be farm centered.

Greater emphasis should be given to the farming programs and problems of individual students in course planning and in day-to-day teaching. The traditional text book plan of teaching has little place in vocational agriculture. Books, bulletins, farm magazines and other sources of information are very necessary in problem solving but they do not serve as the bases for course organization.

High school students should be encouraged to write up the solutions to the individual problems studied by the class and to summarize the class recommendations in terms of practices to be carried out on the individual farms. Each six or nine weeks the class, with the help of the instructor, should review the practices studied during the period and indicate those put into operation on the home farm as well as those to be introduced at a later date.

Instruction centered around the problems of the individual students necessitates more effective use of class field trips and individual on-farm instruction. The number of field trips and farm visits can be doubled and more effective use of these methods can be made in most states.

Individual farming programs and farm records must be given greater emphasis if our instructional program is to be effective. Farming is becoming increasingly complicated and technical. Increased farm size and specialization necessitate large investments. It is becoming increasingly difficult for young farmers to enter and established farmers to remain in farming.

Teachers of vocational agriculture need to improve their techniques in one additional area. One of the most difficult problems facing a farm youth today has to do with the selection of an occupation. Should he farm? Should he prepare for employment in agriculture off the farm? Should he prepare for employment in an occupation not related to agriculture? Should he enter college? The parents of farm youth are equally concerned in these matters. Teachers of vocational agriculture have always assisted boys and their parents in analyzing their individual situations. The problems today are, however, more numerous and more difficult.

The future of the individual boys, and of vocational agriculture, may depend upon how well vocational agri-

(Continued on page 104)

Number one problem of teachers of vocational agriculture Need for Passion for Teaching

C. B. JETER, Area Supervisor, Virginia



C. B. Jeter

T EACHERS of vocational agriculture, like other teachers, have many problems. Among these problems, major consideration should be given to conducting instructional programs

that develop the ability of the learners to think and act intelligently. Farm boys should be taught to develop sound solutions to their problems. To effectively attack this problem requires something more than a knowledge of teaching techniques, subject matter, principles of teaching and principles of psychology; something more than we can get from books or persons; something that is tangible; something that is difficult to measure but something that is obvious if we have or do not have it; this something is a *passion* for the job of teaching vocational agriculture. I do not mean a passion for the prestige and status which the position of teacher of vocational agriculture carries, but rather a feeling of pride in the job itself.

Evidence of Passion for Teaching

Some of the characteristics which, in a measure, determine the passion which a teacher has for his job are:

1. He has a burning desire to see that every phase of his instructional activities improves day by day. He feels that no matter how good the job of teaching he did today, he must improve upon it tomorrow.
2. He puts the work of his instructional program before any other work or play. He is careful not to accept responsibilities for other activities, especially when these activities are not related to his instructional program and are unsolicited by the principal. Further, he does not seek excuses to do everything but teach.
3. He plans carefully and with creativity and challenges his students to experiment and to invent novel learning activities. Learning is a stimulating and interesting process. The teacher who plans carefully and with

creativity has little or no difficulty in keeping the attention of his boys or farmers during the instructional period.

4. He maintains professional contacts that make him eager to keep up-to-date. Among the list of activities which helps teachers to keep abreast, professional contacts are at the top. Professional contacts serve as an incentive for the teacher to improve his instructional proficiency. The teacher who is alert realizes that he must maintain memberships in professional organizations and participate in professional meetings.
5. He talks to others about his work in order to learn ways of achieving better results. Perhaps one of the best ways of obtaining new ideas for improving the instructional program is to find out what other good teachers are doing. A dynamic teacher seldom, if ever, fails to seek new ideas about doing a better job.
6. He merits and maintains the respect of his students, fellow teachers, supervisors, teacher educators, administrators and the citizens. He is not afraid to call upon these persons to help him solve the many problems which arise from time to time. If a teacher merits and maintains the respect of supervisors, teacher educators, administrators and the citizens of his community, he can always depend upon the support of these persons.
7. He is not afraid to invite and profit by criticism. By nature persons are prone to resist criticism. Yet, one of the greatest motivating influences for individual growth and development is for someone to find fault with us or for us to find fault with ourselves. Therefore, when criticism is invited we put ourselves in a position to improve.

In the light of these characteristics, a teacher who has passion for his job loves his work, works hard at it, desires a good program, and never rests until he has one.

Improvement of Instructional Activities

In my visits to departments over the years, I have observed classes in

which teachers give the appearance of being goal-less, listless, non-creative and their rooms and their activities are generally sleep producing, stifling, dulling and retarding to individual growth and development. Frankly, nothing was happening in their classrooms that would make an active youngster want to stay in school or to pull a dull student out of his lethargy. Learning is not dull. On the contrary, it is an exciting activity and any teacher who does not think so may be doing a disservice to teaching and may be retarding the development of mankind's quest for knowledge.

It is interesting to observe the amount of effort and energy teachers put in the frills (contests which have little or no connection with developing boys vocationally) of the program of vocational agriculture. Teachers use every means at their disposal to develop worthwhile contestants, but when it comes to improving teaching—excuse me please—they *don't do anything*.

The many things that a supervisor might look for during a visit to a school are far too numerous to mention here. However, there are a few which I would like to mention that are important to the improvement of instruction but are too frequently overlooked on a visit or an appraisal of a program.

1. Does the teacher have purposes or objectives which serve as a basis for his activities? Who develops them—are they constantly referred to and used? In my opinion, there is no single practice which could improve instruction more than a careful formulation of worthwhile objectives.
2. Is the teacher using a variety of approaches to teaching and learning? Is he using only one bulletin? Is he telling pupils everything? The use of one bulletin and telling pupils everything is perhaps an easy way to teach. Teachers who are satisfied to teach easy or just do an inferior job are doing teaching harm and are retarding man's struggle to find the truth of his vocation and life.
3. Is the teacher doing the research and the pupils sitting idly by and listening?
4. Is the bulletin board in the classroom current? Is it attractive and well arranged, but in no

A teacher's point of view on - - -

Teaching Adults

H. E. THROCKMORTON, Vo-Ag Instructor,
Milton, West Virginia



H. E. Throckmorton

SOME people believe that teaching adults is a different job from teaching high school boys. This belief may be true. However, there should be little difference.

Adults are simply children grown up. Adults have learned to make more decisions for themselves; they have more experience and often feel less need for instruction. It should be remembered that farm practices are continually changing. This condition makes it necessary for adults to learn about improved methods. Adult classes make a good place to learn new methods and exchange ideas.

Teachers of vocational agriculture should teach adult classes because of a need for contact with adults who must be depended upon for support of the vocational program. It is therefore desirable to prove to some adults that vocational education helps. One who has learned the value of vocational agriculture first hand makes a good friend.

Teachers find many good reasons for not teaching adult classes. It is the opinion of the public in many places that one does not need to go to school beyond the age of sixteen or eighteen. Principals and other administrators often share this same idea. The teacher must be a top notch salesman to convince adults they need to go to school. Promotion of the adult class and preparation of teaching materials require more time than the all day group. In fact, enough time is usually required for a second teacher if the head of the school can be convinced. The teacher must believe there is a need for an adult class if it is to be successful.

Organization Problems

Getting attendance for the organized instruction or series of meetings is the most difficult part of the work according to the testimony of many teachers. One has to be a super salesman and use plenty of bait. The bait may be a speaker, a social, a good

movie film or recreation. The author once had the embarrassing moment of taking a speaker to a one room school only to find no audience. Personal visits brought the class out for more sessions.

Adjusting to the times may require a different approach. Improved transportation and communication affects our work. Before improved roads, electricity, telephone and TV, the author has found as many as 250 attending one class session. The class met a social need. The instruction was incidental, but effective. Those same people will be found at home with TV today. They have a different need.

Adult classes are usually improved by forming an organization, electing officers and selecting a planning or program committee. Members will take part more readily if they help plan. Items of interest to them will be included in the plans.

Basis for Success

The secret of success of most adult classes, other than the teacher, seems to be the choice of a problem or subject common to all. In many cases it is not farm production, but a problem requiring group solution. The author used the need for electric power as the common cause for an adult class. A representative of the power company was invited to class. About 90 families were signed for power in one evening. The power company followed up getting 125 customers on 25 miles of line without right of way difficulty. This work came at least two years ahead of schedule because of the class. There was opportunity for instruction in farming and farm engineering to develop around the common cause or need. The need for telephones has been used in a similar way.

Other common causes or needs which may provide an incentive for organized instruction are roads, water supply and marketing. Some teachers are using an advisory council as an



Veterans working in farm shop. (Milton, W. Va.)

adult class. An improved vo-ag department is the common cause in this case.

A Challenge

The author wishes to make a challenge to vo-ag teachers of adult classes in this closing paragraph. This could also be a challenge to farmers' organizations and cooperatives. Efficiency in farm production is excellent, but it is not enough. Bargaining power in marketing farm products is one of the greatest needs of the farmer. This could be the common cause or need for an adult class in many places. Bargaining power is partially provided in marketing burley tobacco. Farmers vote for control of acreage. They really vote for the benefits of controlled acreage. Government agencies regulate acreage which in turn regulates the supply and the price received by the producer. Broiler and milk producers may be able to get bargaining power for marketing and production control through large cooperatives. Both the need and opportunity for adult education in vo-ag are great. We can do it. Will we accept the challenge? □

The Cover Picture

One of the areas in which a great deal can be done to improve instruction is that of the effective use of laboratory facilities. Here two young Illinois teachers are trying out a new laboratory and laboratory arrangement for soil testing. □

Improving Techniques - - -

(Continued from page 102)

culture instructors improve their instructional techniques to cope with the changes that have taken place in American agriculture. □

Operating a Movie Projector

Something every teacher should know - - -

GERALD O. STEPHENS, Wheeling Electric Co., W. Va.

The American public is movie conscious. The American student is machine-operator conscious. Why will a person take years to learn the subject matter necessary to become a good instructor, yet neglect the short time required to learn to operate a motion picture projector?

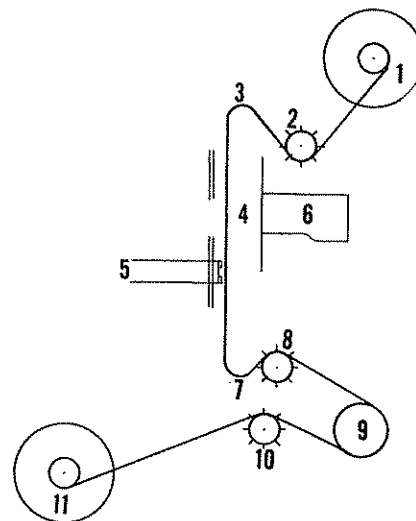
A motion picture machine is not a monster designed to try the instructor's patience, but is a helpful, practical, precision machine. If one picture is worth a thousand words, then a movie machine must be worth the effort to learn to operate it. Since this is a precision machine, it makes few mistakes. Threading the machine is the stumbling block to good projection. Let's explore this procedure.

A motion picture machine is a machine which appears to make images move when a suitable strip of film is run through it. A reel of film is first put on the feed reel (1). The film should come off the reel clockwise, sprocket holes toward the operator, picture inverted. From here the

film is engaged with the upper feed sprocket (2).

1. Feed reel
2. Upper feed sprocket
3. Upper film loop
4. Aperature
5. Shuttle
6. Lens carriage
7. Lower film loop
8. Sound feed sprocket
9. Sound drum
10. Take up sprocket
11. Take up reel

This, as all sprockets, turns at a constant speed. Next the film is formed into the upper film loop (3) past the aperature (4) where the sprocket holes are engaged with the shuttle (5). The film gate is now closed keeping positive engagement. The movement past the aperature is intermittent. Because of this change in movement of the film, constant to intermittent, the upper and lower film loops (3) and (7) are a must. After the film is in place in the film gate, form the lower loop (7) and engage film with sound feed sprocket (8). Film is now put around the sound drum (9), pulled tight to the left



and released enough to engage the first available sprocket holes with sprocket teeth on the take up sprocket (10). Since sound, which is reproduced at the sound drum (9), is in synchronism with the picture at the aperature (4), the amount of film between these points is critical. The size of the lower loop (7) controls this amount—26 frames. Next the film is brought under the take up reel (11) which turns clockwise.

Now operate the switches and you are ready to make a movie the effective teaching device for which it is intended. □

Planning a Series of Slides for Teaching

Based on the farming in the community - - -

CARL R. STOTZ, Vo-Ag Instructor, West Unity, Ohio



Carl R. Stotz

THE teacher of vocational agriculture has a multitude of teaching aids available for his use. The question often asked is what teaching aid will do the best job of presenting the facts to this

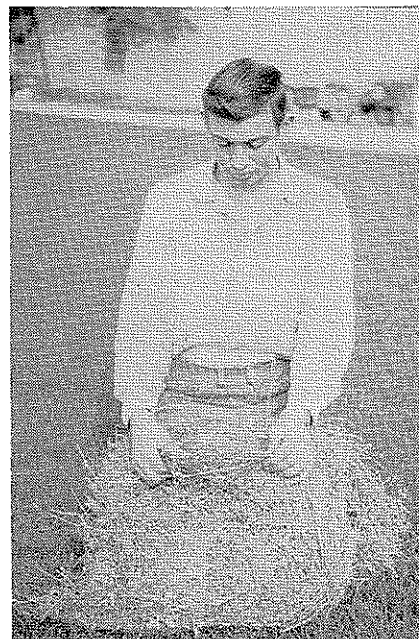
class. Often no one teaching aid will do the trick.

Have you ever used a series of illustrations as an aid in teaching your boys? This is undoubtedly a helper of which we have not made the fullest use. There are several factors that influence your decision. They are the cost, availability of subject matter, and the time required to gather and assemble the information.

The cost is small since most teachers do take 35 mm. colored slides. Most teachers also use information

from experiment stations but one "Trick of the Trade" is to visit another department and take colored slides of the charts in that school. This will certainly save considerable time and can be incorporated easily into a series depicting one area of instruction. These illustrations can also be shown on the wall and charts traced from the picture if so desired.

When planning a series, most of the illustrations can be obtained from your local community. Much more interest will be obtained if pictures of local farmers or students are included. Many of these photographs may be obtained during the summer months. Slides taken at experiment stations show the actual results visually. Many series can be developed for use when field trips are impractical due to weather conditions or the subject matter cannot be undertaken during the actual season. Some examples would be hay-making practices, weed



A slide of a sample of hay is always available.

control, and combining of crops.

A set of rules to follow when constructing a series of slides are as follows:

- Develop first a series of slides for a period when field trips are impractical.

(Continued on page 117)

How to Use Charts Effectively

FRANK ANTHONY, Teacher Education, Pennsylvania State University
and Members of Agricultural Education 420 Class in Audio Visual Aids

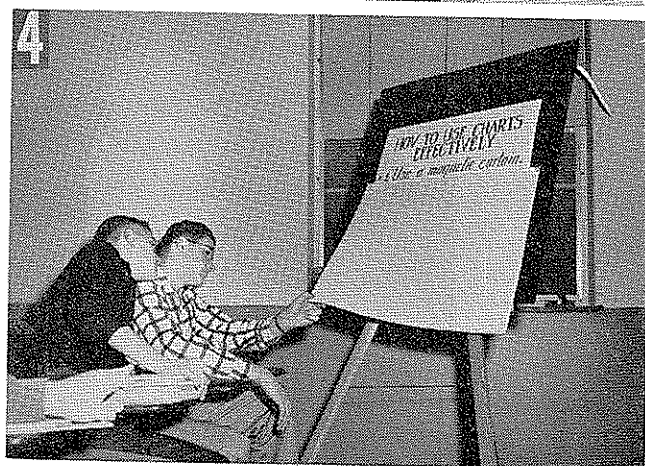
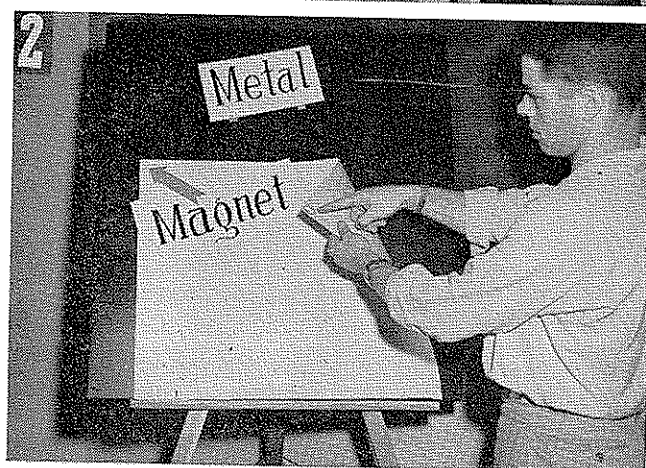
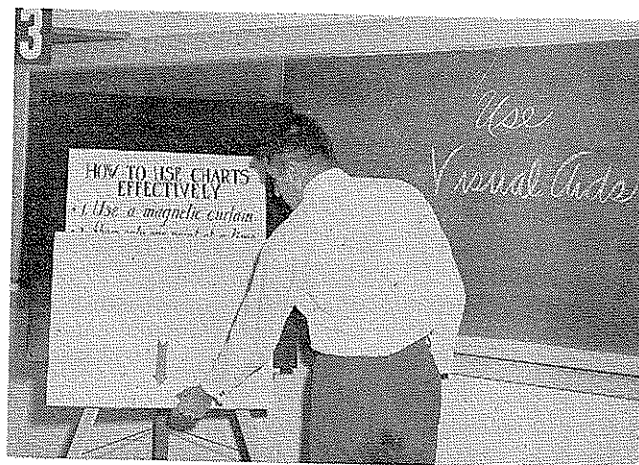
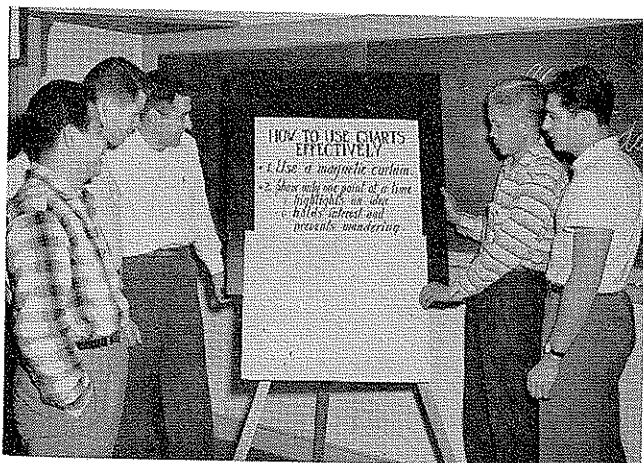
The use of a chart is possibly one of the most common aids in teaching. Do you use it correctly?

The customary way to use a chart is to show all of the points at one time and describe them in order. It may take 10 to 15 minutes before you reach the third point. Will the students keep up with you or will they read ahead?

Studies show that rate of learning is increased if attention is focused on the point being discussed. The following pictures show an effective way to use a magnetic chart.

1. The magnetic chart consists of a piece of galvanized iron fastened to one side of a $\frac{1}{4}$ inch plywood (the other side is covered with a flannel so that it may be used as

- a flannel board). The galvanized iron is painted a flat black.
- A cardboard "curtain" (22 x 28) is used with magnets glued on both upper right and upper left corners.
- The magnetic "curtain" allows the instructor to show each point as it comes up in discussion. Simply pull down the "curtain" as you move from point to point. Hiding other points creates a desire for students to know what is coming next.
- Note what happened during a class intermission.



Need for Passion - - -

(Continued from page 103)

- way connected with the lessons being taught?
5. What happens in the classroom when the teacher is called out and the pupils are left alone?
 6. What do the people in the community say about the teacher? Is he a respected member of the community?
 7. How does the teacher interpret his program to the community—through words or deeds? Many teachers of vocational agriculture are apparently successful because of their ability to talk,

- but are their deeds commensurate with the spoken word?
8. What type of program of public relations does the teacher maintain? Is the teacher confusing publicity with public relations? Publicity usually deals with telling people about what you are doing. It might be telling members within an organization or providing information for the people in a community. Public relations concerns what others think of you and not just what they say about you, and there is a big difference.

In summarizing, I would like to raise these questions:

1. Do you as a teacher have a passion for your job?
2. Do you use every resource at your disposal in the great effort to constantly improve your instruction?
3. Do you realize the importance of self-respect to the human personality?

To possess these characteristics the teacher does not have to be a genius or a paragon of all virtues, but he should desire to have a good program of vocational agriculture.

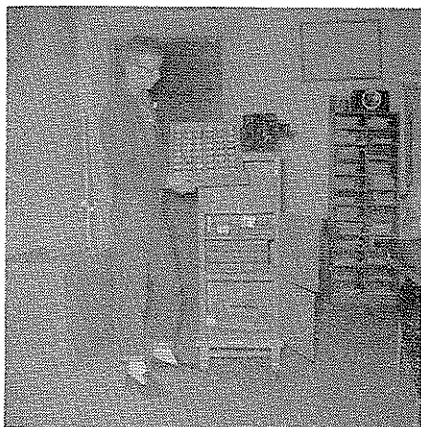
Every day the teacher should keep in mind that he is the master of his fate—and the fate of his pupils. He is the captain of his soul.

There are many opportunities for - - -

Using Teaching Aids

J. Y. TERRY, Vo-Ag Instructor, Dodson, Louisiana

The proper use of visual aids will enable the busy teacher to teach more in less time. All teaching methods can be arranged between two extremes—direct experiences and pure abstraction. Direct experiences are realities themselves, just as we encounter them every day. As we move away from these direct experiences toward the realm of abstraction we pass through several degrees of sensory stimulation, each induced by the use of some extra sensory device. Comenius once said, "Instead of studying dead books, why not open the living book of the world, the study of which offers us more pleasure and benefit than any person could ever give us? Men should learn by studying the sky and the earth, the oak trees and the beech trees."



Visual aid cart.

Visual aids cannot replace a good teacher. They can make his work more effective, but at the same time they increase the need for interpretation and clarification. There is, I believe, as much danger from unplanned, indiscriminate use of visual materials as there is in the neglect of them. It is suggested that teachers incorporate their available visual aids into their lesson plans in such a manner that they can be used most effectively.

In setting up my visual aid program, my first task was to determine what visual materials of all types were available. The lists are almost unlimited. These were carefully screened and the better ones selected. A brief description and the source of the aid was included in my four year course of study. As I prepare my lesson plans I select one or two of the best charts, models, films or other aids and make

a note of their identifying numbers at the end of the plan as a reference. The ones I actually use are determined by the problems encountered while teaching the job.

Using Filmstrips

In my opinion, film strips are probably the most economical and best aids for teaching jobs that do not require motion. The pictures are fairly plain in a dimly lighted room, a condition found in most agriculture departments. The rate of showing is under complete control of the teacher who can linger on a frame as long as he wishes or skip over those scenes that are not applicable to the job being taught. Lecture sheets are usually provided with films that are not self explanatory. A well chosen strip may serve equally well as a motivating device or as a means of summarizing a job.

For best results films and other contrived aids should be used in the room where the lesson is taught. There should be as little disruption of routine as possible. Venetian blinds are good for quickly darkening the room for a film, in addition to being attractive and versatile. A visual-aid cart equipped with rubber castors, several drawers for storage of film, preserved specimens and the projector will cut down confusion and save time. The boys usually set up the equipment while you are making introductory remarks. Students operate all of our projection equipment. Building the cart will provide good learning experiences for your better pupils.

Using Movies

Few people will question the value of the motion picture as an attention holder and for teaching certain processes that involve motion and time lapse. Motion pictures also build a common denominator of experiences among the observers. Pupils must have certain reading skills before they can share the thinking and ideas of the author of a book, but illiterates can get ideas from pictures and be able to discuss them with others. Individual differences in interpretation will exist, however, since some will have "seen" far more in the film than others. This means that the teacher's job becomes more important. He must discover

and clarify any misconceptions created by the film.

It is very important that the teacher preview the film, check its running time and formulate challenging questions for the discussion after the picture. If the film does not contribute to your teaching objectives, discard it. Classroom films are not for entertainment. The discussion period following the film is where the real teaching is done. Here is where the preview notes pay off. If you have planned well and anticipated controversial points, the films will have been well used.



Use of charts.

Using Charts, Maps and Blackboard

Often overlooked, but I believe very effective, is the use of charts, maps, posters and blackboard sketches. Our commercial charts are kept in cardboard cylinders and labeled for convenience. When in need of a quick method of illustrating a point, I find the blackboard an important supplement. Blackboard and chalk are always at hand. A spontaneous sketch at just the right moment will clarify a point that words alone will not always express. Avoid the use of instruments when making these drawings.

Using Field Trips

Field trips are excellent teaching devices when conducted with an educational purpose. True, they are expensive and interfere with school routine but they are worth the trouble if they are carefully planned and executed. I feel that field trips are more effective if the boys help with the planning, setting up of objectives and rules of conduct. Good manners and a well planned, business-like program provides an opportunity for public relations of the best kind.

Other Aids

It has been my experience that some of the best teaching aids are

(Continued on page 117)

Some suggestions for - - -

The Use of Audio-Visual Aids

RAY GILBERTSON, Vo-Ag Instructor, Stevens Point, Wis.



Ray Gilbertson

SOUND films were first used in schools in the late 1920's. A few years previously, silent motion films, filmstrips and slides had been used on a small scale.

After World War II the use of audio-visual aids in our schools expanded greatly. During this war the armed services training program brought about the use of audio-visual aids on a scale unimagined until then by any educator. The army and navy had to train millions of men in a very short time. Motion pictures and filmstrips helped teach the men how to use the equipment and machinery of warfare, how to attack the enemy, how to administer first aid and many other things. With the close of the war, the activity of the armed services training program was reflected on civilian educators. Large quantities of government audio-visual aid equipment and material was transferred over to schools. Book publishers began to produce films to accompany some text books, and film producers got busy in the production of 16mm. silent and sound films as well as filmstrips and slides. These were made available to schools either by purchase or by loan.

Many vocational agriculture instructors now own 35mm. cameras which can be used for photographing farm skills, project work, demonstrations and Future Farmer activities. These pictures are processed into a series of 2x2 slides which may be used for classroom instruction. Many schools are also equipped with 16mm. cameras and the various departments, including the vocational agriculture department, have access to this valuable piece of equipment. These films can be projected on the school's 16mm. projector and thereby add motion to the subjects photographed by the instructor.

What are the advantages of audio-visual aids?

1. Films make it possible to learn more in less time. Therefore a more complete program of education may

be provided in the same amount of time formerly used.

2. Films make it possible to

standardize training. All persons learn how to do an operation in the same way.

3. It is easy to get and hold the attention of the class by using films.

4. Films can be repeated for the slow student and, in many cases, for the student absent the day of the first showing.

5. The narrator or the demonstrator in the film has been selected for his clear enunciation of words and for his skill. He never forgets anything nor varies the lecture.

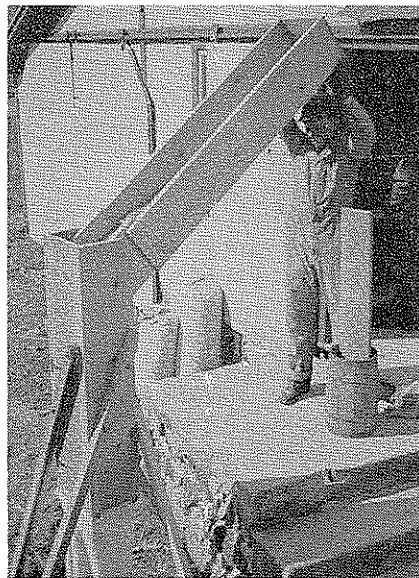
6. In shop work the students can become familiar with machines that they do not have in the agriculture shop.

7. Motion pictures can show time lapse photography. A growing bean plant, for example, can be photographed during different stages of growth and when shown on a screen, we see the seed sprouting, the growth of the root and stem, and finally, the fully grown plant complete with seed pods.

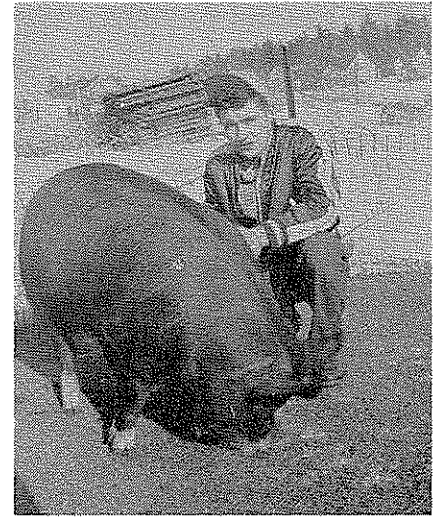
When should we use audio-visual aids?

1. In most cases they should be used in integrated fashion. A film viewing, for example, may precede a field trip to a farm to judge dairy cattle with another showing of the same movie or filmstrip the next day.

2. Some films may be used as a



Treating seed oats with the Minnesota seed-grain treater. Photographs of chapter activities appearing in the local newspaper not only publicizes the chapter work but also is good public relations. □



Pictures of students' projects placed on the bulletin board stimulates interest in vocational agriculture.

review of what has been learned in a particular unit.

3. Some audio-visual aids are especially valuable in introducing new ideas to a class.

4. Many filmstrips and slides may be used for testing pupils.

The instructor must know the content of a film. He should preview the films and slides. There must be planned looking and listening. Words and terms unfamiliar to the students should be placed on the blackboard by the instructor. This will help the students to better understand the film and also help them increase their vocabulary. It may sometimes be worth while to show a film a second time in order to clear up a point or to call attention to something that many members of the class missed. Many movie films and most filmstrips and slides have an accompanying manual or syllabus. The instructor should familiarize himself with the content of these so that he may do a more effective job of teaching. In certain manuals on the use of films and filmstrips, there will be outlined a series of steps to follow such as preparation, presentation, application, examination, discussion and criticism. These can be of help in making class plans.

It is advisable to make a file of the films you have used. A 3" x 5" card for each instructional film may contain the title; source; rental cost; description (color, black and white, length); a short synopsis; and the instructor's evaluation together with comments for future use. All department owned audio-visual aids should be properly classified and good storage cabinets with files for each type and shelves for recordings should be provided. □

Do you use your local - - -

Human Resources for Teaching

VINCENT M. SALMON, Vo-Ag Instructor, Benson, Arizona



Vincent M. Salmon

DO you need any free teaching aids? You have some of the best right in your own community. How many of these aids have you used recently?

In a recent study by the writer the main problem was to determine what resources Arizona teachers of vocational agriculture use, how they use them, and the relative value of each in the program of vocational agriculture. Very little work had been done up to this time in Arizona relative to resource people available for assisting teachers of vocational agriculture with their instruction. There has been no systematic study conducted along this line in Arizona.

The information obtained from this study was also intended to be of value as a guide for teachers of vocational agriculture in evaluating the personnel available in their own communities, and has since been used as a guide for listing local individuals by name for inclusion in annual and long time plans for departments of vocational agriculture.

Assumptions

The fundamental assumptions of this study were:

1. That the program in vocational agriculture will be of more interest and value to the students when the regular instruction is supplemented with outside experience and information.

2. That people in a community are willing to assist with the instruction in vocational agriculture if they have a clear understanding of the value and scope of service they can render.

3. That the use of resource personnel will aid the development of better public relations for the department of vocational agriculture and the high school.

A list of 59 known resource people and agencies in Arizona was compiled and arranged in seven different groups - i.e., ranchers, tradesmen, producers, businessmen, professional personnel,

agriculture specialists and cooperatives. To this list was added four ways in which resources could be used by teachers of vocational agriculture. This material, along with a place for teacher evaluation of the resource, comprised the check-list. This check-list was mailed to all (42) teachers of vocational agriculture in Arizona. Thirty-seven teachers or eighty-eight percent completed and returned the check-lists.

Findings

It was found that the vocational agriculture teacher in Arizona used an average of approximately 26 resource people in his instructional program. The question and answer method of instruction was most commonly used by resource people. The 10 individuals most frequently used by all teachers were classified as "good" or "fair." None of these ten was rated "poor" by the teachers using them.

The following are some of the more specific findings of this study:

1. In Arizona, teachers of vocational agriculture use approximately 26 resource people in their programs. These are the training aids.

2. All teachers in Arizona that reported make use of some community resource personnel.

3. Resources used either "often" or "occasionally" by 50 percent or more of the teachers reporting were: bankers, cattle inspectors, cotton farmers, county agents, custom machinery operators, dairy farmers, English teachers, farm implement dealers, farm mechanics specialists, feed dealers, general farmers, home economics teachers, insecticide dealers, nurserymen, other vocational agriculture teachers, poultrymen, purebred livestock breeders, range cattlemen, seed dealers, soil conservationists, state FFA executive secretary, state FFA officers, stock farmers, teacher trainers, university specialists, veterinarians, welders, and welding supplymen.

4. The resources used by the largest number of teachers were, in this order: dairy farmers, poultrymen, general farmers, cotton farmers, farm implement dealers, stock farmers, feed

dealers, state FFA officers, welding supplymen and bankers.

5. The resources checked as "never" being used by at least 65 percent of the teachers were: agricultural border inspectors, bee inspectors, bricklayers, building contractors, citrus growers, crop certification inspectors, DHIA fieldmen, Farm and Home Administration personnel, forest service personnel, rodeo cowboys, rural school teachers, and sheetmetal men.

6. The types of instructional assistance offered by resource people were as follows: (the figure after the method is the total number of times it was used)

Question and answer . . .	572
Talking to class	502
Demonstration	357
Group discussion	291

The use of questions and answers leads all other methods of instruction in frequency of use by all resource people.

7. The individuals used for questions and answers by at least 54 percent of the teachers were: cotton farmers, dairy farmers, farm implement dealers, general farmers, poultrymen, and stock farmers.

8. Over 40 percent of the teachers used the following groups for talks to their classes: bankers, cotton farmers, poultrymen, soil conservationists, state FFA executive secretary and state FFA officers.

9. Approximately 40 percent of the teachers used the following groups for demonstrations to their classes: dairy farmers, farm implement dealers, farm mechanics specialists, poultrymen, stock farmers, welders, and welding supplymen.

10. Over 27 percent of the teachers used the following groups for group discussion with their classes: cotton farmers, dairy farmers, farm implement dealers, feed dealers, general farmers, insecticide dealers, poultrymen, purebred breeders, range cattlemen, and stock farmers.

11. All but five of the 63 types* of resource people were rated "good" or "fair" by all of the teachers who evaluated.

Next time you need a teaching aid for a particular unit of study, look around your community. You will be surprised at the "aids" you will find. □

*4 others in addition to the original 59 were added by the teachers.

A teacher comments on - - -

A Land Laboratory

T. A. COCHRANE, Vo-Ag Instructor,
Fort Meade, Florida

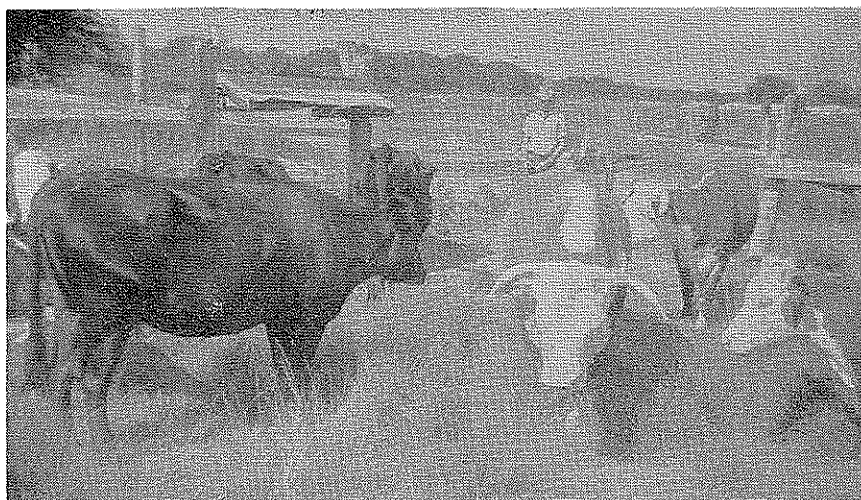


T. A. Cochrane

WHEN a teacher of vocational agriculture starts planning a land laboratory program that includes most of the enterprises produced in a given area, he is asking for more work than meets

the eye. Let's hope that the results are worth the means.

To begin with, for a land laboratory program to be successful, it takes a lot of planning before and after school several days each week. Supplies have to be bought ahead of time and equipment must be ready for the specific job to be done if you expect to accomplish much when the students arrive for class. Feed has to be secured and on hand at all times if you are carrying on a livestock program. When livestock miss a meal you are wasting feed. Producing citrus from nursery to bearing grove takes time; vegetables will not produce if cared for improperly. Equipment has to be in running order at all times if your program is going to prosper. So, fellows, if you don't have a laboratory program going and don't want to



This part of the land laboratory provides year around work experience.

work, plant a few rows of vegetables, keep your mouth shut about money for equipment, and go fishing in the summer.

Our land laboratory program here at Fort Meade High School consists of ten acres of cultivated crops including most of the varieties of vegetables grown locally, twelve acres of improved pasture, eighty acres of unimproved pasture, from eight to fifteen head of cattle (grade and registered), a few hogs on hand at times, a citrus nursery, and a small orange grove. We produce and sell ornamental plants.

During the summer most of these things are to be cared for just as often as during the fall, winter, and spring when you have students to help. We have been fortunate in having good students who are willing to come around during the summer and do a

good percentage of the work, but I keep telling myself, "One of these days, Cochrane, you are going to find yourself out in the field doing the things that students should be learning to do." We try to make hay, put up some corn and other feeds, keep the nursery worked, plant cover crops, watch for screw worms, keep the equipment running, and fertilize pastures.

Boys, if you don't want to work, don't get a bus to transport students from school to the land laboratory; don't get a pick-up truck; don't get two tractors; don't get a one and one-half ton truck to haul cattle; don't get irrigation equipment; don't get your land prepared before school starts in the fall so that you can plant a fall crop of vegetables. But if you don't try some of the things mentioned, there will be something missing from your program! □

There are many ways to - - -

Improve Instruction in Farm Mechanics

PAUL R. LYNCH, Vo-Ag Instructor, Presque Isle, Maine

Farm mechanics instruction in Aroostook County, Maine, is an important and integral part of vocational agriculture. Many of the farms today have more money invested in buildings and equipment than in the very land used to grow the crops. In most cases farm mechanics can and does occupy fifty percent of the class instruction in vocational agriculture. There are times, when we teach according to need of the boy, that farm mechanics will include more than fifty percent of the class instruction. Farm mechanics, however, is not the whole course in vocational agriculture and must be kept in its place. The instructor must see to it that the farm enter-

prises and the individual farming programs get their just share of time in the course.

Here at Presque Isle High School, the vocational agriculture students would rather spend more time in farm mechanics than any other phase of agriculture. In farm mechanics you can see where you have accomplished something, and the boys like to work on jobs where you can see progress. They like the activity in moving about. They like to prove through farm mechanics activities that vocational agriculture is not an easy course and that it has practical value.

One of the things that is holding back improved instruction in farm

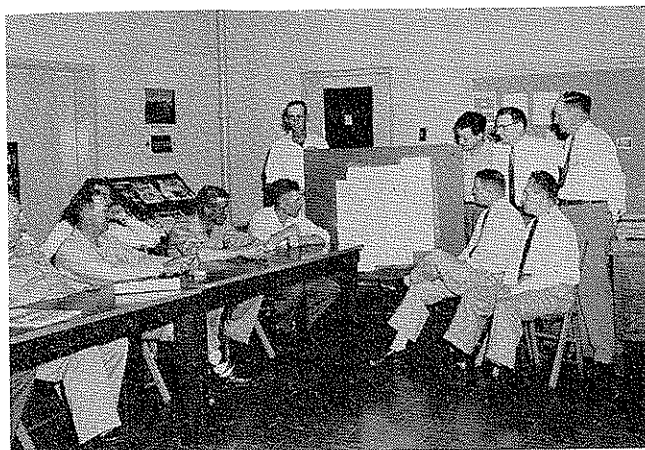
mechanics is the lack of proper facilities. Mechanization of the farms came about rather fast due to many factors, including World War II and the expansion and investment period after the war. The vocational agriculture program has not kept pace with the times. Many shops are just big rooms and some are not so big. These rooms have not been especially planned for the big equipment which we have on our farms today. The doors are not big enough and the room is not large enough for more than one or two pieces of machinery. There are no facilities for lifting motors and heavy objects. The drainage system is not adequate; storage space is at a minimum; and, in many cases, the small shop that is available is used by janitors, driver training cars and for other school equipment.

The schools that do have the proper

(Continued on page 115)



A workshop in Program Planning was the sparkplug for a coordinated Ohio effort to improve local programs through better planning.



Both lay and professional evaluation are needed in order to plan improved local programs of agricultural education.

How Can I Find the Time?

The answer—Program Planning!

J. E. DOUGAN, Supervisor, Ohio

"I just don't have the time" or "Even now I have too much to do" are common phrases used by supervisors, teacher trainers, and teachers of vocational agriculture. Time to get the job done and a program that can be accomplished in a reasonable length of time are current problems many teachers and members of state staffs are facing today. We must admit we are always anxious to suggest more to do and, generally speaking, the suggestions if accepted and put into action will improve our programs. Seldom do we suggest the elimination of any activities or study ways and means of lightening the load or saving time. However, the search for more time to do more things is a mark of the intelligent person. The search for that extra hour is a concern of people everywhere. If we take our work seriously we are just being human in seeking to find more time to do more things. The effectiveness with which we use our most precious resource—time, will be governed by our philosophy and by our planning.

There are only 24 hours in a day. The well organized agricultural education worker will devote an average of eight of those hours to his vocation. He does this by developing the habit of establishing goals and planning ways and means to reach these goals. In general we make our own schedules. We do what we want to do.

There are many efficient people who know how to gain an extra hour a day but do not know what to do with it after they have gained it. It isn't the hours we work, it is the way we work the hours. Efficiency can

give us more time.

In applying these principles to the personnel who work in agricultural education, we arrive at the conclusion that better organization and planning of our programs will contribute materially in helping to solve our time problem. Here is the way we have approached this problem in Ohio.

Ohio Program Evaluated

Recently an extensive evaluation of the program of vocational agriculture in Ohio, including both the local and state program, was conducted. This evaluation was made by teachers, state staff members, state advisory committees, and others. The various areas of state and local programs that needed improvement were identified. After much discussion by the above groups, it was the consensus of opinion that if state and local programs were better planned and organized, improvement of our total program would result. It was also the opinion that the work load and effectiveness of teachers and state staff members is directly related to program planning.

Needs Lead to Action

The need for better planning and organization of local and state programs was discussed by vocational agriculture teachers, superintendents and principals, state advisory committee and state staff. A program of action for improving our programs was developed by representatives of the above group as follows:

Teachers in each of the 15 vocational agriculture districts in Ohio selected

at least two representatives from their district to attend a three weeks program planning workshop at Ohio State University. The services of Dr. A. W. Tenney, regional program specialist, U. S. Office of Education, and Dr. Ralph Woodin, Ohio State University, were secured to direct the workshop. Personnel from the College of Agriculture, State Department of Education, business, industry, school administration, and others served as resource persons.

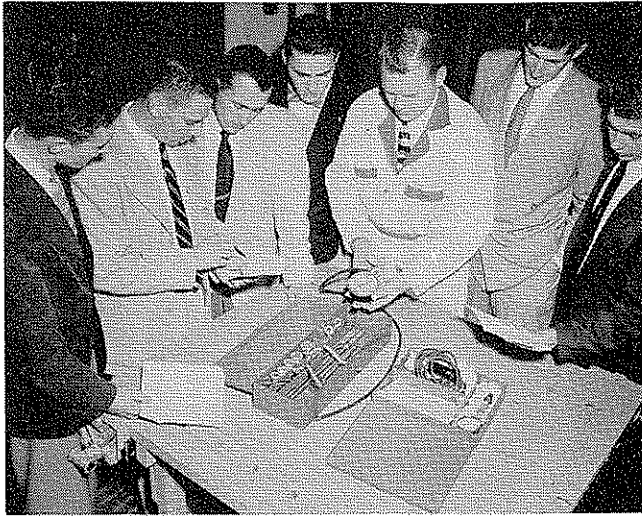
The Workshop

Considerable attention was given to identifying the components of effective program planning and of the general objectives of vocational agriculture. The individuals attending the workshop made an exhaustive study of each of the following aspects of program planning:

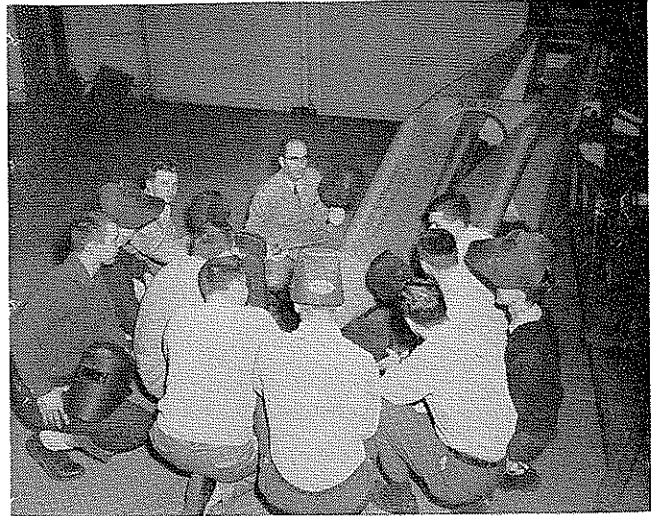
1. Evaluation of local programs.
2. Assembling information related to local needs for agricultural education.
3. Appraising and listing local resources.
4. Developing tentative annual and five year programs for the department of vocational agriculture.
5. Selecting, organizing and making effective use of lay and/or advisory committees.
6. Budgeting professional time in order to get the job done.
7. Applying program planning techniques to the adult and young farmer program.
8. Applying program planning techniques to the classroom and on-the-farm teaching procedures.

Committees were formed for each of the above phases of program planning. Each committee made their study in terms of (1) stating the pur-

(Continued on page 112)



Thirty-six workshops similar to this were conducted for Ohio vo-ag teachers during the past year.



Welding was a popular in-service training subject with Ohio vocational agriculture teachers.

Ohio's In-Service Training Program

For Vocational Agriculture Teachers - - -

D. R. PURKEY, Supervisor, Ohio

One year ago Ohio Vocational Agriculture Teachers started on a comprehensive In-Service Training Program under the leadership of the staff in the State Department of Education.

Special attention was given to technical non-credit workshops requested by teachers to keep them up-to-date in various phases of technical agriculture. As a result of teachers' demands, the following participation has resulted:

- 15 tractor maintenance schools, two days in length, with a total attendance of 256 teachers.
 - 11 workshops on oxyacetylene welding with a teachers' attendance of 121.
 - 4 electric motors workshops with an attendance of 73.
- Concrete masonry and farm buildings accounted for six (6) workshops with a total attendance of 106.

In addition, with the cooperation of the Lincoln Arc Welding Foundation and the DeVilbiss Spray Painting Equipment Company, workshops were held in their company facilities in their respective areas.

A total of 1106 teacher days were spent in workshops last year.

With the completion of one year of in-service training, the teachers were

again surveyed to determine their desires for further training. As a result, we are conducting workshops at the present time in counseling and guidance, agronomy, and field spraying materials. Other areas to be covered this spring and summer include maintenance of one-cylinder engines, teaching aids, advanced tractor maintenance, concrete masonry, farm policy, and animal nutrition.

Subject matter changes which are the result of rapid developments in the field of agriculture make it necessary to keep teachers up-to-date technically. Although we have spent considerable teacher and staff time, we feel it is justified.

Each workshop is designed to incorporate the best teaching methods as well as the latest best technical information. This should help teachers and staff members to grow professionally as well as technically. □

How Can I Find - - -

(Continued from page 111)

pose of their particular phase of program planning, (2) identifying and describing the present situation regarding this phase of program planning, (3) recommending procedures which should be used in view of the situations and stated purposes. Final

reports were drafted by the committees and later presented to teachers at district meetings.

Applying Workshop Findings

District meetings were conducted by two or more of the workshop participants. Teachers of vocational agriculture applied the findings of the workshop to their local situations. To date three district meetings have been held to discuss the different aspects of program planning. Additional meetings are planned. The state staff and the teachers are now in the process of developing a five year program of vocational agriculture in Ohio with goals and ways and means of accomplishing these goals. This is bringing about a common understanding between state staff members and teachers concerning the objectives and purposes of vocational agriculture in our present day society. Progress is being made in finding the answers to the following questions: (1) What are we trying to achieve? (2) What are the most important things to achieve? (3) What are the most urgent things to achieve?

Many of us in agricultural education have faced up to the problem of finding time for everything and saying to ourselves, "How can I get it all done?" There will always be exciting and interesting things we would like to do for which time will not be available. But as a result of the workshop, district meetings and small group meetings, we in Ohio have a clearer understanding of what is important in vocational agriculture and we believe that time can be found for the important things. This is program planning. □

The Land Judging Workshop

An effective tool for teaching soil and water management

ZENO E. BAILEY, Teacher Education,
East Texas State College

There seems to be unanimous agreement among teachers of vocational agriculture on one thing; namely, they are busy people. It behooves them, therefore, when planning activities for professional growth and development, to select those activities which will net the greatest returns in terms of time required by the activity. In terms of the time spent in the one to four-day workshop, many teachers are finding that the values accrued rank high on the list of planned activities for professional improvement.

From the standpoint of organization, subject content covered, time of year conducted, and length of time held there is a wide variation among workshops. Based upon the writer's experience and observation, it seems that the one to four-day (non-credit) workshop is gaining wide popularity among the teachers, particularly among those holding the Master's degree. This short period takes the teacher away from his community for a very short time thereby resulting in a minimum of interference with his program of work. Whatever the organization of the workshop may be, its conduct must be one of flexibility if the needs of each individual teacher are to be met effectively. It therefore behooves those who are responsible for

organizing and conducting workshops to make detailed plans far in advance of the actual date the workshop is to be held.

Nature of the Workshop

Through the cooperative efforts of the technicians from the local soil conservation district, the area soil scientist, and the Department of Agricultural Education at East Texas State College, an intensified one-day workshop was held for teachers of vocational agriculture in Northeast Texas. The first session of the workshop consisted of a general discussion, led by the soil conservation technician and the soil scientist, for the purpose of discussing and clearing up terms used on the official scorecard and other phases of land judging. Following the general assembly, a conducted tour was made to four different fields representing variable soil classes. At each field the teachers were given the official land judging scorecard (a copy shown here) and the instructions necessary in doing the actual land judging. Prior to the judging, holes had been dug in each field so as to reveal a 48-inch soil profile. Approximately twenty minutes were allowed the teachers for completing the scorecard and as much time as was needed to discuss and clear up

points of difference after the correct placings had been made by the technicians.

Differences of Opinion Noted Among Teachers Following Correct Placings

Significant misunderstandings and disagreements evolved, particularly when the physical characteristics of the soil in the various fields were discussed. In general, the teachers encountered the greatest difficulty in distinguishing such factors as soil texture, permeability, slope, and both surface and internal drainage among the different fields. It is not reasonable to expect the teacher of vocational agriculture to be an able soil scientist. It will be necessary, however, if he is to give sound advice to farmers in helping them make sound decisions in solving their soil and water management problems, that he possess a reasonable degree of competency in distinguishing certain basic physical characteristics of different soils. This apparent disagreement relative to physical characteristics of the soil stems partially from the lack of technical knowledge of the subject. This would seem to point up the need for workshops of a similar nature in other areas of soil and water management and perhaps in other areas of technical agriculture.

In view of the discussions that followed the correct placings of each field, a two or three-day workshop might be more desirable than the one-day type. The writer feels that the time spent in the field could be utilized more efficiently if a longer period were spent in intensified study and discussion before and after going to the field. The lack of general understanding of the terminology

(Continued on page 118)



Arthur Hanson, second from right, Area Soil Scientist, explains soil sample to a group of teachers. Shown testing the sample for texture is Grady Teague, teacher at Tom Bean High School.



Teachers discussing their scorecards following the correct placings made by soil conservation technicians.

Poor Record Books? Read - - -

Teaching Accounting by Deduction

J. O. TRESSLER, Vo-Ag Instructor, Greenwich, Ohio

Beginners in vocational agriculture usually have difficulty with accounting procedures. In fact, by the senior year, many students are unable to complete a project accounting book on their own.

Boys with excellent farming programs who file applications for State Farmer degrees often come up with project records which are faulty and incorrect. Of course, the wise instructor combs these records carefully to eliminate all errors.

I often have felt that State Farmer degree applicants should pass a test on balancing project account records before they further could be considered for the degree.

All of this adds up to the fact that we instructors need to re-evaluate our methods in teaching project record keeping and farm accounting.

For some years in Ohio we used a practice book in teaching project accounting procedure. It was time consuming, uninteresting, and unproductive for the most part. There was a lot of doing, but often too little thinking and understanding.

I believed that deductive reasoning might be a more challenging method of approach. We start with a crop project summary such as a corn record. Livestock records are somewhat more difficult as more inventories are involved.

The following facts are placed on the blackboard from the summary of a boy's corn project.

Calculating a Labor Income (10-Acre Corn Project)

- 200 bu. of corn sold at \$1 per bu.
- 700 bu. of corn stored at \$1 per bu.
- Cash expenses—supplies:
 - 2½ tons of fertilizer at \$70 per ton
 - 2½ bu. of seed at \$12 per bu.
 - 80 tons of manure at \$3 per ton
- Overhead charges:
 - Rent of land at \$12 per acre
 - 68 hrs. of tractor/machinery at \$1.50
 - Interest on supplies (10 mo.) at 6%
- If 80 hours of unpaid labor was used, (\$1 per hr.), what was the cost of producing each bushel of corn?
- Total Cost per Bu. _____

- Sales _____
- Increase in inventory _____
- Total Returns _____
- Supplies _____
- Overhead charges _____
- Decrease in inventory _____
- Total Expenses _____
- Project Labor Income _____

We list the items to be considered in determining the labor income from the project as given in the crop project record book.

Teaching About Inventories

Each beginning student is confronted with a problem. It is a new learning experience. He wonders why he should keep a project record. He probably knows from his arithmetic experience that costs and receipts are involved. A new factor is being introduced — the inventory.

Most boys know that storekeepers take inventories — a list of things on their shelves — periodically. Some boys may have fathers who take an inventory of their livestock, machinery, and supplies on their farms about January 1.

At this point it is well to place a simple example on the blackboard to explain why a farmer who takes no inventories at the beginning and at the close of the year cannot determine his true return for the year.

Suppose that Farmer Brown sells \$8,000 worth of produce during the year. His cash expenses are \$4,000. He believes that he has made \$4,000 during the year.

If inventories are considered, we find that his beginning inventory is \$26,000 and that his closing inventory is only \$24,000. The students can see that he has on hand at the end of the year a value \$2,000 less than the supposed \$4,000, the difference between receipts and expenses, or actually a farm income of only \$2,000.

Now we attempt to get each pupil to see that this farmer buys into his business (on paper) the value of his beginning inventories. At the close of the year he sells out his business (on paper) the value of the closing inventories. Thus, we may consider a beginning inventory as an expense, and

the closing inventory as a sale or receipt.

It is well to drill on this principle until each boy understands the meaning and value of inventories. If Farmer Brown had a beginning inventory of \$24,000 and a closing inventory of \$26,000, he would have a net increase in inventory of \$2,000, or a total farm income of \$6,000.

We should make the arithmetic simple at first while we are learning principles. In solving all difficult and involved problems, it is wise to simplify the figures in order to see the proper method of solution.

The next step is to show the boys that we cannot eat our cake and have it too. In our corn project, we have sold 200 bushels of corn. The other 700 bushels are stored and evaluated in the inventory. We must not enter these 700 bushels also on the sales page. We must account for it only once.

In most crop projects we do not have a beginning inventory. Sometimes a green manure crop might be considered as an inventory, but it is probably better to enter its value on the supply page.

Teaching About Costs

Boys usually get confused when they consider costs. They say that dad furnished the fertilizer — it didn't cost them anything. Or dad furnished the land — they have no rent to pay.

Here it is well to emphasize the fact — *what did the project make* — not what did the boy make on his farming project. Boys are more interested in making money than in learning accounting principles. Let us forget about the division of returns between boy and dad until we find out the net return or labor income from the project as a whole.

Last year I checked one project book from a neighboring school for a boy who was applying for the State Farmer degree. He had charged \$2 per acre rent. At four per cent interest and two per cent for taxes, this land would show an evaluation of about \$33 per acre which no doubt would be far below its appraised value. Here some teaching on appraised values and rental values on land would have helped.

Boys will invariably include expenses, such as gasoline for the tractor, unless they are taught otherwise. It could be done — some states may

Improve Instruction - - -

(Continued from page 110)

facilities for teaching do not use them enough. The farm shop should be in operation all day and all year. A lot of money goes into the construction and equipping of a farm shop. The investment should not be left idle fifty percent of the school time and one hundred percent of the summer-time. This could be accomplished only by two man departments. It is not possible for one man to be adequately up to date on all phases of farm mechanics and farm enterprises.

Determining Content

A good way to improve farm mechanics instruction is to give careful consideration as to what is taught in farm mechanics. We in vocational agriculture have always been of the belief that we should teach according to the needs of the students. Now we are receiving a number of town boys who have no immediate need. This creates a problem regarding learning by doing because the boys have no immediate projects at home that can be used for shop instruction. This can be partially overcome by school farms. Here at Presque Isle we have to spend much of our time in the care and maintenance of machinery used on the school farm.

The amount of time to spend on one phase of farm mechanics and just how far to go into the subject is becoming a real problem. Many of the instructors that like farm mechanics believe we should go into a phase far enough to teach the students all about every detail. Should this be done, it would mean specialization we do not want. Also, such instruction would be time consuming.

Many times the content of the course is made up according to the interest of the instructor and the facilities available. The course should be taught not from the interest and ability of the instructor or what facilities are available, but from the needs of the community. The teacher-training institutes could do a better job of educating prospective teachers.

Determining Teaching Procedures

The teaching procedure will be determined by the ability of instructor, the facilities available and the needs of the students. The farm mechanics program should meet the boy's needs in his individual farming program. This may break up the con-

tinuity of the program, but it meets the needs of the student. The program falters under these conditions when the individual farming programs of the students are weak.

The teacher with the ability and "know how" will give the students more actual work because he has confidence in his ability. The teacher that lacks confidence and ability in farm mechanics work will teach from books and the students will have knowledge but not the actual experience.

The farm mechanics teaching procedure should be "learning by doing." Teachers of vocational agriculture to be "top notch" must keep up on new developments. To keep up with the new developments in agriculture a teacher would need to spend three or four weeks a year reading, studying and traveling to places to see new practices and new machinery. We are a little lax in our professional improvement. We should spend two or three hours a day reading magazines, reading newspapers and listening to farm programs.

Summary

To improve instruction in farm mechanics the teacher of vocational agriculture must be better trained, be more carefully selected, have better facilities and have a thorough knowledge of the community that he works in. The teacher does not have enough time to organize and administer his program and develop the ability to do all the jobs expected of him in teaching vocational agriculture. We should have more two- and three-man departments so that the jobs can be divided up. □

Teaching Accounting - - -

(Continued from page 114)

do it — but it complicates project accounting for beginners. Then we have the problem of teaching depreciation, repairs, storage, taxes, and interest on these tractors, which is quite beyond the ability of beginning students in vocational agriculture. We say that \$1.50 per hour for a two-bottom plow tractor takes care of the total cost of operating the tractor and the implements following them.

Interest on investments and interest on the cost of supplies presents another beginning problem. Is there any cash involved in adding farm manure to the land? The boys may argue for labor, machinery costs, etc., but it is better to make an overall

charge for it for the part that may be utilized by the current crop. Therefore, we charge interest only for the time we have used actual cash in growing the crop.

On feed records for feeding projects we consider one-third the total time for the total feed record. The greater amount of feed needed occurs during the latter part of the feeding record. Laying flocks and dairy herds usually pay for their feed monthly and no interest accrues.

Many boys will have difficulties in calculating interest charges. Simplify the problem by explaining that interest at 6 per cent means one per cent for each two months.

After each boy finds out what the project makes, he is ready to determine what he makes and what his dad makes according to the agreement or rental basis. We should show that the sum of the two parties' expenses and receipts should equal the total for the project.

In Ohio we have dropped the labor record from all livestock projects. The amount of time recorded varied so much that it did not seem wise to consider the labor as an item.

The danger of making estimates is that the boys may get the idea that all project accounting consists in estimates rather than in dealing with realities. One aggressive boy last year wanted to be sure that he kept his project record up-to-date. He completed the record book with summary and analysis before I knew what he was doing. Feed records are not as complete and accurate sometimes as we desire because of estimates.

Records Must Be Used

Boys soon learn to check each other's project records. They learn by so doing and also serve as a valuable aid to the instructor.

No instructor has made full use of project accounting until he and the class have prepared a summary analysis study of all projects in the department and have studied the results obtained.

Project accounting and farm accounting is so important and so difficult that we instructors should spend more time in getting our students to understand the principles of accounting and the results to be obtained in the use of them. Most of our part-time and adult students are equally in need of such training. □

Teacher Training in Agriculture in Non-Land-Grant Colleges in the United States

WILLIAM F. BRAZZIEL, Teacher Education, Southern University, La.



William F. Brazziel

THE training of agriculture teachers, while begun in non-land-grant colleges has been a function of land-grant colleges since their inception. In recent years, however, a large number of state colleges, denominational institutions and private schools have added programs of agriculture. This has been done, in most cases, in an effort to meet the needs of the rural youth of the area in which these schools are located. Some programs of teacher training in agriculture have developed.

Purposes of the Study

The data and analysis included herein were taken from the comprehensive study of these programs entitled: "Instruction in Agriculture in Non-Land-Grant Colleges in the United States." The study of the teacher education areas had as its purposes:

1. To identify the nature of the institutions offering such programs and some of the bases for the initiation of the programs.
2. To identify the strengths and weaknesses of the programs.

Types of Teacher Training Programs

Twelve institutions granted degrees in vocational agriculture. These institutions were certified by the U. S. Office of Education and the State Department of Education under the stipulation of the Smith-Hughes Act which appropriated federal funds for research, extension and resident instruction. The institutions were located in seven states and were all state regional colleges with the exception of one Negro private college.

Eighteen institutions granted degrees in education with a teaching major in agriculture. They were all certified by the State Departments of Education. The institutions were located in sixteen states of which eight

were different from the states in which Smith-Hughes degrees were offered. All were state regional institutions with the exception of one denominational college.

Thirteen institutions offered the first two years of training in vocational agriculture. There were working agreements in effect with the land grant colleges in all programs which facilitated the transfer of students from the two year programs to the land-grant colleges for completion of the course. These institutions were all state regional colleges with the exception of one denominational institution. They were located in eight states, seven of which were different from the states in which the Smith-Hughes degrees were offered but none of which was different from the states in which Education in Agriculture degrees were offered.

Some type of Smith-Hughes training in agriculture was being offered in twenty-five institutions located in fourteen states and some type of agricultural education was being offered in forty-three institutions in thirteen states. The following table gives further analyses.

Types of Agricultural Education Offered and Number of Institutions and States Offering Each Type

Types of Programs	Number of Institutions Offering Such	Number of States Where Located
Smith-Hughes Vocational Agriculture	12	7
Education in Agriculture	18	16
Two-Year Transfer Programs	13	7
Totals	43	*13

*Seventeen duplications of programs and types of programs within states.

The general agriculture program, the two year terminal curriculum (with AA degree) and transfer programs seemed to hold the most promise for the agricultural programs. However, rigidity in professional or vocational course requirements and a retreat from liberal education are the inherent pitfalls in these types of programs. The colleges had not circumvented such danger in either area. Restrictions in free electives and in suggestions and/or requirements in

the humanities and the social sciences were in evidence.

Most of the institutions were strongly committed to the principles of providing the needed guidance services for such programs, but sound academic and vocational counseling and the interpretation of the programs to the constituency were not being met largely because of inadequacies in staff size.

Most of the institutions (95 per cent) maintained college laboratory farms with a wide variety of operation in evidence. Most had the services of a variety of classroom laboratories and equipment for a wide variety of disciplines.

While most institutions were strongly committed to programs of regional services, staff loads and uncertainty as to function acted as deterrents to the development of strong programs in this area. Most experienced a reciprocity in aid with other agricultural and educational agencies in the community but little study had been done to determine how best the small college can enrich the lives of a rural constituency. Most of the services consisted of workshops and institutes for in-service teachers and information services for both in-service teachers and farm families.

Generally considered, most non-land-grant departments, divisions or schools of agriculture serve a worthy purpose; that of bringing terminal training for agricultural careers in actual farming and in related occupations to areas remote from the land-grant college.

The preparation of teachers for general agriculture secondary programs would seem to constitute a responsibility for these institutions. Many such programs are being initiated in secondary schools. Ohio and Iowa alone had over 115 each when the study was opened. In these times of teacher shortages, it will fall the lot of the regional college to train regional personnel for regional enrichment. No other social institution could reasonably be expected to do so. □

How much do you use YOUR magazine as -

A Method of Professional Improvement

E. W. GARRIS, Teacher Education, University of Florida

The world in which we live is dynamic. Change is constantly occurring in all realms of life. In fact, changes are taking place so rapidly that a person finds it a difficult task to keep abreast of what is new in his own field. Some weeks ago I heard a speaker answer a question by then saying: "technically correct today but probably out of date tomorrow." Speaking especially from a technical standpoint, it has been said that more progress has been made in the last fifty years than in any other one-thousand-year period of history.

In our efforts to keep apace with the rapidly changing conditions, man is reading professional and technical books, bulletins, magazines and journals; attending demonstrations and clinics; taking additional course work; and engaging in the never ending web of research. He is in the daily race with change, fearful lest his knowledge and methods may become obsolete.

Realizing the great impact of changes being made in the professional area of teaching vocational agriculture, our leaders, thirty-one

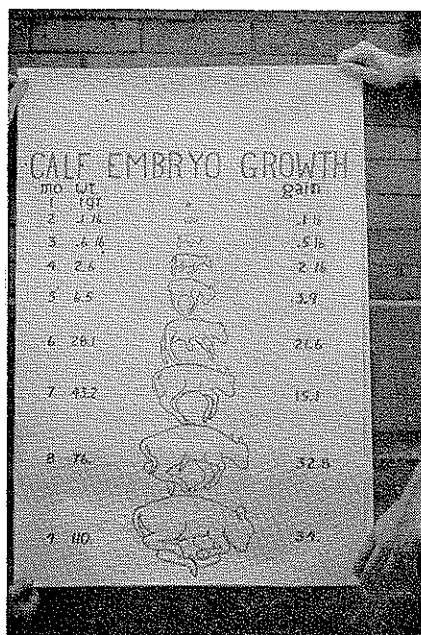
years ago, started the *Agricultural Education Magazine*. It is true that a teacher of agriculture has many methods of professional improvement from which to select the ones for him to use. It is my opinion that, over the years, the best single method is a study of the contents of each issue of the *Agricultural Education Magazine*.

It is the aim of the members of the Editing-Managing Board, as well as the Editor and Business Manager, to keep a balance of articles that will include philosophy, theory and administration on one hand; but never forgetting those that tell how some accomplishment was done in a practical way on the other hand.

No teacher of vocational agriculture should be without the aid he can obtain from the *Agricultural Education Magazine*, and we need help in being able to continue to publish what will best serve the needs of teachers. Join us in furnishing copy of high quality. □

Planning a Series - - -

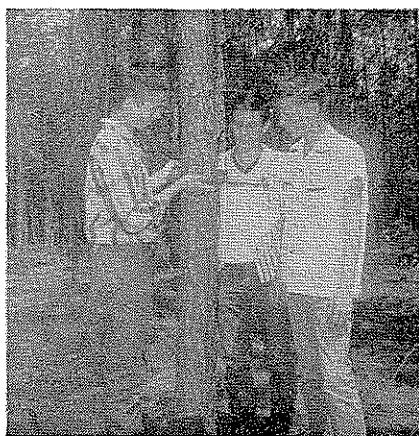
(Continued from page 105)



Charts are stored easily as slides.

- Have both good and poor practices illustrated.
- Include several illustrations on charts and/or experimental trials.
- Be sure to include photographs of local farmers and/or vo-ag members.
- Show different results obtained by following different practices.
- Develop a title slide for the series.

Test this plan and I'm positive more slide series will be developed with an end result of greater interest



Farm forestry.

in your classroom. □

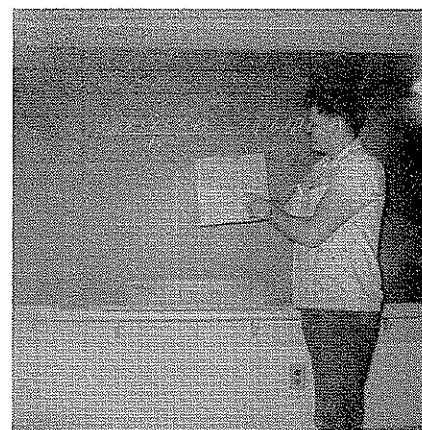
Using Teaching - - -

(Continued from page 107)

those that we have made or obtained locally. We have collected many specimens of common grasses and legumes and preserved them in Riker Mounts. Forage judging teams find them quite helpful. Many examples of insects and plant diseases can be preserved in a like manner. Others that contain large percentages of fluids are kept in preserving solutions for future study.

I would hardly attempt to teach jobs such as cutting rafters, farm plumbing, electricity or tool fitting without the aids of our home-made models. Operations of this sort cannot be adequately described by words alone. A pupil conception of a board foot becomes much more concrete

with the display of a board cut to that size. Electrical circuits become vividly simple when displayed upon a plywood panel. Pipe fittings and their particular uses are easily understood when assembled into a unit and displayed on a mount. I find it more effective to permit the better students to build these devices in the shop when they have finished their assigned work. It provides the gifted pupils an opportunity for more advanced work and full use of their time.



Board measure.

It has the added advantage of supplying the department with an economical source of adapted aids.

The lists of visual materials is almost endless. This very abundance tends to make the job of selection harder. I've noticed that when teachers discover visual aids, their first tendency is toward overuse. After a

(Continued on page 118)

The Land - - -

(Continued from page 113)

unique to soil conservation personnel can consume valuable time in the field that could otherwise be better utilized in developing land judging skill.

Workshop Suggestions

It is the opinion of the writer that a well planned and well executed workshop can be an effective means of providing in-service help for the teacher who cannot afford to be away from his community for an extended period of time. If you are

considering the land judging workshop as a device for helping teachers do a better job of teaching soil and water conservation to their all-day, young farmer and adult farmer groups, the following suggestions might prove helpful:

1. Prior to the workshop secure from the teachers a list of the major problems encountered in teaching land judging to their all-day and adult farmer groups. (District and area teachers meetings provide a good opportunity for securing this information.)
2. Technical instruction and demonstrations should be conducted by

specialists who are qualified through training and experience in the particular phase of land judging in which problems show that teachers need the greatest assistance.

3. Teachers should be encouraged to read and study carefully all important literature relating to land judging before the workshop is to be held.
4. Prior to going into the field, adequate time should be provided for free discussion and for clearing away misunderstandings and confusion among the teachers.
5. After each field has been studied and appraisals made, adequate time should be provided for summarizing, discussing, and otherwise clearing up all misunderstandings and differences of opinion that might still remain.

If properly organized and conducted, the workshop can be an effective device for keeping the teachers up-to-date on the latest developments in technical agriculture. This is particularly true with respect to teachers holding the Master's degree since their contacts with the agricultural colleges are somewhat more limited.

Using Teaching - - -

(Continued from page 117)

time though, they begin to discard the unsuitable ones and start building and selecting better ones.

Our efforts to provide direct experience to supplement classroom work led to the development of our most valuable aid. We have converted ten acres of wasteland adjoining the campus into a Forestry and Water Conservation Laboratory. We have set out six thousand pine seedlings, thinned the older trees and constructed an acre stock and fish pond. The boys have received first hand experience in farm forestry and pond management. Carefully kept records of management practices will assure teaching material for many years to come. Projects of the sort are expensive and time consuming in their early stages, but I believe they are well worth the effort.

Sensory materials are not the answer to all of our teaching problems; rather, they are a means, not an end. They can never take the place of an understanding and sympathetic teacher in creating interesting learn-

(Continued on page 119)

LAND JUDGING SCORE CARD

Field No. _____

**EXTENSION DIVISION
Oklahoma A. & M. College**

1. (Name or No.) _____
2. (Address) _____
3. (County) _____
4. Soil Conservation District _____
5. _____

LAND CLASS FACTORS—PART ONE
Indicate your answer by an X in the square

SURFACE TEXTURE		
Coarse.....	<input type="checkbox"/>	<input type="checkbox"/>
Medium.....	<input type="checkbox"/>	
Fine.....	<input type="checkbox"/>	
MOVEMENT OF AIR AND WATER IN THE SUBSOIL (permeability)		
Very slow.....	<input type="checkbox"/>	<input type="checkbox"/>
Slow.....	<input type="checkbox"/>	
Moderate.....	<input type="checkbox"/>	
Rapid.....	<input type="checkbox"/>	
DEPTH OF SURFACE SOIL AND SUBSOIL		
Deep.....	<input type="checkbox"/>	<input type="checkbox"/>
Moderately Deep.....	<input type="checkbox"/>	
Shallow.....	<input type="checkbox"/>	
Very Shallow.....	<input type="checkbox"/>	
SLOPE		
Nearly level.....	<input type="checkbox"/>	<input type="checkbox"/>
Gently Sloping.....	<input type="checkbox"/>	
Moderately Sloping.....	<input type="checkbox"/>	
Strongly Sloping.....	<input type="checkbox"/>	
Very Steep.....	<input type="checkbox"/>	
EROSION—WIND AND WATER		
None to slight.....	<input type="checkbox"/>	<input type="checkbox"/>
Moderate.....	<input type="checkbox"/>	
Severe.....	<input type="checkbox"/>	
Very Severe.....	<input type="checkbox"/>	
SURFACE DRAINAGE		
Poor.....	<input type="checkbox"/>	<input type="checkbox"/>
Fair.....	<input type="checkbox"/>	
Good.....	<input type="checkbox"/>	
Excessive.....	<input type="checkbox"/>	
INDICATE THE MAJOR FACTORS Considered in selecting the land class and treatments		
Texture.....	<input type="checkbox"/>	<input type="checkbox"/>
Permeability.....	<input type="checkbox"/>	
Depth.....	<input type="checkbox"/>	
Slope.....	<input type="checkbox"/>	
Erosion.....	<input type="checkbox"/>	
Drainage.....	<input type="checkbox"/>	

RECOMMENDED LAND TREATMENTS — PART TWO
(See reverse side for instructions)

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
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<input type="checkbox"/>
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<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

LAND CAPABILITY CLASS
I II III IV V VI VII VIII
[Circle one of the above]

SCORE—PART ONE _____

(POSSIBLE POINTS—30)

SCORE—PART TWO _____

(POSSIBLE POINTS—30)

SCORE—PART ONE _____

SCORE—PART TWO _____

TOTAL SCORE _____

News and Views of the Profession

Pacific Region Elects R. Canada



Ralph Canada

Teacher Trainers, and State Supervisor at their annual spring meeting at Helena, Montana, elected Ralph Canada their representative to the Editing-Managing Board of the *Agricultural Education Magazine*. Dr. Canada will serve a three-year term. The retiring representative for the Pacific Region is Jack Ruch of Wyoming.

Since Dr. Canada is on leave of absence for a foreign assignment and will not attend the A.V.A. convention at Buffalo, Dr. Leo Knuti, Teacher-Trainer at Montana represented the Pacific Region for this occasion. Dr. Canada will return to Colorado in September.

Dr. Canada is a member of a team of educators studying the vocational education needs of Italy, Greece, and Turkey. Headquarters of this team is located in Rome. The mission of this team of educators is to make possible a training

Hardin, President of N.V.A.T.A.



Luther S. Hardin

Luther S. Hardin, vocational agriculture teacher at Searcy, Arkansas for the past eight years, has been elected to succeed James Wall as President of the National Vocational Agriculture Teachers Association.

Mr. Hardin is a native of Tupelo, Jackson County, Arkansas. He was graduated from Newport High School and Arkansas Tech. He received the B. S. and M. S. degrees from Oklahoma A. & M. College and has continued his graduate work at the University of Arkansas. Among his many experiences and honors are the following: past president of Searcy Chamber of Commerce, past state officer of the Arkansas Vocational Agriculture Teachers Association, past vice-president of the N.V.A.T.A., speaker at many state vocational conferences, and Air Force pilot in W. W. II with 46 ocean crossings on his record. In addition to the organizations indicated above, he is a member of P.D.K., A.V.A., Arkansas Vocational Association, and N.E.A.

program for skilled workers in various production areas of economics. One important phase of this assignment is to establish a teacher-training program for the various vocational areas.

A thumb-nail sketch of Dr. Canada's qualifications for membership to the Editing-Managing Board might be summed up in the following statements. He received his Ph.D. degree at Penn. State University in 1954. He has served as head of Agricultural Education, Colorado State University, since 1946 when Dr. Schmidt retired. His teaching experience includes rural schools; superintendency of a consolidated school system in Nebraska; Assistant State Supervisor of Agricultural Education in charge of Food Production War Training from '41 to '45; County Rehabilitation Supervisor for the U.S.-D.A. in 1941; and consultant in vocational agriculture with headquarters in Tokyo, Japan, during 1948.

Through the years Dr. Canada has contributed articles to the *Agricultural Education Magazine*. He has written numerous articles that appeared in professional journals. It was with this record of experience and willingness on the part of Dr. Canada to serve actively in his professional responsibilities that he has been elected to represent the Pacific Region on the Editing-Managing Board. □

Mr. Hardin has contributed articles to various magazines including *The Agricultural Education Magazine*. By virtue of his new office, he also becomes a member of the Editing-Managing Board of *The Agricultural Education Magazine*.

Using Teaching . . .

(Continued from page 118)

ing situations; nor will they ever retire our better text books from active service. They will, however, make learning easier and more enjoyable.

My suggestion to the teacher who is not satisfied with his visual aid program is to check its organization. Are the aids included in the lesson plan? Are they adapted? Are the materials stored in an orderly manner and easily accessible? If not, that could be your trouble. Select aids carefully, make them readily available, and use them. □

Although the time is long past when our wildlife was a primary source of food, game still supplies annually an estimated one quarter of a billion pounds of meat to supplement the American diet, particularly that of low-income rural people, says a recent study of the Twentieth Century Fund.

BOOK REVIEWS

PROFITABLE POULTRY PRODUCTION by E. D. Parnell. Published by John Wiley and Sons, Inc., 440-4th Ave., New York, N. Y. Illustrated 393 p., 1957.

This book is another of the Southern Farm Series published by John Wiley and Sons. It is well organized, well written in simple, yet meaningful language, and is well adapted for textbook or reference use by high school boys and farmers. Poultry production and management is treated as a science, an art, and a business. Operations to be carried out and decisions to be made are emphasized throughout. Helpful references are cited at the end of each chapter. Chapters are included on: Choosing Poultry as a Farm Enterprise; Selecting a Breed, Variety, and Strain of Poultry; Brooding and Rearing of Young Stock; Housing; Managing Broilers; Feeding; Culling; Keeping Poultry Healthy; Managing the Laying Flock; Producing and Marketing Eggs; Producing and Marketing Poultry; Selecting, Fitting and Judging Poultry; and a Look Ahead. The book contains numerous well selected illustrations, including some in color.

The book is recommended for all departments of vocational agriculture in the southern states. In that it treats poultry production as a science, business, and art, many portions of it would be applicable to other areas of the nation.

Mr. Parnell is Professor of Poultry Science, Texas A. and M. College.
—G.B.J.

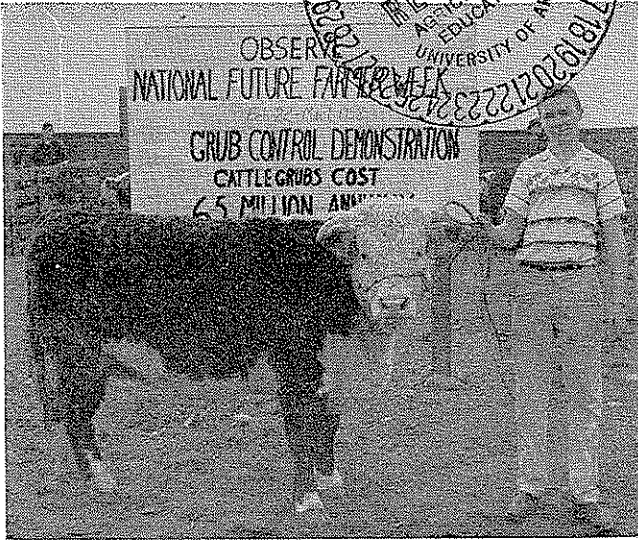
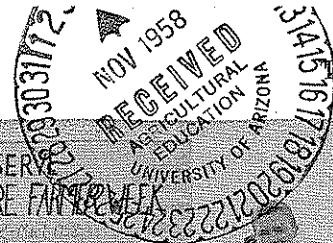
BASIC ANIMAL HUSBANDRY by John M. Kays. Published by Prentice-Hall, Inc., 70 Fifth Ave., New York 11, N. Y., 430 pages, illustrated. Price \$7.00. 1958.

The book presents a comprehensive study of the breeding, feeding, and many other aspects of animal management. Attention is devoted to all principal livestock animals. Major emphasis is placed upon the practical aspects of production and marketing rather than on the refinements of conformation and breed character more appropriate to the show ring. The book is divided into five major parts: Introduction, Beef Cattle, Sheep, Swine, and Horses. There are several chapters in each part. It should be a useful reference or textbook in departments of vocational agriculture.

Mr. Kays is Assistant Professor, Department of Animal Industries, University of Connecticut.

—G.B.J.

Next Month
School-Community
Relationships



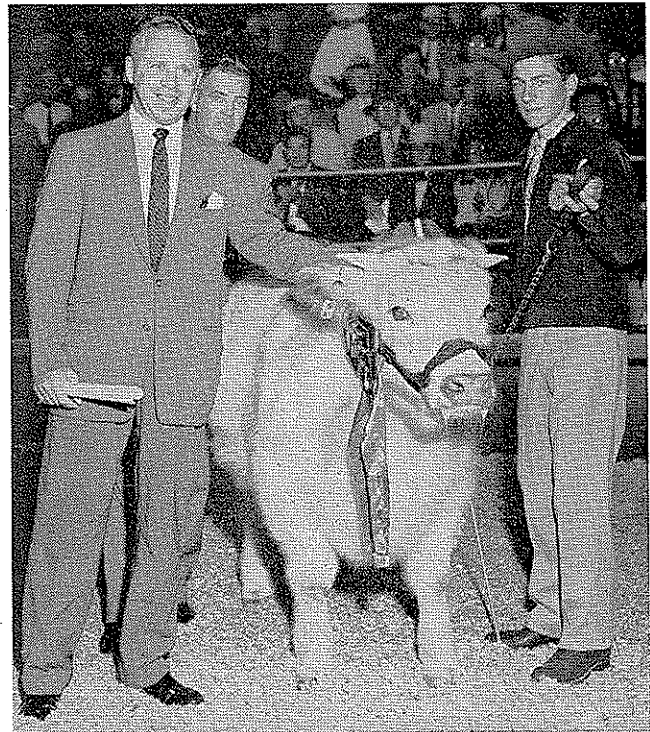
Wayne Martin, President of the Clarkston, Washington, FFA Chapter is holding a purebred heifer he has on contract with the Chapter. This is the Chapter's 13th grub control demonstration.



Adin Hester of Canby, Oregon, showing the form which made him the 1957 National FFA Public Speaking contest winner. His topic was "Atoms for Agriculture."

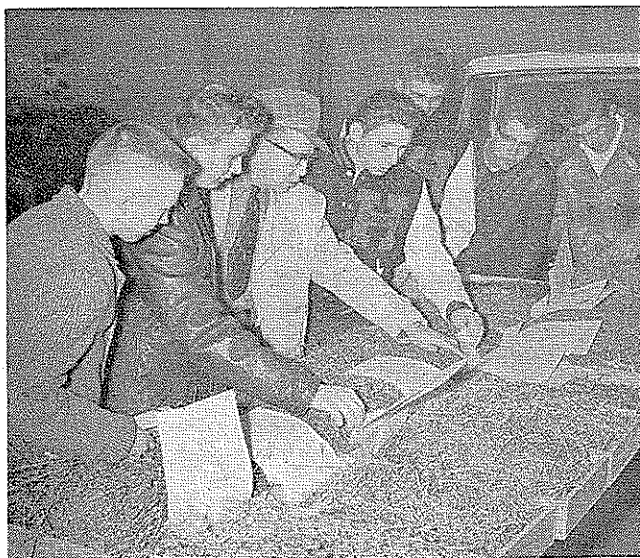


A few vocational agriculture students at Minot, North Dakota, learning to identify weeds in preparation for the State Crops Show.

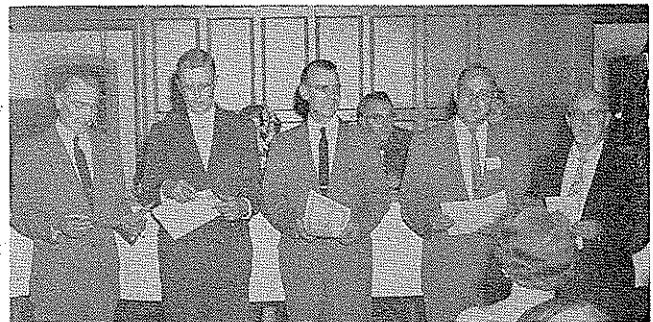


Grand Champion 880 lb. steer at the Florida State Fair was a Shorthorn owned by George Ruis, Plant City FFA Chapter. Harold K. Gotthelf and Fred W. Scott, both of Howard Johnston's Restaurant, purchased the animal for a record price of \$3.85 per lb.

Stories In Pictures



Hartford, Wisconsin, vocational agriculture students judging samples of hay at a recent farm institute.



Members of the Association of Teachers of Agriculture of New York who received certificates and medals in recognition of 30 years of service to vocational agriculture at the 48th Annual Convention. (Left to right) W. A. Smith, V. O. Linderman, E. F. Nohle, B. F. Tillotson and H. B. Allen.