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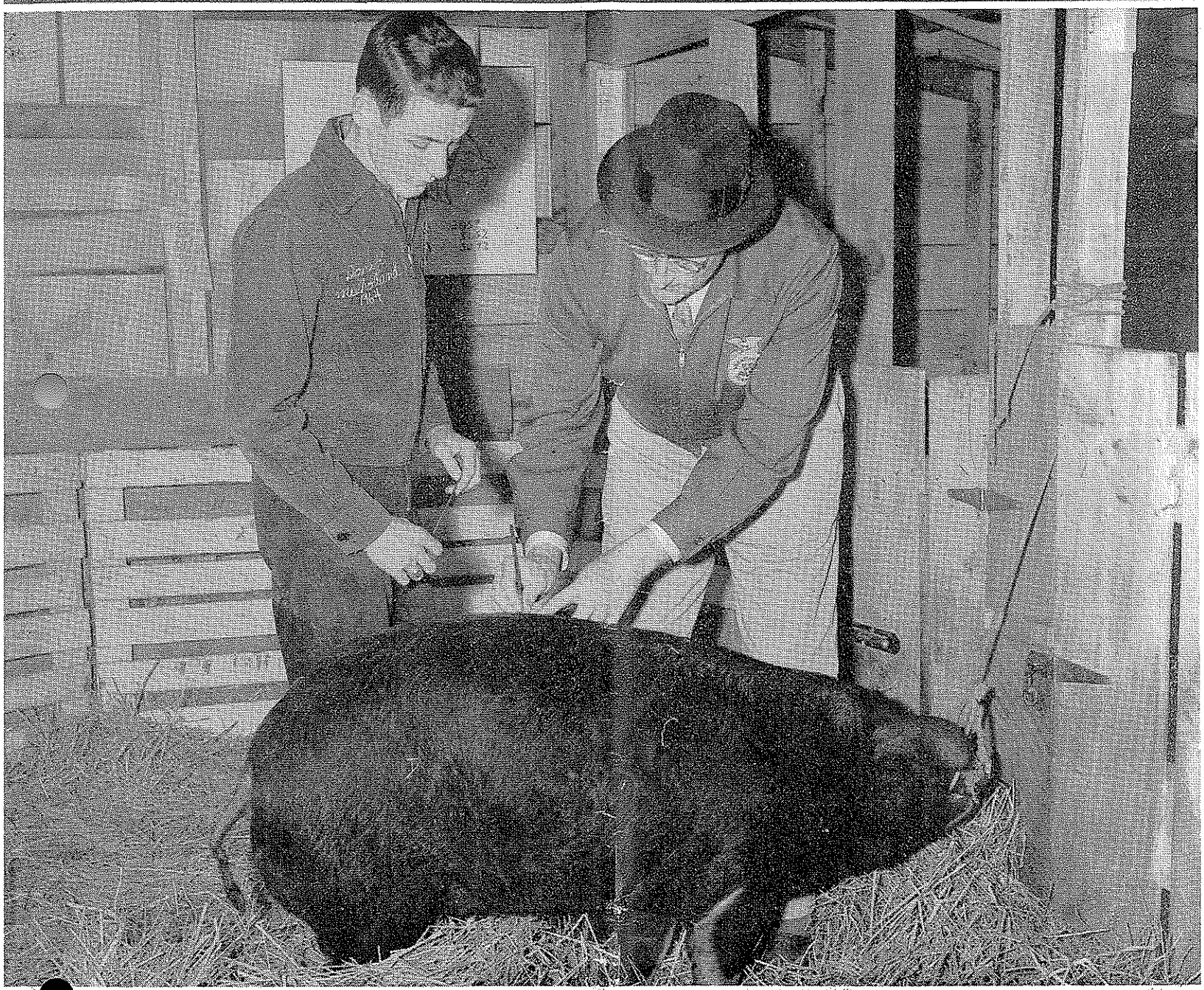

Featuring—Today's Teaching Aids

A monthly magazine except for a combined issue of August & September 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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The AGricultural EDucation Magazine

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IN THIS ISSUE

THE COVER PICTURE

Today's teaching aids help in keeping students in tune with change. Clyde Ray, vocational agriculture teacher at Charlotte, Michigan, uses a simple teaching aid to measure the amount of back fat on a market hog. This is one of several ways that Michigan teachers put emphasis on the production of meat type hogs. Student, Donald Mulholland watches with interest since this animal is headed for a livestock show.

Editorials

Guest Editorial

Today's Teaching Aids

FRANK ANTHONY, Department of Agricultural Education, Pennsylvania State University

Today's teaching aids offer a great opportunity in providing learning experiences. If prepared correctly, they will bridge the gap among educational, private and governmental agencies. In order for instructional aids to be up-to-date, they must reflect the latest thinking of all interested agencies. The aids should be designed to meet worthy goals which meet with the approval of both school and nonschool groups.

The curriculum of the schools should include direct attacks on the problems of individuals and communities. When teaching aids are produced in the form of film strips, movies, programmed texts, or charts, are they designed to give factual information? Change attitudes? Provide conceptual information? Produce understandings? Are the aids tested before they are released?

Are we in education too provincial in consulting with other agencies in determining critical problems and providing learning experiences to solve these problems? If we believe in the community concept of school, it will mean that we will use all community resources for the mutual benefit of society. Rural service engineers of power companies make many calls and spend a great deal of time teaching individual customers how to read a meter. Couldn't this function be done in the school?

Teacher education institutions should take more leadership in developing instructional aids. Cooperation with industry in this way is helpful to private concerns and at the same time helps **teachers** develop more **responsible citizenship.** What can we do to assist wildlife, soil conservation, and farm credit organizations in seeing that citizens acquire and enjoy the full benefits of the aims and purposes of these organizations? An instructional unit can be developed and explained in a series of slides which can answer many pertinent problems facing families in both rural and urban areas. These instructional aids can become a vital part of the classroom and thus a fusion of both government and private agencies with the school can spread their effectiveness in the most economical and efficient fashion. Isolation of any group may mean failure in meeting many of our common aims but cooperation through visual and instructional aids will bring rich learning experiences to members of the community and all will be able to reach their common goals. □

From the Editor's Desk

Teaching Aids for Teachers

Psychologists can tell us why students learn faster and retain more when a good teacher makes use of appropriate teaching aids in the classroom. Their research has shown that people learn most efficiently when two or more senses are used. Seeing, touching, and feeling may be used to reinforce hearing to good effect. Another psychological reason lies in the differences which exist in individuals in the way that they grasp new concepts. Some learn best by reading, others by visual means and still others by listening. It has also been demonstrated that participation is necessary to most complex learnings and teaching aids often provide for a wider range of participation. Research has also shown that interest in what is being taught has an important effect upon how much is learned and how much is retained.

These same psychological principles are at work when teachers are taught whether in graduate classes or in supervisory meetings. For some reason we seem to think of teaching aids as having value only for high school classes or out of school groups, but people being people the same laws of learning are in effect.

I'll always remember a meeting on the improvement of teaching attended by a large group of teachers. It's true the room was hot and filled with smoke and that it was the third day of the convention. After the first half hour about one third of the teachers were dozing, another third were squirming in their seats while the remaining third were valiantly trying to set a good example of professional attention. No further description is necessary for too many of us have had this experience. The speaker was an authority on research in methods of teaching but he had violated too many of the psychological principles upon which effective learning is based. A few well chosen charts, graphs or slides might have saved the day for both the teacher and those he taught.

Teacher trainers and supervisors hold countless meetings, conference classes and seminars which are attended by teachers each year. In many a case the use of a few appropriate teaching aids might result in more interest, more learning and more satisfaction on the part of the teachers present. And last but not least what we do often speaks so loud that people can't hear what we say—about the improvement of teaching.

Ralph J. Woodin

LETTERS

Sir:

Floyd Johnson has rendered a real professional service to vocational agriculture by serving effectively on the Panel of Consultants on Vocational Education.

The Panel's report not only fulfills many vocational leaders' dreams, but has helped general educators to recognize a genuine need for vocational education in the public schools. It has caused many people to think in new dimensions. Mass thinking seldom goes back to where it was before the change. The President of the A.V.A. has said, "The Panel's report will be the basis of our program's development and the legislation pertaining to it for many years to come."

Floyd seemed to base his new challenges on whether Congress approves the proposed new legislation to expand and strengthen vocational agriculture. Actually, we have been giving limited attention to some of the challenges in recent years and we should be on the move concerning others. We must begin now to explore alternatives in projecting the new image in agricultural education. We can ill afford to wait until Congress acts to start remodeling our present program.

George W. Wiegers, Jr.
Knoxville, Tennessee

Sir:

I wish to commend Floyd Johnson on his article. The panel of which he was a member is to be commended for the hard work in the interest of vocational education. Floyd did a nice job in stating the position of the panel in regards to education in agriculture. Every reader will be intensely interested in the proposals outlined and in the new challenges suggested as those facing vocational education in agriculture.

I have one point of concern. Since the proposal calls for a massive financial support to vocational education on the basis of groups of people to be served rather than traditional subject matter categories, I predict problems for vocational agriculture in some states. I, therefore, strongly feel that the Smith-Hughes Act should be retained in its general form and the amount of Federal monies available to the respective states presently along the subject matter lines, be continued with any new financial support being an addition thereto.

Walter T. Bjoraker
Madison, Wisconsin

Sir:

The results found by Dr. Freeh in his study, "Who Is Enrolling in Agricultural Colleges?" were quite similar to those found in a survey I made in Pennsylvania in 1960. A random sample of freshmen and sophomore students enrolled in agriculture at Penn State reported parents as having by far the greatest influence in their choice of college and curriculum. Only 18 per cent of our freshmen and sophomores had vocational agriculture in high school, yet 56 per cent of the students surveyed came from high schools having departments.

This suggests that recruiting activities by the agricultural colleges should be directed toward parents of youth enrolled in high schools having vocational agriculture departments.

David R. McClay
University Park, Pennsylvania

Sir:

The article, "A National Listing of Assistantships and Fellowships in Agricultural Education," by Dr. V. R. Cardozier (Feb. 1963), was of great interest to me and I feel is a real contribution to our profession. I am a graduate student who was able to take advantage of one of the assistantships listed and realize the great importance of having information of this type available.

Financial assistance is certainly a factor most young men must take into consideration when planning a graduate program. Acceptance of one of these assistantships or fellowships, in addition to providing financial assistance, nearly always involves one in staff activities and associations which are equally as valuable educational experiences as is formal course work.

I would like to see articles with information of this type become regular features in our magazine. Thanks to Dr. Cardozier for getting one started.

Joe R. Clary
Graduate Student
The Ohio State University

Sir:

Mr. Charles Drawbaugh's article on the need for more specialists is thought provoking.

In some respects vocational agriculture has always been a highly specialized field. As the base of the program is broadened the need for a greater variety of specialists increases. One need only call to mind the need for high school programs to serve both farm and non-farm boys interested in an agricultural occupation—forming or otherwise; the vacuum that exists in education for young men and women in the process of occupational establishment in a farm business; or the necessity for immediate emphasis on farm management and business analysis training for established farm operators to realize that vocational agriculture must have men trained more intensively as well as more comprehensively than ever before. Narrow specialization per se will not do.

Mr. Drawbaugh says "one cannot teach what he does not know or understand." Consider this in the light of modern educational concepts. Teaching is more than merely passing on subject matter. *Teaching is directing the learning experiences of individuals. Learning is an individual experience resulting in changed behavior.* If we taught only what we know or understand progress would be slow indeed! It is the purpose of teaching to so direct the learning experiences of individuals so that the unknown becomes known, that which is not understood becomes a part of reality. Every real teacher teaches more than he knows.

The article also contains the statement that "one grows to mediocrity by attending to all necessary tasks of a job or profession and to excellence by caring for the unusual." I wish that Mr. Drawbaugh had explained how this works! As that giant of agricultural education, Professor Emeritus R. M. Stewart, was wont to do that, "if you are going to do all of the things you must do you will have to omit some of the things you ought to do." It seems unusual to encounter a suggestion that "all necessary tasks" of vocational agriculture lead to mediocrity. Certainly Mr. Drawbaugh would not ignore the necessary tasks of his own demanding position.

In utilizing the services of specialists, it seems reasonable to suggest that the most effective way to achieve this is through the development of multiple teacher departments. As school district reorganization brings larger school districts, the opportunity as well as the need for multiple teacher departments becomes more apparent. Here the opportunity for securing the services of teachers of agriculture with specialized training and experience is provided.

A final observation has to do with teacher education. Professional advancement of vocational agriculture is the prime responsibility of teacher education departments. It is teacher educators who must provide the opportunity and guidance resulting in teachers of agriculture who are able to meet the challenge of the future. This may be the most significant implication of Mr. Drawbaugh's well written article.

Milo J. Peterson, President
American Vocational Association
University of Minnesota

Sir:

The guest editorial in the January Agricultural Education magazine disturbs me as I should think it would others. Does any state have all the trained replacements they need each year for farming? If they do then perhaps Mr. Purkey's article is well taken. Until we have taken care of the needs in the field of agricultural education and the boys who can profit by experience in the FFA, let's not look for new customers.

I am not sure how important farming programs are to the FFA other than making it mechanically possible for a student to advance through the various degrees of membership. They are essential in teaching vocational agriculture however, and should be developed on as large a base as possible to provide worthwhile training. For this reason I cannot buy any degree of publicity given occupational experience programs. Granted they will provide training and occasionally be of a scope which is worthwhile I do not want this to be a goal of either vocational agriculture or the FFA.

One glaring fault of this program is the limitation placed on a student's exploring the field of agriculture. The student who has gained work experience in a greenhouse, nursery or landscape service has already cut down his chances for

(Continued on page 210)

Resources for Effective Teaching

GEORGE W. SLEDGE, Professor of Agricultural and Extension Education and Assistant to the Dean, College of Agriculture, University of Wisconsin, Madison

Effective teaching should be the aspiration of every teacher and maximum learning should be the goal of every student. To bring about the highest possible level of effective teaching and learning, the teacher and his students simultaneously need to understand and appreciate the educational and agricultural objectives being sought. The ability of an instructor to help students appraise their educational needs can materially affect their receptiveness of the instructional program.

The result of effective teaching has frequently been described as "changed behavior in a desirable direction for the learner." The educational process bringing about desirably changed behavior can be evaluated in part by discovering whether or not students have: (1) acquired new knowledge, (2) developed new understandings, (3) learned new skills, (4) acquired more favorable attitudes, and (5) grown in ability to solve problems.

To bring about desirable changes in students, requires thought and diligent attention to organization and preparation on the part of the instructor. While effective teaching may appear to be relatively simple, it embraces complex concepts of educational psychology and methodology. In an oversimplification, effective teaching involves: (1) stimulation of the potential learner (motivation—or creation of a desire to learn); (2) comprehension of that which is taught (assimilation and understanding of subject content—the acquisition of new knowledge, skills, etc. on the part of the student through various sensory-perceptive means); and (3) recall and application (the active process of remembering for a purpose, particularly in regard to where to locate useful information, how to interpret it, how to apply knowledge in solving problems, and how to apply understandings to the individual's particular environmental situation). In programs of vocational education, instructors have long realized the importance of carrying learning to a "doing level." Personal involvement and action on the student's part is desirable to bring about depth in understanding.

Agricultural instructors are fortunate to have for their use a: (1) variety of teaching procedures and (2) a host of teaching resources (materials and aids) to aid them in continuing strong educational programs. Making use of these resources is the prerogative and responsibility of every instructor.

Typical Resources

In every community throughout the nation, there exists a multitude of teaching materials and aids to help bring about effective teaching and consequently learning. Instructors might well consider which resources can help them in: (1) creating a desire to learn among their students, (2) developing more student understanding about the course units and problems being taught, and (3) motivating their students to adopt approved practices or innovations in their farming businesses or to undertake desirable actions in family or community programs. Resources, best applied, are those which will most efficiently and effectively help bring about the objectives mutually agreed upon both by the instructor, students, and citizens at large.

One way of categorizing resources for effective teaching is by listing them as: (1) human resources, (2) instructor-prepared or acquired materials and aids, and (3) community resources.

Human Resources Can Be Helpful:

Human resources in the typical community conceivably might be classified as "Teaching Assistants" for the local instructor. Exercising judgment, a local instructor can easily discover that many individuals in his community can assist effectively in teaching selected phases of instructional units. Care needs to be exercised that the instructor remains to be the educational leader whenever *resource people are used to supplement (not substitute for) instruction* by himself.

A few examples of the human resources in most communities would include: (1) local veterinarians, (2) feed dealers, (3) livestock marketing agency officials, (4) local cooperative managers or directors, (5) machinery and equipment dealers, (6) nursery operators, (7) fertilizer and seed dealers, (8) local banker or farm relations officer, (9) county extension personnel, (10) soil conservation service personnel, (11) lawyer handling rural clients, (12) farm organization leaders, (13) livestock breeders, (14) local electricians and a host of other persons. Perhaps it is obvious as to how these various representatives can assist the local instructor. For example, a veterinarian can very effectively serve as a resource person when the local instructor is teaching prevention of certain diseases in dairy cattle or swine to a class of adult farmers.

Resource persons generally have been used when it is felt that they can bring unique understandings and abilities to the problem or subject being taught. Indiscriminate use of resource people is therefore not advisable.

Materials and Aids Acquired or Prepared:

Perhaps the best teaching materials and aids are as closely related to the actual objects or situation which they represent as possible. Following this concept, instructors might well consider a generous use of instructor-prepared teaching materials and aids. Use of color slides of students' supervised farming programs to illustrate various enterprises or farming activities is one such example. Instructor demonstrations, using actual materials from the local community, can be an effective method of teaching skills in many subject areas.

Many instructors have prepared models of farm buildings, collected weed and seed specimens, assembled and labeled collections of wood samples, hardware, lubricating oils, agricultural chemicals, commercial fertilizers, feed samples and a host of other items useful in teaching. By

advance planning, instructors can frequently discover that a cooperative exchange of teaching materials and aids is possible with other high school instructors. This is particularly true in working with instructors in the areas of biology, earth sciences, industrial education, and chemistry.

A tremendously large volume of commercially available teaching materials and aids can be considered for use. Care needs to be taken that these materials can be utilized to an advantage. *The use of any material or aid as a utilizer of instructional time rather than as a contributor to a sound educational experience for students cannot be condoned.*

Instructors should utilize a part of their time critically reviewing newly published agricultural references before requisitioning a supply. Bulletins, leaflets, brochures and other materials from the College of Agriculture can be some of the most useful instructional material for a department. Selected publications from the USDA can also prove to be beneficial.

There are several volumes of published information relative to free sources of instructional materials. One such source of information is the Educators Progress Service of Randolph, Wisconsin. Several other publishers also supply listings of free teaching materials and aids. In addition to free sources of materials and aids, each instructor has a responsibility to keep abreast of commercially prepared materials. A careful review of agricultural magazines and catalogs from various supply houses will provide the information needed.

For several years, the Professional Information Committee of the American Vocation Association has compiled a listing of teaching materials and aids developed within the Agricultural Education profession. State supervisors and teacher educators for the past few years have been supplied with copies of this compilation, which gives the source, author, and terms of availability of each item. Instructors can find many useful materials in this particular listing.

Community Resources:

Use of local community resources can vitalize an instructional program in agriculture. Home farms of students can be used as excellent teaching laboratories. For students from small or marginal farms or from highly specialized ones, placement experience is highly recommended. In this latter case, the "teaching aid" becomes the farm and the farmer or resource person under whom the youth is receiving his placement experience. The use of a local farm in studying farm management problems and record analysis is exceedingly valuable. When studying farm marketing procedures, local livestock procurement and processing establishments can add materially to the students' understanding. In the study of livestock selection or breeding practices, the local breeding cooperative or the farmer with an outstanding herd with excellent records can prove to be very useful for the instructor. Numerous similar examples can be pointed out for most communities. A careful analysis of community resources by the instructor will reveal an almost endless number of teaching materials and aids literally waiting to be used.

Using Resources for Teaching

How an instructor uses resources will largely determine the degree of their effectiveness to contribute to a favorable teaching-learning situation. Before using any teaching resource, an instructor might well ask himself such questions as: (1) Will the material or aid provide information which cannot be more effectively presented in some other manner? (2) Is the content accurate, up-to-date, applicable to his teaching situation? (3) Is the content level commensurate with the understanding and comprehension level of a majority of his students? (4) Will the resource persons, materials, or aids be available at the particular time desired? (5) Is the cost of securing and/or using the materials or aids justified in view of expected benefits to be derived from their use? If these and other pertinent questions can be answered by a positive response, an instructor should consider use of the teaching resource. It is the responsibility of each instructor to requisition, to organize, and to use effectively each resource if it is to help bring about *effective teaching.* □

I've Just Finished Installing a New Filing System

ALLEN C. CHRISTENSEN, Vocational Agriculture Teacher, Lund, Nevada

One of the problems faced by a new teacher entering a Vocational Agriculture Department is how to find bulletins and other reference material and how to file them. Many filing systems have arisen out of the "put it there on the desk" method. This method has resulted in much lost time. On the basis of 10 minutes lost three times a day during a 5 day week for a 36 week teaching year, a total of 90 hours or 2¼ work weeks will have been spent on needless material hunts. Thus the teacher must increase the time spent on the job or his performance will suffer. This past fall the author was faced with the same situation. Upon consulting with University of Nevada Teacher Trainer, it was decided to set up the Agdex Filing System.*

We decided to proceed in the following manner:

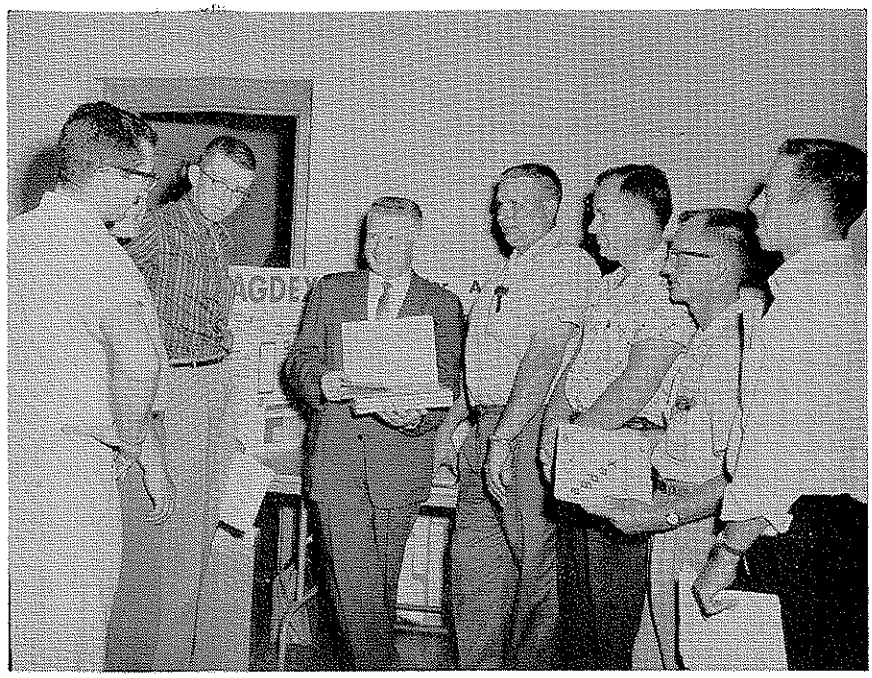
1. Remove all materials from the files at the outset.
2. Label all of the major division dividers and the more important minor ones.
3. Sort the bulletins and pamphlets into major areas. Several large tables were handy at this point.
4. Discard out-of-date materials.
5. Group the bulletins, and other materials under their appropriate heading.
6. Then go through and number each pamphlet to correspond with its divider number. This step can be done whenever it is convenient. This second time through helps to acquaint the teach-

*A book review of the Agdex system is included in this issue.

er with what is available and allows for additional culling. Numbering each item will help in returning it quickly to the same place each time.

This system is simple, which is one of the reasons that it is highly usable. In addition, anyone with a minimum of effort, can learn the contents of the files. In case a new teacher takes over the department he will be able to find the materials easily. Three recommendations that might be made in connection with changing a filing system are as follows:

1. Allow for enough time to complete the job.
2. Get enough efficient help so that the job will not become burdensome and discouraging. If this is not done you may find yourself in the same position as one Nevada Agriculture Teacher who started to revise his filing system. After pulling all of the material out on the floor he surveyed the situation, decided it was a hopeless task and so stuffed it all back into the files, more shuffled than it had been previously—under the pack rat system. An Agriculture teacher needs to be a pack rat but he should be an organized one.
3. The third and possibly the most important of the recommendations is to type an explanation of the filing system and how it works, then tape it to the filing cabinet or place in some conspicuous spot.



Dr. Howard L. Miller, center, who developed the Agdex Filing System, discusses its use with a group of vo-ag teachers.

Using this procedure our files were quickly changed over to the Agdex system. It took about five hours to complete the first five steps. The Agdex system has been very satisfactory and has saved numerous hours many times after one year of use. □

The Utilization of State Agricultural College Publications in Vocational Agriculture Departments

JAMES E. WALL (1),* Assistant Professor, Agricultural Engineering,
Michigan State University, East Lansing, Michigan

Technical and applied publications emanating from state agricultural colleges have long been an important, inexpensive, and a reliable source of information used in instruction by teachers of vocational agriculture. Although many persons have attested to the importance of these publications, the following questions have remained uppermost in the minds of a number of workers in agriculture who prepare and subsequently disseminate them to teachers. In *what* instructional activities in vocational agriculture are the publications most used? *How* and to what *extent* are they used in each activity? *Why* are they used in this way and to this extent?

Procedure for the study

Eighteen instructional activities in which publications are used were selected for treatment in this study. There were two instructional-orientation activities, two reference-evaluation activities, three methods-of-teaching activities, three instructional-procedure activities, four student-usage activities, three young-and/or-adult-farmer class activities, and one teacher self-improvement activity. Teachers were asked to rate the extent to which the individual publications of the sample had been used in each of the instructional activities.

A sample of twenty-five teachers of vocational agriculture in Michigan were selected in a random manner to participate in the study. They had been teaching vocational agriculture at least two years and they had been in the same high school position at least one year. The teachers in the sample averaged 11.04 years of total teaching experience, with a range from two to thirty-seven. Years of teaching vocational agriculture for these teachers averaged 10.04, with a range from two to thirty-five. Tenure in present school systems averaged 7.56 years, with a range from one to thirty-five.

It was determined that a representative sample from all publications which had been made available to teachers would be chosen for treatment in the study. A sample of twenty-

*Numbers in parentheses refer to the appended references.

four publications, stratified according to a distribution classification, was treated in the eighteen instructional activities. The sample contained seven publications in *Class A* (technical), six in *Class B* (semi-technical), and eleven in *Class C* (popular). The Dale-Chall formula (2) was used to determine the readability of each publication.

A few of the publications were not found in some of the departments. Teachers gave the following reasons for not having all the publications included in the sample: (a) publications had been discarded by teachers who had preceded them in the department, (b) publications had never been requested nor received by the present teacher, (c) publications had been forwarded to other departments within the same school system, (d) publications had been discarded because the subject-matter contained in them did not occupy an important place in the instructional program of that department, and (e) publications had been given to students or out-of-school class members.

Data for the study were obtained by the depth interview technique.

Implications of the study

The following findings and implications were drawn from the various facets of the study. A tenable premise would seem to be that more effective and efficient use could be made of publications emanating from state colleges of agriculture if these findings and their implications are carefully considered by teachers and applied where appropriate.

1. There seems to be some relationship between the degree with which students are allowed access to publications and the over-all permissiveness of the educational atmosphere that prevails in the classroom.

This implication was drawn from the findings which dealt with storage and filing of publications. The place of storage of publications within the physical area of the department, whether in classroom, conference room, or laboratory, influences neither the degree with which students are allowed access to publications, nor the extent to which publications are used. The majority of teachers allow their students to have completely free access to publications, a few allow students only limited access, and an extremely small percentage of teachers allow students no access whatsoever to stored publications. The main reason given for limiting accessibility was that students disarranged the files when they took publications from storage for use and returned them.

Over half the teachers kept single copies of the publications in private files for their own personal use and maintained separate files of multiple copies of the same publications for the students to use. This apparently was one answer to "student disarrangement" of the publication files. Most teachers said they spent ample time with first-year students in orienting them to the departmental storage and filing system.

2. Following are those findings which dealt with the extent to which publications were used in the various activities. Listed in descending order of the extent to which publications were used in them, these activities are: (a) professional growth and self-improvement of teachers, (b) supervised study, (c) individual instruction, (d) reviewed by teacher prior to introducing a topic in out-of-school classes, (e) assisting students in identifying main ideas (conceptualizing), (f) small-group instruction, (g) assisting students in the interpretation of tables, charts, and other graphics, (h) assisting students in evaluating date-of-printing and source, (i) listing publications as references in student notebooks, (j) used in "decision-making" by students in their farming programs, (k) encouraging out-of-school class members to read publications, (l) used by students to make individual reports, (m) borrowing by students for out-of-classroom study, (n) assisting students to evaluate table of contents and index, (o) assignment of publication parts to students for out-of-classroom study, (p) reproduction of publication parts for all-day students, (q) reproduction of publication parts for out-of-school classes, and (r) browsing or leisure-time reading by students.

As indicated above, one of the significant findings was that publications were used more in the self-improvement and professional growth of teachers than in any other single activity. One implication of such a finding may have relevancy to the teachers' perceptions of their roles as educators. Teachers may perceive as one of their roles that of being able to answer those questions on technical and applied agriculture which may be directed toward them. They may view themselves as needing to become prime sources of agricultural information because they think their respective communities expect this of them. Hence, teachers may use this type of publication as one means of keeping abreast of the new and dynamic changes and advancements in agricultural technology and consequently, as a means of enhancing their status in their respective communities.

Another implication of this finding is related to one of the many communication models that have been postulated. Berlo (3), in his discourse on communication process models, lists six essential elements of the communication function: *source, encoder, message, channel, decoder,* and *receiver.* In adapting such a model to the use of publications by teachers of vocational agriculture, the *source* becomes the agricultural entity sponsoring the research. The research scientist as *encoder* converts the report into a printed *message* contained in a publication. The message is disseminated by means of many *channels.* The teacher as *decoder* reconverts the message into meaningful information for his constituents, who are classified as the *receivers.* Since teachers (decoders) use these publications to such a great extent for their self-improvement and professional growth, it follows that teachers might well be regarded as a primary audience of the agricultural scientists (encoders) who prepare the publications for dissemination. Furthermore, since instruction in vocational agriculture is systematic and characterized by continuity, there is some probability that the teacher of vocational agriculture makes relatively greater, more efficient, and more effective use of these publications than other persons who may act as decoders for the receivers.

Findings indicated that teachers reproduced very little of the information found in the publications so that it might be presented to all-day students and out-of-school class members. One implication of these findings seems to be that as reproduction of such information is time-consuming, teachers may have felt that this was not a worthwhile activity. On the other hand, it seems to be the consensus among most educators that presentation of information in some form that is different from the original will frequently enhance the understandability of the data for the student.

A further implication may be that teachers possessed enough copies of each publication so that reproduction of the information contained in them

was not warranted. In other words, multiple copies of many of the publications were available so that each student had one copy to use during supervised study periods. However, this presupposes that the information contained in the publications was such that it could be understood by the students without a great deal of assistance from the teacher.

3. The following features and characteristics of publications were rated as to their importance by the teachers. Listed in descending order of their importance, teachers indicated that publications should: (a) be up-to-date or timely, (b) be easy to read and understand, (c) be adapted to local conditions, (d) include tables, charts, diagrams, and other graphics, (e) be free of cost or relatively inexpensive, (f) be easy to procure, (g) contain precautions, safety measures, and limitations with regard to use of the information, (h) include action pictures showing application of the information, (i) show importance of the subject to agriculture, benefits, and economic influence, (j) suggest sources of additional information or references, (k) contain conditions which are necessary for the most efficient and effective use of the information, (l) list special tools, equipment, and instruments needed to utilize the information, (m) contain an adequate table of contents and index, (n) include a brief, general history of the subject, its origin, and development, (o) show relationships with closely allied subjects, especially those having reciprocal dependency, (p) list the qualifications of the author(s), (q) discuss special skills and abilities needed by the reader in order to use the data, and (r) contain picture(s) of the author(s) for identification purposes.

Correlations between extent-of-use scores and mean raw scores of readability approached zero. These correlations imply that publications were used according to the dictates of the subject-matter contained in them, and *not* according to the ease with which the information could be understood by the students. Yet, teachers rated "ease of reading" very high in importance as a feature of publications. The implication is that teachers seem to attach great significance to information being easy to read, but attach

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The Overhead Projector, a Modern Teaching Aid

N. K. QUARLES, Teacher Education, East Texas State College

For many years we in vocational agriculture have felt like we were leaders in the field in the use of audio-visual aids. We have had many aids at our disposal. Some of the most common of these were motion pictures, filmstrips, slides, charts, graphs, mounted specimens and the chalkboard. Also field trips and demonstrations have been used extensively. The opaque projector has been used to a limited extent.

Today, there is a relatively modern machine that is used by very few high school vocational agriculture departments that shows great promise as a teaching aid. This machine, simple and inexpensive, is so effectively usable that some visual aid experts are predicting that it may eventually replace the chalkboard.

What It Is

The overhead projector is a transparent still projector which is capable of enlarging up to 10″ x 10″ transparencies with brilliant screen images which may be used in a fully lighted room. Its optical arrangement allows transparent graphics to be placed over a lighted platform for quick reference and for "over-the-shoulder" projection. Its light pattern moves vertically through the transparency to an overhead mirror which is mounted at a 45 degree angle above the objective lens. The overhead mirror turns the rays of light so that they will strike the screen perpendicularly.

Very often the overhead projector is referred to as the "teacher's desk model" because it is used by, or near the teacher's desk at the front of the room. By being at the teacher's desk, it permits the teacher to be the projectionist while facing the students. This, in turn, allows the teacher to keep "eye contact" with the students, thus holding their interest and maintaining better class room discipline. The projector is close to the screen but provides the enlargement of materials necessary for adequate viewing.

Materials

Materials that may be used for the overhead projector are transparent color and clear plastic or acetate sheets, transparent liquids, silhouettes, and small objects. Direction may be pointed by shadow movement from pencils, fingers and hands. Markings, with special kinds of pencils, on transparent surfaces, plastic frosted sheets, extra sheets of cellophane, carbon sheets, or plastic and cellophane rolls may place special emphasis on significant information. The manipulation of special transparent sheets containing photographs or drawings, hinged together, may assist in psychologically timed visual presentations.

How It Can Be Used

The overhead projector places graphic materials at the finger tips of the teacher. It tends to eliminate certain learning barriers and to unify a group in studying a planned learning problem. It helps the teacher to do creative teaching and increases student participation. Its value as a teaching aid is limited only by the resourcefulness of its user.

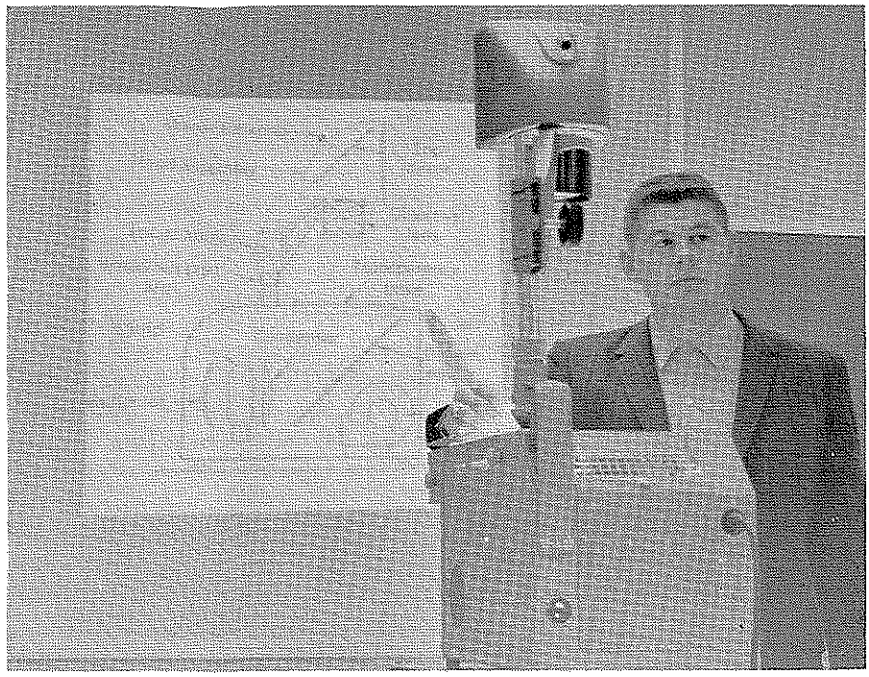
Since the overhead projector is in the front of the room, its uses become multiplied. The size of the projected material can be changed, shapes can be presented and compared, exposure can be controlled, and color may be included as needed by the teacher. Plastic sheets or cellophane rolls for writing or drawing may be used in the same manner as working on the chalkboard, but with the added advantage of facing the students. Transparencies that are 10″ x 10″ are much easier to file when not in use than are the large posters, charts, and maps. There are many more other ways that the overhead projector can be used

to an advantage, both physically and psychologically.

Summary

Many vocational agriculture teachers will probably adopt the overhead projector as a teaching aid in the near future because of the following reasons:

1. Where the early models cost $350 or $400, the teacher can now get the desk model complete with screen for less than $200.
2. The teacher can stay in front of the room, facing the class.
3. The projector can be operated and the materials manipulated by the teacher himself.
4. Large clear images can be presented in a lighted room, eliminating the cost of special curtains or window shades.
5. Large transparencies (up to 10" x 10") can be used on which it is easy for the teacher to write, draw, or otherwise focus attention.
6. The teacher can develop a variety of techniques in presenting materials.
7. Direct attention of the student can be obtained by pointing, blocking or shading emphasis areas on the slide.



A future vo-ag teacher at East Texas State College demonstrates the use of an overhead projector to fellow class members in a course in teaching aids.

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Letters

(Continued from page 204)

employment off the farm which is apparently what the article wants to emphasize. Several banks have hired young men this last year to train them as farm loan specialists. Would the student who has taken a limited "occupational experiences program" fit their needs? What happens to this specialist when there are no openings in his field? He would be in the same category as our high school students who take a so-called academic program in high school and find upon graduation it is unmarketable.

One goal of any FFA chapter is the development of reliable rural leadership. For this reason awards have been developed which meet the needs of farm boys. The athletic programs do not provide incentives for all participants nor are they available. They are building character. Other programs in secondary schools also have incentive awards for accomplishment in that particular activity whether it be chorus, school annual or forensics.

I am not aware that either State or American Farmer degrees were concerned primarily with those who "become established or are becoming established" in farming. It has seemed these awards often go to students who have left or are planning to leave farming. A sincere desire on the part of the applicant to become established in farming should be given more consideration. A farmer who has one or both these degrees is going to be better equipped to handle his own affairs and lend inspiration and leadership to his fellow farmers.

This man is going to do our local programs more good through support than many of our downtown businessmen. His support will not be confined merely to vocal and inspirational leadership. He will bear a sizeable portion of our schools' tax structure as well. Many of our "College of Agriculture students, agricultural sales representatives and others" will migrate to the larger urban areas and not be in a position to help our program.

In the past judging contests have provided an incentive to learn. "Unreliability" covers a wide area and I may have misintrepreted the implied meaning. In dairy cattle classification there is a definite correlation between better type and higher production. Of course herds with a larger percent of cows classifying very good and excellent have a tendency to average higher in butterfat, some of which may be due to environment. There is also a positive correlation between type and production within herds. This may be verified by writing the various dairy breed associations.

The criteria for judging live hogs is reliable as judged from the results at the National Barrow Show in Austin. Information of this type may be obtained by writing Mr. Carroll Plager, Hormel Packing Company, Austin, Minnesota.

Two benefits we do not give enough credit to in judging contests are the changes in production to correspond with what is acceptable and the mixing of students from various areas at a judging contest which overcomes some provincialism.

State, county and local fairs have been developed along the lines of being educational in Wisconsin. We give emphasis to demonstrations, displays and activities which are designed to teach and promote public relations. At least when we plan activities for the Wisconsin Junior State Fair, education is of primary concern. Sure we have pure-bred livestock, however this is only one phase of the fair.

I do not believe it is logical to drop the name Future Farmers of America. Surely necessary changes and desirable areas are being added to our program. The downgrading of vocational agriculture is popular. I am unhappy this practice has been carried to the guest editorial page of our national magazine. No doubt changes will continue to be made, however the person who reads our magazine for the first time or has an axe to grind is going to think or talk as though we are a sickly part of the secondary schools.

Doyle Beyl, Supervisor
Vocational Agriculture
Madison, Wisconsin

Protection for Teaching Charts

It is discouraging to have charts, maps, shop project plans and blue prints smudged and dirty through extensive use. Clear plastic from a pressurized spray can provides a good protective cover for this material. When once protected by the plastic your teaching aids can be easily cleaned with a damp cloth.

Fred Beckman
Vo-Ag Teacher
Council, Idaho

Special Report

Agricultural Occupations
The Educational Needs in the United States

A. W. TENNEY, Director and the Staff of the Agricultural Education Branch,
U. S. Office of Education, Washington, D. C.

Agriculture, the nation's largest industry, is as complex as it is basic. The economy of the nation is founded on this growing, dynamic, national industry. All are dependent upon it. The world has become an international community and one of the most serious problems this community faces is the provision of adequate food. We in America are concerned with our level of productivity and the rate of our national economic growth in comparison with that of other countries. American agriculture stands out in marked contrast with other segments of our economy in this respect. Our tremendous agricultural productivity and our efficiency in producing agricultural commodities is the envy of the world. This did not just happen. It is the result of research and educational programs begun many years ago. Vocational education in agriculture has contributed substantially in this achievement.

Identification

Agriculture today has changed and is continuing to change rapidly. No longer does it describe only the people who do the actual producing of crops and livestock, but it now includes hundreds of closely associated occupations. Agriculture is comprised of two major components: the farming or production segment, and the nonfarming segment which includes the off-farm functions of agriculture. In recent years the number of persons engaged in agriculture has remained substantially constant, with the decrease in the farming segment being balanced by the rise in nonfarm agricultural employment. Approximately six million persons are actually engaged in productive farming. Another sixteen million are engaged in off-farm agricultural occupations such as marketing, providing supplies, processing, and servicing. Others are employed in such fields as agricultural research and education. Many facets of this expanding area of nonfarm agricultural occupations require persons with a background of training and experience in farming. It is important that instructional programs in agriculture prepare a sufficient number of competent people for these agricultural occupations.

The National Need

Vocational education in agriculture is increasingly necessary for training competent farm operators and workers, a need that is not being fully met today. This program must also serve the vast number of persons who will enter or are now employed in the nonfarm agricultural occupations for which training in agriculture is essential. This will require continual restructuring of programs to provide pre-entry and on-the-job training for a wide variety of agricultural occupations.

Vocational agriculture is a component of general education, tending to strengthen the whole educational process. It complements the instruction in other subjects by providing opportunities for practical application. The strong emphasis on work experience, "learning by doing," should be maintained as the core of the program. The values attained through this practical experience, such as good work habits, decision making ability, and responsibility are lifetime assets. Much value is attached, also, to the strong leadership capabilities students acquire through their participation in activities of the Future Farmers of America organization. Through their supervision of farming programs and other activities, teachers of vocational agriculture work closely with students and their parents over a period of years. These associations permit them to contribute effectively as counselors in the personal and career development of their students.

Since agriculture embraces the two major components, farming and nonfarm agricultural occupations, a two track agricultural education program seems necessary. Programs should be designed to meet as nearly as possible the needs of the individual students preparing for or engaged in the various agricultural occupations. The nonfarm agricultural occupations may require preparation in two or more distinct segments of vocational education. The production and sale of ornamental plants is an example of an agricultural occupation which requires specialized preparation in agriculture combined with sales and business training. The basic instruction for these kinds of occupations may be given in high school, but it seems likely that the specialized training will need to be offered through post high school vocational programs. Systematic educational programs from one to two years in length, for the training of agricultural technicians at the post high school level are urgently needed.

Due to the scope of agricultural technology, it appears that an abundance of food and fiber can be attained with fewer acres of cropland. This prospect offers an opportunity to take advantage of the unused acres for a wide range of recreational, esthetic, and economic purposes. This conversion of land will supply the growing demand for outdoor recreation areas and wildlife promotion and will offer additional income and employment opportunities for many farm people. It is likely that many operators will combine farming with a recreation business, requiring education in both fields.

Vocational agriculture in high school contributes significantly to agricultural college preparation for professional occupations. The vocational

agriculture program is recognized as an important recruitment source for the agricultural college. In many colleges of agriculture a majority of the students have been enrolled in vocational agriculture. Research indicates that students with this high school training perform in college equally as well as, or superior to, other students who took the usual college preparatory courses. L. M. Thompson, Associate Dean of the College of Agriculture, Iowa State University, after investigating the backgrounds of students commented: "One must not overlook the value of vocational agriculture in maintaining or developing interest in a college education in agriculture. Rather than counsel students out of vo-ag into science and math in preparation for a college education in agriculture, it would be best to develop a combination of those subjects so the courses become complementary rather than competitive."

These facts assume greater importance when it is realized that the colleges of agriculture are graduating only one-half the estimated number needed to supply trained professional workers in agriculture.

Vocational agriculture is offered in approximately 10,000 secondary schools. Many schools serving rural areas do not give this training for a variety of reasons, the principal one being the lack of financing. Fewer than half of the persons entering farming have had the advantage of vocational agriculture in high school. Also significant is the fact that many students in colleges of agriculture come from urban areas. While it always has been necessary for some farm youth to migrate to the cities, it would seem desirable to retain at least enough young men with farm background, experience, and training to supply the needs of agriculture. A

(Continued on page 217)

Junior Livestock Auctions Are Important

DONALD E. WILSON, Regional Supervisor, Sacramento, California

It is doubtful that many people realize that California Future Farmers and 4-H Club members receive financial support which may exceed one half million dollars annually from buyers who pay over-market prices for fat stock at junior livestock auctions. In 1961 there were 66 such auctions, through which 2460 swine, 3670 beef, and 6840 lambs were marketed by junior exhibitors. These numbers comprise the major portion of the market animals produced by 4-H and F.F.A. members in the state.

Why Have Junior Livestock Auctions?

Junior livestock auctions are an increasingly important factor in supervised practice programs in California, for at fair time, animals entered in the fat stock classes are theoretically at the peak of market perfection. It is logical that a method be provided to place these quality animals into the hands of the consumer. An auction sale has been found generally satisfactory.

In a study of seven junior livestock auctions in the South Coast Region of California, it was found that the over-market prices paid by buyers at these auctions totaled $87,424.07. The average above-market price per animal was: swine, $27.14; lambs, $27.66; and beef, $115.00.

An auction sale implies that a premium price may be paid. Animals not sold at auctions merely would be taken to the nearest slaughterhouse and sold at market price. It is important that the directors of the fair, the buyers, the public generally, as well as the junior owners, understand *why* a premium is offered, and perhaps *how much* such premium might be. Here are reasons which justify a premium price for junior show animals.

1. There is a great difference between feeding animals for a commercial market and feeding for display at a fair. The animal going to the fair must be "ready" on the particular week of the fair—the commercial animal may be sold whenever it is ready. Sometimes an animal will finish several weeks before the fair and must be held. This is costly, but must be done if the junior exhibitor is to complete his project without excessive loss.

2. Juniors demand high quality feeder animals, and by making individual purchases often have to pay a higher price than commercial stockmen pay.

3. Many juniors feed animals singly. Single animals often do not fatten as economically as those in larger lots, where competition for feed is an incentive to eat.

4. Most fair auctions call for a shrink, in addition to loss of weight from shipping. Frequently a premium price of two cents per pound on a steer only compensates for the required shrink, and represents no incentive price at all.

5. The costs of shipping to the fair, feeding at the fair, and maintining the junior exhibitor at the fair are expenses the commercial feeder does not have.

6. A reasonable premium over the market is an inducement for juniors to select, feed, and fit attractive animals that are a credit to a sound breeding and production program.

Trends and Problems

There is a trend toward limiting sales to one animal per exhibitor. Most sales are becoming "blue ribbon auctions" which allow only animals placing in a prime or choice group to be sold. This trend results from the increase in numbers of animals to be sold, and marketing problems following a sale. In many cases, the slaughter and market facilities in the area are inadequate to handle the volume of animals that go through the junior sales. This situation prevails particularly for sheep and swine.

In some areas limitations on the number of animals to be sold have been applied because the fairgrounds are lacking in space. This is particularly true for lambs, as the number of lambs marketed through junior livestock auctions has increased more rapidly than the numbers of swine and beef. There does not seem to be a particular problem with beef in most

areas because adequate slaughter and marketing facilities exist. Swine in county and district fairs are usually few in number.

Auctions usually withhold from three to four per cent of the sale price to cover necessary expenses such as advertising, payment of auctioneers, and payment for lost or unmarketable animals.

All sales make provision for shrinkage; however, the exact amount varies among sales. Also, there is considerable difference in the method of handling kill charges. Most auctions bill the slaughter charges directly to the buyer. Some auctions withhold a sufficient percentage of the sale price so that the kill charge is paid out of the amount withheld. This latter method has proved to be highly popular and the auctions carrying on this practice have maintained high average sale prices.

Sponsorship of Financial Arrangements by Banking Institutions

An additional form of assistance and support has recently developed; that is, the record-keeping, payment of exhibitors, collection from buyers, and clerking of the auction sale is done by a local bank. In many instances this makes it possible for exhibitors to be paid for their animals shortly after the sale. The sponsoring bank may provide a special breakfast or luncheon, at which the checks and awards are presented. Banking institutions now handle the financial transactions at over half the sales. This practice is popular with both exhibitors and the fair management.

The Problem of Overfinish of Animals Sold Through Junior Livestock Auctions

Recently there has been increased pressure to insure that animals sold by junior livestock exhibitors are not excessively fat. There has been much discussion about establishing rules, grades, or weight limitations in market-animal classes to insure that overconditioned animals are not allowed to be exhibited or sold. The bases for this concern are that there is much buyer resistance to overfinished animals and that we are teaching youngsters false standards and improper methods of feeding. The justification for concern is to make sure that junior division market animals are made to conform to practical commerical standards.

While it is true that students should be aware of what is practical and logical, the starting point for drastic type alterations and methods for change and experimentation should not be in the junior division. It must be realized that the great majority of the junior division exhibitors showing market animals will never be in the commercial feeding business. Many of them will be in allied businesses, however, and may need to know practical standards; but they will not be commerical feeders of beef, lambs, or hogs. We need to be more concerned with what is educationally right for these young people than what may be the rather changeable and perhaps, to some extent temporary, market demands.

The value in having a young person feed livestock is the development of a sense of responsibility. It is more important that this activity help to develop punctuality, dependability, and conscientious practices than to impart the knowledge of exactly what degree of finish is needed for a particular market for a particular type of livestock.

Recognition of Buyers

Since junior exhibitors are actually given a premium for their animals by the buyers, it is essential that these buyers be recognized for their generosity. Many exhibitors do send letters of appreciation to buyers. However, much more should be done. The system followed at the Sonoma County Fair, Santa Rosa, California, could serve as an example of how to insure that all buyers are recognized. The office of the livestock superintendent requests each exhibitor who sells an animal in the junior auction to submit duplicate letters of appreciation to the livestock office. The livestock office then makes sure that the letters are correctly addressed before being sent to the buyers. Exhibitors who have not submitted letters are reminded to do so, and cautioned that next year's participation in the sale depends upon the submission of a "thank you" letter. Local leaders or advisors are informed of exhibitors who do not submit letters. While this procedure requires considerable time and expense on the part of the fair management, the effectiveness of the practice is reflected in the continued successful sale at the Sonoma County Fair.

Another practice that is effective in maintaining good relations is to present the buyer a photograph of the animal, the buyer, and the exhibitor. This is done at the Santa Barbara County Fair at Santa Maria, California. Results have been excellent. The cost of the photographs at this fair is taken from the amount withheld from the auction proceeds. At other fairs the photographs are provided by the seller.

While it may not be imperative that the people in general be aware of the financial support given to junior livestock auctions by businessmen, it is very important that the junior exhibitors, along with their leaders and advisors, be aware of these extensive contributions. It should be a challenge to teachers of agriculture and to 4-H Club leaders to see that these businessmen know that their generosity is appreciated. □

Jensen Joins Clemson Staff

Dr. Lowery H. Davis, Chairman of the Dept. of Agricultural Education at Clemson announces that a vacancy on his staff has recently been filled.

Dr. Arthur K. Jensen has been named Assistant Professor of Agricultural Education at Clemson College, Clemson, South Carolina.

Dr. Jensen, a native of Wisconsin, received his B.S., M.S., and Ph.D. from the University of Wisconsin in Agricultural Education.

Jensen taught Vocational Agriculture from 1951 to 1955, when he returned to the University of Wisconsin to do graduate work. His thesis study was entitled "An Analysis of Farm Mechanics Knowledge and Skills Needed by Wisconsin Farmers."

In 1957 he became agricultural, audio-visual and industrial arts advisor to the development of the first rural school teacher training center in Cambodia. In 1959 he joined the Agricultural faculty of the Wisconsin State College and Institute of Technology at Platteville. This position included management of the College farms, coordination of the laboratory phases of the agricultural program with the farm operation, maintaining a farm demonstration program, and teaching agricultural subject matter.

Dr. Jensen and Mrs. Jensen have two small children.

I owe all my success in life to having been always a quarter of an hour beforehand. —Lord Nelson

A Chapter-Owned Combine Brings Both Joys and Sorrows to the Teacher

DONALD KABLER, Teacher of Vocational Agriculture, Corvallis, Oregon

The program of work of almost any F.F.A. chapter, reveals someplace, the necessity of earnings and savings as one of the major activities of the group. Some chapters receive direct grants of money from boards of education to be used in a maze of educational activities; some sponsor fund raising methods of sales, auctions, community affairs, crops and livestock programs; some sponsor feeds, rodeos, dude camps, pony rides, and excursion trips. The F.F.A. Chapter of Corvallis High School, Corvallis, Oregon had to be different; along with sponsoring a sizeable chapter farm which varied from just a few acres up to over 150 acres of crop land, it took on farm machinery projects too. After several years, of accumulating, repairing, refinancing, and long-hard hours of labor, an inventory of about $10,000 in farm machinery was in evidence.

Due to enterprising officers, with drive to burn, coupled with circumstances within the cropping community, it was decided that the chapter would purchase a self-propelled combine. On paper the objectives of group education, group participation, group ownership, group cooperation, all looked good and while brakes were applied by adults, parents, the vo ag teacher, and others who thought that this might conflict with public school activities, a new self-propelled combine was purchased with a small down payment of borrowed money and three years to pay off the debt.

Managerial duties were outlined but each succeeding line of officers changed these and each group set up regulations which served for the short time they were in command. A boy-manager was appointed or the president was charged with major responsibilities or a shop foreman was appointed with dictatorial powers or the teacher was given partial or whole responsibility of seeing that this piece of equipment paid its way or the executive committee acted or did not act as the case might be.

Whether systematically organized or not, the notes with principal and interest payments and a continual outlay for parts had to be met. At times it was embarrassing to tell the banker of the inability to pay and to get extended credit, at times refinancing seemed difficult but always the chapter received publicity for having a combine in the community which took care of not only the chapter crops but also custom work and served as a training program for boys who wished to learn to operate the equipment.

The Corvallis FFA combine which shows all of its features except the mortgage and $1,200 worth of repair parts.

Needless to say, it is a grand feeling to say that after five years of continual planning and some $5300 for the original cost of the combine plus an additional $1200 for parts, services and repairs, plus several hundred dollars for gasoline and oil plus the mixed emotions received from boys who participated or did not participate in the many ramifications of an activity of this size, as well as the memories of many hours of driving, repairing, and supervision on the part of the agriculture instructor above and beyond the limits of expectations of any school administrator, that this last trip to the bank pays off the final indebtedness.

Possibly a victory celebration will be held at which time the mortgage of the combine will be burned, however, possibly the vo ag teacher, who still is standing in the rear of the group might secretly wish to reverse the order and frame the mortgage and burn the combine instead. □

Legg Accepts Tennessee Post

Dr. Otto P. Legg is now Assistant Professor in the Department of Agricultural Education, at The University of Tennessee. Dr. Legg received his B.S. degree and his M.S. from Oklahoma State University. He received his D.Ed. in June, 1962, from The Pennsylvania State University. Legg was a teacher of vocational agriculture at Beaver, Oklahoma and was in the U. S. Army Signal Corps from 1940-1945. While a graduate assistant in agricultural education at The Pennsylvania State University from 1960-1962, he worked on a special project in programmed instruction in cooperation with the Farm Credit Banks of Baltimore.

Dr. Legg is a member of AVA, Phi Delta Kappa and Gamma Sigma Delta. He is married and has two daughters and two sons. □

Give every man thine ear, but few thy voice: —William Shakespeare

Teaching Aids and Devices Used in Teaching Farm Record Keeping by Teachers of Vocational Agriculture[1]

B. F. HALL, Teacher of Vocational Agriculture, La Grange, North Carolina

One hundred thirty-two high school boys of junior and senior classification in three counties in Eastern North Carolina were asked to give their opinion as to the effectiveness of "Teaching Aids and Devices Used in Teaching Record Keeping by Teachers of Vocational Agriculture."

The number and percentage of students of vocational agriculture who reported teaching aids used in teaching record keeping by teachers of vocational agriculture is shown in Table 1 of the twenty-five teaching aids and devices listed, thirteen were reported by more than fifty per cent of the students. These teaching aids included: bulletin boards, chalkboards, charts, filmstrips, human resources, illustrations, motion pictures, posters, slides, and still pictures.

The table also shows that of the twenty-five teaching aids and devices used by teachers of vocational agriculture, five were reported by less than thirty per cent of the students. They were as follows: cartoons, felt boards, graphs, record player and stereoscope.

A further examination of the table shows that only one teaching aid was used "highly effectively" by fifty per cent or more of the teachers. This teaching aid or device was the chalkboard. However, fourteen of the teaching aids were reported "highly effective" by forty per cent or more of the students. It may also be observed that four teaching aids were reported "least effective" by fifteen per cent or more of the students. They were displays, filmstrips, felt boards and records. □

[1]Based on information obtained from the descriptive phase of Author's M. S. thesis. "A Study of Instruction in Farm Record Keeping Conducted by Teachers of Vocational Agriculture in Nine Eastern North Carolina Counties," Greensboro, North Carolina. The Agricultural and Technical College Library, 1960.

TABLE 1

Number and Percentage of Students of Vocational Agriculture Who Reported Teaching Aids and Devices Used in Teaching Record Keeping by Teachers of Vocational Agriculture

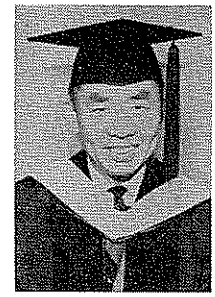
TYPE OF AID	Number Reporting Activity	Percent Reporting Activity	Percent Reporting Each Degree of Effectiveness			
			Highly	Fairly	Least	Ineffective
1. Bulletin board	88	65.1	44.3	42.0	11.3	2.2
2. Cartoons	34	25.1	23.5	61.7	8.8	5.8
3. Chalkboards	100	74.0	53.0	40.0	5.0	2.0
4. Charts	72	54.0	34.7	51.3	13.8	0
5. Demonstrations	81	34.8	34.0	46.8	10.6	8.5
6. Displays	42	31.1	23.8	38.0	33.3	4.7
7. Exhibits	48	35.6	47.9	37.5	10.4	4.1
8. Field trips	47	34.8	34.0	46.8	10.6	8.5
9. Filmstrips	75	55.5	34.6	49.3	16.0	0
10. Felt boards	21	15.5	47.6	33.3	19.0	0
11. Filmstrip projector	85	62.9	42.3	45.8	9.4	2.3
12. Graphs	38	28.1	34.2	50.0	5.2	10.5
13. Human resources	69	51.1	46.3	44.7	7.2	1.7
14. Illustrations	82	60.7	48.7	39.0	12.1	0
15. Motion pictures	86	63.7	48.8	40.6	10.4	0
16. Motion picture projector	95	70.3	43.1	50.5	6.3	0
17. Posters	76	56.2	32.8	53.9	11.8	1.3
18. Records	57	42.2	29.8	49.1	19.2	1.6
19. Record player	35	25.1	28.5	57.1	8.5	5.7
20. Stereoscope	23	17.0	44.7	56.5	8.6	0
21. Slides	69	51.1	47.8	43.4	8.6	0
22. Slide projector	81	60.0	43.2	40.7	14.6	1.2
23. Still pictures	81	60.0	45.6	39.5	12.3	2.4
24. Tape recorder	51	37.7	25.4	60.7	11.7	1.1
25. Television	51	37.7	41.1	49.0	7.8	1.9

From Former Issues

In the October, 1952 issue, Editor W. A. Smith wrote: "I believe the time has come when those in the field should share in this important function of policy development. Surely in a democratic society, those who are directly affected in a program should have some say in its planning and on going, its organization and emphasis. The time has come when it is imperative that action be taken to involve representatives of a number of groups in our program planning and policy making. It seems to me that we need to broaden the base of the policy making groups so as to include representatives from state directors, state supervisory staff, teacher trainers, teachers of agriculture, administrators of high schools, and possibly, the chief state school administrators in addition to the Vocational Division of the U. S. Office of Education."

Neither a borrower nor a lender be; For loan oft loses both itself and friend, and borrowing dulls the edge of husbandry. —William Shakespeare —Hamlet

Michigan Research Identifies Needed Abilities in Teaching Rural Electrification



SAMUEL H. K. SHIH*

A study was recently conducted in Michigan to determine the relative importance of 49 abilities in rural electrification for teaching vocational agriculture.* The study was intended to provide a sound basis for course content in rural electrification for the preparation of teachers of vocational agriculture in Michigan.

Need for the study—Michigan farmers have used more than 10 times the amount of electricity recently than they used 30 years ago. In 1930, Michigan farmers used an average of 720 kilowatt hours each year, in 1945, an average of 2140 kilowatt hours and in 1960, an average of more than 7200 kilowatt hours. The more electricity they use, the more they need to know about it.

During the last 30 years, the cost of labor, land, machinery, gasoline and almost everything has been increased. However, the cost of electricity per kilowatt hour has decreased. For instance, in Michigan the cost per kilowatt hour of electricity in 1930 was 4.5 cents, in 1945, about 2.6 cents and in 1960 it was less than 2.4 cents. Since the cost of electricity per kilowatt hour has been constantly decreasing, farmers are likely to use more of it in the future.

Sources of Information—The order of importance of the abilities listed below represent the evaluations of a total of 216 persons who included:

19 state leaders in teacher education, including college staff members, state consultants and supervising teachers

47 teachers of vocational agriculture in Michigan

27 prospective teachers of vocational agriculture

15 agricultural engineers at Michigan State University

34 rural servicemen, including farm service advisors from power companies and managers from rural electrification cooperatives

55 farmer members of advisory councils from the schools in Michigan

50 young farmers who were attending rural electrification Short Course at Michigan State University in the Spring of 1959

What abilities are needed—The order of importance of the 41 abilities were found to be:

I. *First Degree of Importance*
- Determine types and sizes of fuses for protection
- Ground equipment and wiring system safely
- Recognize hazards of substandard wiring
- Select proper types and sizes of motors
- Prevent electric shock
- Locate hazards such as short or open circuits

II. *Second Degree of Importance*
- Install fire-proof lighting fixture in hayloft properly
- Use fire fighting equipment for electric fires
- Make electric fence controller safe
- Plan wiring system for present and future loads
- Select proper overload protection
- Select wiring materials (types, sizes. . .)
- Interpret motor name-plate information
- Repair damaged cords and make proper splices
- Comply with electrical code and select Underwriter's Laboratory approved materials
- Recognize effects of poor lighting on quality and quantity
- Protect buildings from hazards of lightning
- Install heat lamps for pig or chicken brooding
- Use judgment to revise present wiring system
- Wire a circuit for general purpose lights and outlet
- Clean and lubricate motors
- Locate outlets and switches
- Select electrical appliances for convenience, economy and safety
- Determine number of branch circuits in new buildings
- Mount motor and adjust belt tension
- Recognize sources of reliable information on rural electrification
- Select lighting equipment for home and yards
- Determine light requirements for various areas and jobs
- Compare cost of electricity with other sources of power

III. *Third Degree of Importance*
- Locate load center and distribution center
- Select service-entrance switches
- Install 3-way and 4-way switches
- Use ultraviolet lamp and other special lamps safely
- Wire a circuit for special outlets (as: range, welder. . .)
- Determine voltage drop and its effect on lighting
- Change direction of rotation of motor
- Compute energy consumption of various appliances
- Replace brushes in motors
- Change voltage of dual voltage motor

Order of importance of six subareas—From the order of importance listed above, it should be noted that abilities related to safety are ranked the second and third in importance. Lighting, basic abilities, and heating and cooling abilities ranked fourth, fifth and sixth in importance. Teachers then, should put more emphasis on abilities related to safety, wiring and motors but less emphasis on abilities related to heating and cooling.

Group Opinions Compared—The opinions among the seven groups on the order of importance of the 49 abilities were very similar. They expressed a high degree of agreement on the importance of abilities in safety and lower importance of the abilities in heating and cooling.

However, leaders in teacher education rated the 49 abilities higher than the other six groups. The four groups who were related to the profession of teaching (leaders in teacher education, teachers of agriculture, prospective teachers and agricultural engineers) rated the 49 abilities more important than did the rural servicemen, farmer members of advisory councils and young farmers.

The Need for In-Service Training—The 47 teachers of agriculture not only rated the importance of the 49

*Samuel H. K. Shih, "A Basis for Course Content in Rural Electrification for the Preparation of Vocational Agriculture Teachers in Michigan" (Unpublished Doctor thesis, Michigan State University, East Lansing, Michigan, 1962, Raymond M. Clark, Advisor) 207 pp.

abilities but also the adequacy of the training and frequency of teaching of the 49 abilities in their high schools. These ratings were compared and evaluated with the composite ratings of the seven groups. The recommendation for course content for in-service groups was based on the comparisons and evaluations.

Most abilities in the sub-areas of safety, wiring, motors and lighting were evaluated important enough to warrant inclusion in the course content for in-service training. The training score was rated significantly lower than the importance score therefore, the in-service training is needed.

Although the 47 teachers reported that the amount of training they received in most of the abilities was in proportion to the degree of importance as rated by the seven groups, and the frequency of their teaching each of the 49 abilities was also directly proportional to the importance rating, yet, they need in-service training so that they can meet the growing needs of the farmers. Recommendations were made for course content for both pre-service and in-service training of Michigan teachers of agriculture in this study.

Implications of this study—The findings in the present study offer suggestions to other groups. Instructors of a Short Course in rural electrification, the teachers of agriculture who plan to teach electrical abilities to high school students or farmers, the rural servicemen, the rural electrification extension workers and educators may use the ratings of the seven groups to select teaching content.

The method of investigation for building the course content for pre-service and in-service training for teachers used in the present study may also prove useful to other states in the study of other phases of farm mechanics. □

Agricultural Occupations

(Continued from page 212)

strengthened program of agricultural education coupled with intelligent guidance will accomplish this. The people around the world look to the United States for agricultural leadership. It must be our concern that a reasonable share of our most capable farm youth be encouraged and educated to remain in agriculture, so that we may provide this leadership, not only in productivity and development in this country, but also in providing commodity and technical assistance abroad.

Recommendations

In view of the challenges that face agriculture, the following recommendations are made for re-directing and extending vocational education in agriculture:

1. Vocational agriculture courses should be continually modernized and intensified in keeping with technological changes. Principles of farm science and of management are areas needing greater emphasis. A broad education including supervised work experience and with continued leadership and citizenship training is essential.
2. The high school program should serve a larger clientele since it must provide basic training for farming and for a wide diversity of nonfarm agricultural occupations for which training in farming is essential. Additional funds should be made available for this purpose.
3. A greatly expanded program is needed for young farmers who are striving to become established in farming and for adult farmers who need to increase their proficiency. Less than 10 percent of this group is now being served by the public schools. Funds must be made available to employ additional teachers to work intensely with these groups in meeting the complexities of modern day farming.
4. A similar program for the upgrading of employed workers in nonfarm agricultural occupations is urgently needed. Funds should be made available to employ additional teachers, specially trained, to work with these groups.
5. A program of education in agricultural technology is needed for high school graduates to further prepare them for employment in agricultural industries and businesses. Such programs should be staffed with highly trained agricultural personnel. Funds should be provided through secondary schools, community colleges, or area schools.
6. The possibilities of cooperative programs involving two or more segments of vocational education should be attempted, possibly in the senior year of high school; definitely in post high school training.
7. Enrollments in programs training teachers of vocational agriculture should be increased in order to overcome the current shortage of qualified teachers. The training programs should be upgraded to provide more preparation in farm management and work with adult farmers. Increased emphasis needs to be given to in-service training of teachers. Special training should be made available for those teachers needed for the nonfarm agricultural occupations and for the agricultural technology programs.
8. More funds should be made available to support research in agricultural education. Particular provisions should be made for pilot and experimental programs at federal, state, and local levels. There is need, also, for making available more opportunities for teacher trainers and supervisors of vocational agriculture to extend their competencies in professional leadership.
9. Provision should be made to continue and further develop leadership and citizenship training through a youth organization for those who will enter an agricultural occupation.
10. There is a need to further develop programs of vocational education in agriculture on an area basis so all persons who need such training may have an opportunity to enroll.
11. Provisions of the Smith-Hughes and George-Barden Acts limit vocational education in agriculture to training for "the work of the farm or of the farm home." Additional legislation should be provided to extend authorization of training into the area of the nonfarm agricultural occupations. □

In August, 1942, Dr. C. H. Lane, reported on the highlights of the North Atlantic Regional Conference, and stated that the two major subjects for consideration were (1) what is before vocational agriculture in the present war efforts? (2) what contributions can agriculture, the schools, and the home make toward winning the war?"

A Virginia Y.F.A. Program Designed to Help Its Members through Trying Times

A. L. HUTTON, JR., Vocational Agriculture Teacher, Purcellville, Virginia

I know of no greater challenge and opportunity that confronts the agriculture teacher of today than that of working with the young farmers in the community which he serves. We are living in a period of rapid change and the young farmers who are now farming or expecting to farm need to know how to adapt themselves to this changing agricultural situation. These young men are constantly seeking solutions to the many and varied complex problems that they face in their daily activities on the farm. The narrow margin of profit has called for greater efficiency in production. We, as agricultural instructors, should dedicate a goodly portion of our time to the task of assisting this young and appreciative group. Their interest is intense and their quest for knowledge is immense. Responsibility for making a success of the farming business has fallen upon their shoulders. We should help see them through this difficult and trying period.

Our own local Young Farmer Association received our charter from the Virginia Association some eleven years ago. This group was composed mainly of former students of vocational agriculture who were eager and interested in keeping abreast with the changing times in the great business of agriculture. Problems in farm management suggested by the group members constituted the basis of instruction provided at each meeting. Some of the topics that have been discussed are:

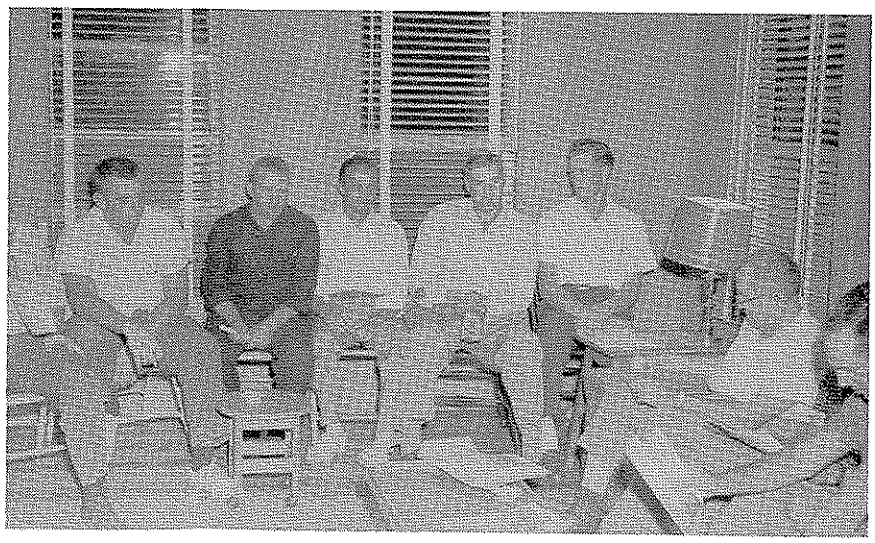
1. Problems in Swine Production
2. Problems in Beef Production
3. Problems in Dairy Production
4. Increasing Crop Yields
5. Farm Financing
6. Farm Electrification
7. Farm Machinery Maintenance
8. Government Programs to Assist the Farmer
9. Pasture Management
10. General Problems of Farm Management

Certain variations of these topics are presented at regularly scheduled monthly program meetings. A general discussion type of presentation is often used in presenting the topic with the instructor of agriculture serving as the leader. Sometimes certain agricultural specialists are called in to serve as consultants to the group. These men are always eager and willing to help us in presenting our topics, and they bring us much technical information.

At certain times a symposium or panel type of presentation has been used with members of the association taking part. This has proved to be a very interesting and stimulating method of presenting a program. The group responds very well by participating in a general discussion which follows.

A rather unique feature of our association is that one meeting per month is held at the various homes of the members and the advisors. At these home meetings, which are well attended, certain business matters of the association are transacted. The "new in agriculture," market reports, and "for sale and wanted to buy" items are discussed. After about an hour spent in the above mentioned activities, the host member serves delicious refreshments to the group after which a period of fellowship is enjoyed by all. This affords members an opportunity to visit the homes of their fellow young farmers and to become better acquainted with one another. Wives of the members are often invited to these meetings. The other regular monthly meeting is held at the High School Department of Vocational Agriculture. Having two meetings per month enables us to get more accomplished and keeps the meetings from being too long.

For the past two years The Loudoun County Young Farmer Association has conducted a Dairy Production Sale at the fair grounds in Loudoun County. Approximately forty head of dairy heifers and cows are consigned and sold at the sale annually. Records of sires and dams are searched and recorded in a catalogue which is accessible to the prospective buyers. No animals are consigned to the sale that do not meet the minimum requirement (actual or potential) of four hundred pounds of butterfat annually. This cooperative venture by the Association members has made it possible for many of them to buy and sell desirable animals for their dairy herds. About 25 gates were made in the agricultural shop by Association members to provide penning facilities at the sale. Over $200 is spent in advertising the sale and the Association has realized some profit from the activity after paying the auctioneer's fees and other expenses. If continued interest is shown in the sale by the dairymen in the county,



Regular meetings at the homes of young farmers are a feature of the Loudoun County Young Farmers Association.

it will be continued as a yearly activity.

Other activities engaged in by the association to raise funds for the treasury have been scrap drives and barn dances. The Association members have constructed a movable squeeze chute which is cooperatively owned and used by members for holding their cattle for dehorning and vaccinating. This chute, which would cost about $500 if bought new, was constructed in the school shop for $100. The Association members have bought some fertilizer cooperatively with considerable savings being realized per ton.

All these activities conducted by the Association members have created a bond of friendship and cooperation with one another which is very commendable. These young men are always ready and willing to assist the instructor of agriculture in promoting all phases of his program. □

Grades Alone Aren't Enough as a Basis for Placement in Agriculture

ARNOLD SCHEER, Instructor in Agriculture, California Polytechnic Institute, San Luis Obispo, California

The outstanding qualities a student receives from a background in vocational agriculture is a most important contribution to his success in college.

There are far too many individuals involved with young people that use the "academic achievement" as expressed in grades as the only measurement of success.

A number of surveys have been made, one extensively by the University of California College of Agriculture at Davis indicating that students with vocational agriculture training did as well academically as those with a full college preparatory program in high school. How can one judge a person explicitly on grade achievement and ignore the factors that a potential employer actually inquires about—"practical background and skills"?

This has always been of great concern to many as we see young people competing for success—and find the high grade point average is not always enough.

As a college instructor, I felt some types of observations were necessary to test my own beliefs on the subject, to guide me in arranging placement possibilities.

Briefly, I observed students for several months during lectures, labs, club meetings and supervised student work—on and off campus. The unique situation at Cal Poly makes this type of observation effective. Many of the laboratories are of a practical nature and are held in the college orchards and fields. The college has a student placement center and students are observed at work from time to time by college personnel.

Perhaps the most important area of observation is in the project program on campus. Here students rent land from the college for crops and animals, poultry, borrow money, on paper, from a college foundation and "practice" farming while going to school. Most of the profit from these farming operations goes to its student.

After twelve weeks, I made an effort to select those boys I thought had been at one time in the Future Farmer or advanced 4-H programs. Then I looked up their personal files to see how accurate I had been. I found that I was

87% right—Lucky you say. I don't think so.

11% of those that I missed were boys who were student body officers or active in other organizations.

I only missed 1% of the time.

Not one that I chose was lacking a background in some supervised high school or adult activity such as 4-H.

All that I selected had some type of agriculture background. What criteria did I use?

1) Ability to go ahead with assignments without unnecessary questions and excuses.
2) Leadership—knowing when and how to speak at a meeting. Discussing intelligently a problem and displaying ability to reason out a decision—for or against.
3) Initiative in practical lab assignments—sense of knowing how to apply what is said to how it should be done, and actually getting started at it.
4) Cooperation—mixing with other students and the willingness in offering help to others. Foresight in anticipating a problem and offering help or suggestions.
5) Respect for instructors and attitude toward authority. Future Farmers, especially, accepted assignments and jobs cheerfully. They made you feel that they wanted to do an assignment.

In view of this, I feel high school vo ag and activities are a definite asset to prospective college agriculture majors, and when industry talks to a prospective employee—these total measurements are considered more important than the academic rank. □

State Publications

(Continued from page 209)

less importance to determining readability of publications or to obtaining the reading level of their students.

Composite extent-of-use scores for the three publication classifications differed significantly. Implications are that this finding tends to support the policy by which the publications were classified for distribution. This finding also tends to support and validate the procedures by which the policy was applied. The idea behind the distribution classification scheme was that publications placed in *Class C* would be used most, those placed in *Class B* next, and those placed in *Class A* would be used least.

Timeliness of the information was deemed the most important feature or characteristic of publications by teachers. Yet, the activity of assisting students to evaluate publications in terms of date of printing and the like was rated low.

Ease of procurement and the comparatively inexpensive cost of this type of publication to Michigan teachers were ranked almost equal in importance. They also were ranked relatively close to the top with respect to importance. The implication is that the least effort that must be expended

in procurement of publications is the most highly desirable. Furthermore, this finding seemed to implicitly express a reluctance on the part of many teachers to ask administrators for budgetary allocations for the purchase of this type of publication.

Teachers indicated that the quarterly "Available Publications List," in-service meetings, and county agricultural extension agents were the best means by which they maintained an awareness of the availability of publications.

Based on the findings of the study and the experiences received while conducting it, the following suggestions are made for use as guidelines in further investigations:

1. There is a need for further study on the kinds of assistance that teachers give students in the use of this type of publication. Such a study would be beneficial in defining the teachers' roles with respect to the use of such publications. The prevailing consensus among those who work with teachers of vocational agriculture seems to be that teachers do a highly commendable job of instructing students in the various elements of "problem-solving" and "decision-making." How teachers use this type of publication in such instruction needs additional study.

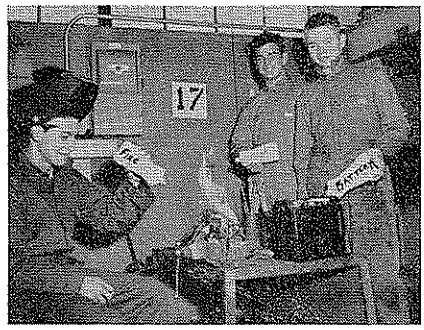
2. The theoretical communication models which have been postulated by specialists in that field indicate that messages contained in publications should be written with a specific audience in mind. Based on the theory of such models, teachers of vocational agriculture have been using publications which were not specifically designed to be used by them when they employed the type of publication that was treated in this study. In a sense, teachers have been forced to use this type of publication because no other has been appropriately designed for their use. Hence, there seems to be a need to determine how agricultural information can best be arranged and presented for use solely by teachers of vocational agriculture. Heretofore, it seems that too much emphasis has been placed on *what* was prepared for teachers to use, and not enough emphasis was placed on *how* it should be prepared and presented.

References

1. This article is based on a dissertation by:
   Wall, James E. "The Utilization of Michigan State University Agricultural Publications in Selected Vocational Agriculture Activities." Unpublished Doctor of Philosophy dissertation, Michigan State University, East Lansing, 1962. 223 pp.
2. Dale, Edgar, and Jeanne S. Chall. "A Formula for Predicting Readability: Instructions," *Educational Research Bulletin*, 27:37-54, January 21, 1948.
3. Berlo, David K. *The Process of Communication*. New York: Holt, Rinehart and Winston, Inc., 1960. 318 pp.

Use Those Plastic Bottles in the Shop

Have you ever had a student get his clothes on fire while welding? We usually have one or two cases each year. Have you ever been welding and wanted to cool off your work quickly and didn't have a bucket of water handy? Here is a solution.



A plastic bottle of water serves as a fire extinguisher in the Lodi Union Farm Shop.

Save your liquid detergent plastic bottles and fill them with water. Place one at each welding table. If you can impress upon your boys that they are there for safety and for convenience and not as a toy or squirt gun, your problem is solved. They also make excellent glue containers for white emulsion glue.

These containers are also excellent for filling batteries with water as they hold sufficient supply for several batteries.

G. W. McMaster
Teacher of Vocational Agriculture
Lodi, California

Winning Entries in the Exchange of Ideas Contest at the National Vocational Agriculture Teachers Convention

REGION I

"A Picture Is Worth a Thousand Words"

A group of teachers contacted 2 local business firms in the San Joaquin Region to provide funds for a traveling educational exhibit. This kit is composed of 6 folding 3-section panels which depict through pictures some 400 career possibilities in the field of agriculture and a section on FFA activities. These sections can be transported in a station wagon to participating schools. The display is left in each high school one or two weeks and at least 2 days in the 7th and 8th grade rooms. The only advertising is a placard indicating the sponsors. SUBMITTED BY: J. R. Peddicord, Nevada. From: Fred Hansen, Chowchilla, California.

REGION II

Future Farmers Are Hosts to the School Faculty

As a means of keeping the High School Faculty informed of what the FFA planned for the year and see the chapter in action, the teachers are given a special invitation to attend the October FFA meeting. A member is assigned the duty of giving a special invitation to a teacher, and is responsible for escorting the teacher to the meeting. He is the teachers' special FFA host at the meeting.

At this meeting the chapter "Sweetheart" is elected. The Green Hands are initiated using the formal Green Hand ceremony. A progress report of the year's program of work is given.

This gives new teachers a chance to become acquainted in the early school months of the year with the Future Farmers of America. It also keeps the other teachers informed of the activities planned for the year. Submitted by: Julian Johnson, Buhler, Kansas. Idea: Charles Morrison, Moriarty, New Mexico.

REGION III

Saving Lives at Corn Corners

A community service for high school classes was born out of the idea of the need or necessity resulting in 2 deaths from 3 automobile accidents in the Alden, Iowa Community school district. These 3 accidents all occurred on dangerous corners where tall corn in August and September obstructed the view.

The idea to build corn corner signs was brought up in an FFA chapter meeting after local newspapers became quite concerned with the accidents.

Materials needed for 1 sign:

12″ x 18″ x ½″ outside plywood	.16
1 steel post	.65
Paint	.05
2 - 1½″ x ¼″	.03
Approximate cost	.89

Suggestions on materials:

Each boy brought in 2 steel posts and painted them red. Plywood was scraps from local lumberyard—ex-

terior plywood preferred. Paint was purchased.

At the June FFA meeting boys brought in their pickups and put signs up. Stencils were cut and laid over material spray painted or brushed.

Principles taught:

1. Use of hand saw and power saw.
2. Skill in drilling holes in steel posts with power drill.
3. Use maintenance and care of painting equipment.

Submitted by: Wendell O. Erickson

Idea: Duane C. Brouwer, Alden, Iowa.

Winning entries from regions IV, V and VI will appear in the next issue.

An Eighth Grade Field Day as an Aid to Increased Enrollment

R. CLAIR DECKER, Teacher of Vocational Agriculture, Tolleson, Arizona

Our enrollment in first-year vocational agriculture has needed encouragement the past several years. The semi-urban type service area of our school is partly responsible since we are located in the suburbs of metropolitan Phoenix. We have used several techniques to interest and guide prospective vocational agriculture students but our Eighth Grade Field Day was so effective we would like to share the idea with you.

The chapter officers, realizing the need for high enrollment in vocational agriculture in order to maintain a strong F.F.A. chapter, developed the idea of a field day for eighth graders. They presented their rough plans to our high school Superintendent for his approval. The vocational agriculture teacher discussed the intended program with the grade school principals in our union high school system to obtain their support and establish a date.

At a chapter F.F.A. meeting the interested members were organized into committees and the details of their responsibilities were outlined. There was a separate committee for each activity with complete responsibility to conduct that event. They obtained the animals and/or equipment, made pens or set up courses, obtained judges, directed contestants, and scored results. Additional committees were set up for promotion and publicity, refreshments, and awards.

One week before the field day was scheduled, two members of the publicity committee visited each eighth grade class, explained the activities to be conducted in the field day, gave each boy a printed schedule of events and awards, and placed a poster in each school.

Chapter members developed considerable interest in the program and carried out their committee responsibilities with enthusiasm. Tractors were borrowed for the driving contest, dairy cows and feeder pigs were brought in for judging, and common weeds were collected for identification.

While the results of the above mentioned skills were being tabulated, other committees conducted a greased pig contest, a show race, and a goat sacking contest. The eighth graders soon shared the enthusiasm of the conducting Future Farmers and zealously participated in all events.

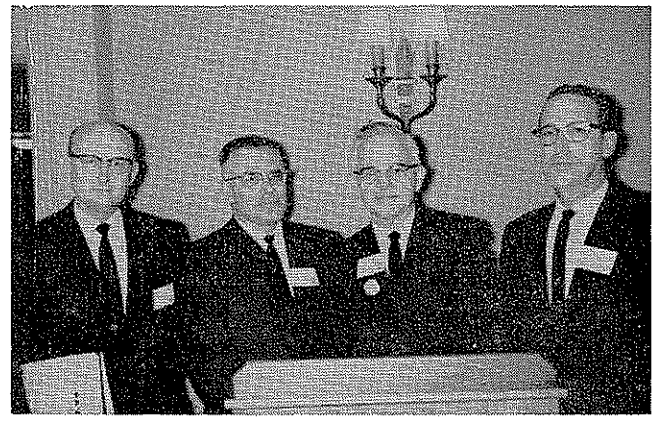
Special ribbons and small cash prizes to the top performers, accompanied with cold pop for all, climaxed the active afternoon's program.

Our eighth grade field day increased our first-year pre-enrollment in vocational agriculture 40% over last year. Moreover, it provided excellent opportunities for the development of responsibility, cooperation, and leadership in our chapter members. □

News and Views of the Profession

AATEA Elect New Officers

The American Association Teacher Educators and Agriculturers named C. C. Scarborough as president for the coming year. Dwight L. Kindshey from Idaho is president elect, Milo Peterson and Ray Cardosier both continue their duties as Executive Secretary and Treasurer. Clarence Rundy is the past president of the organization. During the past year the association has been involved in a number of activities of interest to the profession. Affiliation with the Land-Grant College Association has been investigated. An effort is being made which expands programs of THE NATIONAL SCIENCE FOUNDATION as related to Vocational Agriculture.



AATEA Officers, left to right—V. R. Cordosier, secretary; Dwight L. Kindshey, president elect; C. C. Scarborough, President; and Clarence Rundy, Past-President.

A major activity during the past year was the establishment of the distinguished service award for members of the profession. H. M. Hamlin was the recipient of this award. One of the questions facing the group is that of sponsoring a national meeting of collegiate FFA chapters. The association has asked teacher educators in each state to discuss this question at their regional conferences. R. W. Cline of Arizona was reappointed this year as editor of the AATEA Journal. The Journal is received regularly by the 130 members of the organization.

In an effort to recruit more teachers of Vocational Agriculture, a committee made up of Leo Knuti of Montana, Lowery Davis of South Carolina and Ray Agan of Kansas prepared and had printed 5000 copies of a brochure. Orders for this brochure have already exceeded the supply and the organization is hoping that further copies can be printed by AVA. □

Michigan Staff Changes Announced

During the months of January, February, and March, 1963, Harold Byram will be serving on a MSU-AID Contract at the University of San Carlos, Guatemala. His assignment is

consultant for research to be conducted in five Central American countries. The first study will be one dealing with the needs for teacher education in vocational education.

The Midwest Project on Airborne Televison Instruction has contracted for the services of Paul Sweany to direct an evaluation study from January to September. Dr. Sweany will continue part-time on the staff in Agricultural Education.

Dr. O. Donald Meaders returned to the M.S.U. staff in agricultural education, January 1, 1963, from a two-year, University Contract Assignment in Taiwan. While in Taiwan, Dr. Meaders helped the University of Tai Chung improve and further develop its program of teacher education in agriculture. A major research project has been a follow-up survey of over 4,000 graduates of agricultural schools.

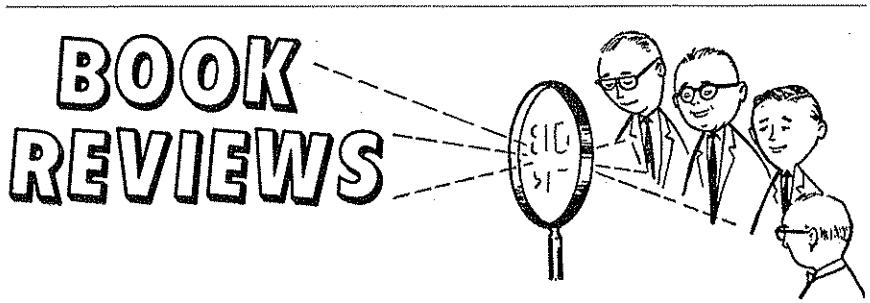
Mr. Homer Judge, who completed the requirements for Ph.D. in Agricultural Education at the close of the fall quarter has been employed by M.S.U. for the remainder of the academic year to take over some of the duties of Dr. Sweany. He will assist in coordination of student teaching programs. □

Leo P. Herndon, a graduate assistant in the Agricultural Education Department at Cornell University for the past two years, has joined the faculty at California State Polytechnic College, San Luis Obispo, California. He taught vocational agriculture for 10 years in Colorado and Nebraska; holds a B.S. and Master's degree from Colorado State University and has two years work toward his Ed.D. at Cornell University. Mr. Herndon's immediate assignments include teaching on-campus courses in agricultural education, advisorship of the Ag. Ed. Club and the senior editorship of Cal. Poly AG ED NEWS.

Pennsylvania teachers of vocational agriculture will help test a system for electronic farm accounting during the coming year. The new system was developed by the Farm Management Staff of Pennsylvania State University. This pioneering effort will be coordinated by the staff of the Department of Agricultural Education. □

Dr. William H. Annis joined the staff of the College of Agriculture, University of New Hampshire this past fall as Teacher Trainer in Agricultural Education. He replaced Mr. Philip S. Barton who has now become Director of the Thompson School of Agriculture. Mr. Annis has taught vocational agriculture in Maine and Vermont and recently received an Ed.D. from the Cornell University. During the past year he was employed by the Vocational Division of Massachusetts Department of Education as Supervisor of Teacher Training. □

Approximately 300 attended the Pennsylvania Young Farmer Association Convention at Pennsylvania State University in December. Many of the wives attended the Young Homemakers Program held in conjunction with the convention.



THE AGDEX FILING SYSTEM by Howard L. Miller. Published by Iowa State University Press, Ames, Iowa. Price $4.95.

Agdex, an index for agricultural publications, is designed as a filing system for the semi-technical and popular literature which reaches the agricultural leaders' desks. The system includes a special bound index guide and sets of gummed labels which are color coded. Sufficient labels are included for a complete file of agricultural publications. The index is developed primarily for use by teachers of agriculture and county extension agents. The system is flexible and can be adapted to a great many individual situations. The index is a subject classification scheme in which subjects are grouped under major headings and are separated by topics or phases. It is a multi-plane system which not only provides subject breakdowns, but also enables combinations of various subject areas. Agriculture can be categorized into Field Crops, Horticultural Crops, Forests, and Livestock. These groups may be subdivided into many kinds, types, families, varieties, and species. The ten subject areas are divided by color codes and about 1,000 subject headings can be located under the 10 commonly used subject areas. The subject areas are:

Field Crops
Horticulture
Forests—Forestry
Livestock—Animal Science
Soils
Insects—Diseases and Pests
Agricultural Engineering
Agricultural Economics
Open

Already in use in several states and in Canada the system gives promise of becoming a nationally accepted system of filing agricultural publications.

William Judge, Supervisor
Agricultural Education
Kentucky

FREE AND INEXPENSIVE TEACHING AIDS FOR TEACHERS OF AGRICULTURE by Dr. Guy E. Timmons. The Interstate Printers & Publishers, Inc., Danville, Illinois, 62 p. 1963. Price $1.00.

This publication has been prepared as a guide to assist the busy teacher of agriculture. It is a comprehensive listing of sources and some teaching aids available from specific sources. Probably not all of the teaching aids listed are suitable for every locale or teaching situation. The teacher of agriculture will want to select with care, then carefully review each aid before attempting to use it.

Dr. Guy Timmons is Associate Professor of Education at Michigan State University.

Raymond M. Clark
Michigan State University

PUBLIC SCHOOL EDUCATION IN AGRICULTURE—A GUIDE TO POLICY AND POLICY MAKING by Herbert M. Hamlin. The Interstate Printers and Publishers, Inc., Danville, Illinois, 1962. $5.75.

Public School Education in Agriculture is a book that should be seriously studied by all who are concerned with the advancement and improvement of public education. The book presents the author's concepts of the kinds of agricultural education that should be provided in the public school in the light of current trends and the importance of agriculture. It incorporates the best of the author's excellent study of policies and policy formation.

In the "Hamlin style," familiar to his former students and other readers of his writings, he reveals the "sacred cows," the traditional concepts and the common practices; sets them up as straw men, and then proceeds to shoot them down. He leads the reader to feel that agricultural educators have never come to grips with this whole business of making public school education in agriculture truly significant for our times. Few will agree with all of Hamlin's criticisms. None can afford to ignore them.

The author makes incisive comments regarding the role of administrators of programs of agricultural education at the local, state, and national levels, and the circumstances which make it difficult to attract and retain well qualified teachers. He makes a very good case for the thesis that the public is not expecting enough from its school program of agricultural education; that it is not spending enough money on it; and that if it were more concerned and spent more it could have agricultural education programs which would be attractive to and supported by many more people. Communities could expand their offerings in adult education. Much stronger support for the whole community school program would result.

The burden of Hamlin's message is revealed when he says: "Those who have only recently had contacts with public school education in agriculture may conceive that all the issues in the field were settled . . . years ago. One who has grown old in the field knows that most of the basic issues were not adequately considered when the decisions were made which shaped our present programs. Much that we have . . . resulted accidentally."

In the preface the author says, "Members of boards of education and legislative bodies, who represent the public, organizations of citizens interested in public education, school administrators, and agricultural educators are those most likely to be interested in this publication." We would agree that administrators, citizens and legislators should be interested, that they should become informed through reading this book. However, there are few, if any, required courses dealing with vocational education that are required for administrators; and training of school board members is practically nonexistent. Therefore, much of the burden of enlightening these and the lay public will continue to rest upon the teacher of agriculture, the teacher educator, and the state supervisor. When Dr. Hamlin writes, as he does so frequently throughout the book, using the first person, plural, although he seems to be aiming largely at the administrators, apparently the "we" really means you and me, the readers of this magazine.

Public School Education in Agriculture should prove particularly useful as a text or reference for graduate courses and seminars for teachers of agriculture and other leaders in agricultural education. But it should also find a place on the professional shelf of practitioners concerned with public school programs of agriculture. Leaders in agricultural education should seriously study this timely publication.

Harold M. Byram
Michigan State University

THE CARE OF THE EARTH by Russell Lord. Published by Thomas Nelson and Sons, New York, 480 pp., 1962. Price $7.50.

Those interested in a history of agriculture will find this book much to their liking. The author presents a comprehensive picture of agriculture as it has been practiced during the 72 centuries from 5200 B.C. to the 20th century A.D. This picture is given in a time sequence similar to a motion picture one hour in length.

Underlying all passages is the concern of the author for conservation of the natural resources of the land. Attention is given to the efforts of individuals and groups in the development of agricultural policies for the United States. Some attention is also given to the development of specific conservation practices which have met with success in retarding the deterioration of our soil resources.

The author's final chapter deals with problems of overpopulation and the inequities between agricultural endeavors and industry with the accompanying hope for mankind to live a full life with a greater knowledge of his relationship to nature.

Russell Lord is a well known writer whose literary efforts have appeared in *The Land, Progressive Farmer, Readers Digest, Saturday Review,* and others. Among the books to Mr. Lord's credit are *The Agrarian Revival* and *The Wallaces of Iowa.* He has served as consultant to many governmental agencies.

Philip B. Davis
Agricultural Education
Oregon State University

N.V.A.T.A. News

from
James Wall
Executive Secretary

Is your state ag teachers association well organized and are your officers and committee chairmen assuming proper leadership in developing and carrying out a challenging program of work? Does your state association cooperate with the state supervisory and teacher training staffs in promoting vocational agriculture and the welfare of your members? If the above questions can be answered in the negative, it is your responsibility as a teacher and a member of your professional organizations to help correct the situation. Most associations will be electing new officers and making plans for 1963-64 at their state conferences this summer. The continued growth and success of your state association will depend not only on those elected to positions of leadership but also on the support of individual members.

Harry Bryson, Executive Vice President, Agricultural Hall of Fame and National Center, 916 Walnut Street, Kansas City, Missouri—says—"We are pleased to announce that clearance has been made with the National Vocational Agricultural Teachers' Association and the National Association of County Agricultural Agents for us to have the following on our Speakers Bureau listing:

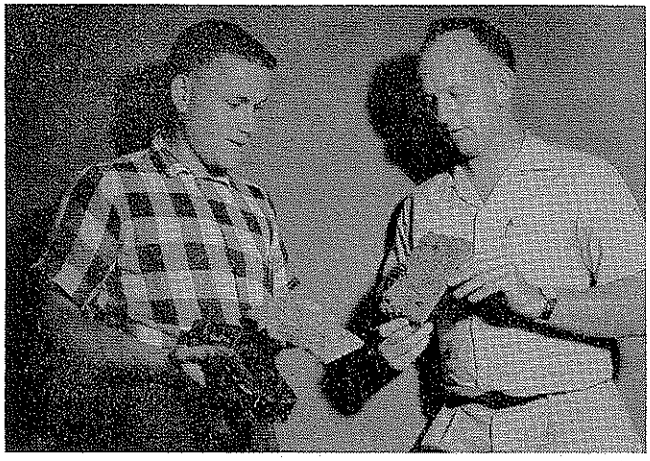
"Your local Vocational Agricultural Instructor"

"Your local County Agricultural Agent"

We are prepared to send informational material to any Vocational Agricultural Instructor or County Agricultural Agent who wishes such information to prepare a presentation to any group concerning the Agricultural Hall of Fame and National Center."

If a group from your school is planning a trip to Washington, D. C. between April 15 and May 15—write to Mr. David M. Granahan, Chief, Exhibits Service, U.S.D.A. for information about an exhibition called "23,000,000 Jobs."

Stories in Pictures

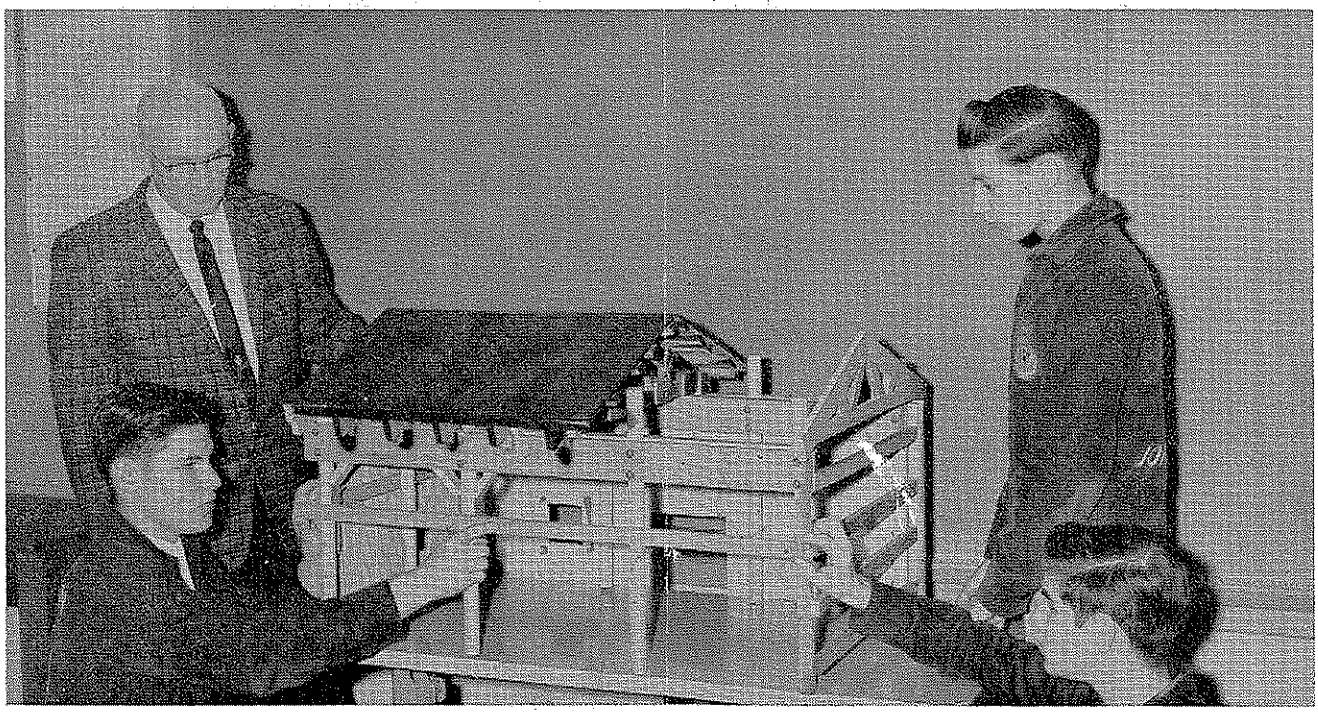


Two Ohio teachers examine a miniature soil profile which they find to be a frequently used teaching aid. This soil profile was one of 45 teaching aids displayed at the annual conference for Ohio teachers.

Norris Fagerlund, president of the North Dakota Vocational Agriculture Association, presented framed copies of the vocational agriculture instructor's creed to six new members during the Association's fellowship dinner held recently.

The instructors, and towns where they will teach vocational agriculture, are (left to right): Ralph Butterfield, Wishek, Lowell Anderson, Fessenden, Alfred Lehman, Casselton, Dennis Roscoe, Washburn, Edward Duke, Michigan, and Gregory Bennett, Napoleon.

Teaching resources are all around you when you teach on the farm according to Donald Noah, teacher at Highland High School, Sparta, Ohio. In this picture Noah is working with one of 32 young farmers enrolled in his program.



D. E. Spotts, teacher of vocational agriculture at Jonesville, Michigan, uses various models as teaching aids. Three of his students study a model of a clear span, pole barn of the type now being constructed in Michigan. Students are able to learn actual construction procedures and have used this model in the FFA demonstration contest. All parts are removable for convenient storage, ease of transportation and so students can see all details of construction.