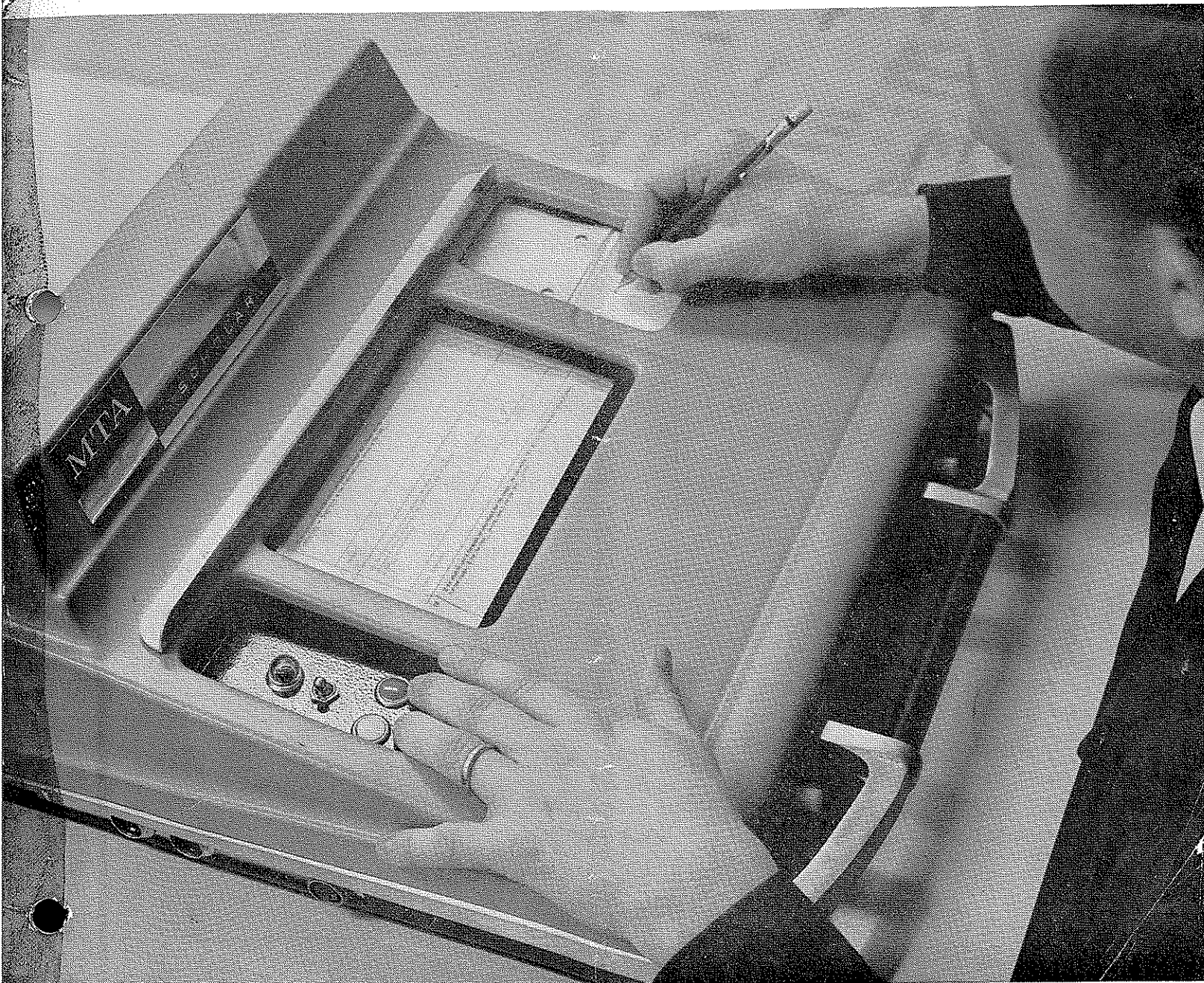


AGricultural EDUcation

Featuring—Improving High School Courses

Department of
AGRICULTURAL EDUCATION
UNIVERSITY OF ARIZONA
TUCSON, ARIZONA

JULY, 1963



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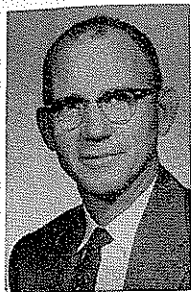
The Cover

Teaching machines in the Vocational Agriculture classroom? They may be in use before we realize it. Programed learning and teaching with television are heralded as today's most promising supplements to existing procedures in education.

Guest Editorial

There Is a Place for More Science in Vocational Agriculture Teaching

ALLEN E. STAROSTA, Vocational Agriculture Teacher,
Dodge City, Kansas



Vocational agriculture instructors have an excellent opportunity to teach related science in their classes. Students should receive instruction in those areas of agriculture to which science is related if they are to fully understand the relation of science and agriculture. In addition to this relationship, students should have knowledge of the scientific approach to agricultural research. Vocational agriculture instructors rightly emphasize good production practices in their instruction, but with a little thought most production practices are related in some manner to a scientific principle. These scientific principles can be shown by simple classroom demonstrations or experiments performed by either the instructor or students. Most vocational agriculture instructors have had in their formal education enough science to adapt demonstrations to their teaching methods.

Let us proceed with some illustrations of simple demonstrations that the instructor could perform in connection with his lessons. Suppose the lesson deals with feed and the problem is digestion. The terms to be explained are physical and chemical changes. Definitions: physical change—the composition of the substance is not changed; chemical change—the composition of the substance undergoes a change and loses its original identity. This can be illustrated by a simple demonstration using two matches. Break one match into many small pieces illustrating physical change. Burn the second match illustrating chemical change. Explain during the process what is taking place in each case and the relation of this demonstration to the lesson of feeding livestock.

Suppose another lesson deals with the movement of water in the soil. This lesson could be taught in almost every part of the country whether it be dry land, irrigation or areas of high rainfall. The demonstration could be made with a beaker of water and a beaker of dry soil. Pour the dry soil into the beaker of water to demonstrate the upward movement of water in the soil. Pour water into the beaker containing the soil to illustrate the downward movement of water by gravitation. These two illustrations take only a few minutes to prepare and perform, yet the interest that

(Continued on next page)

From the Editor's Desk

Our Role in Improving Vocational Education

“... about one third of all available vocational education funds (federal, state, and local) go to training farmers although farmers now constitute but six percent of the labor force.”

This statement is from a Reader's Digest article by Lester Velie which appeared in the January 1963 issue. The same thought has been echoed by the C. E. D. Report and by other articles in national magazines, the most recent being an article “Learning to be Unemployable” which appeared in the April 1963 issue of Harper's. Such reporting gives rise to statements which we believe should be answered.

The reasoning presented by these writers is that the way to improve vocational education is to weaken one of its strongest segments—vocational agriculture. It makes about as much sense as for a baseball coach to pull the “Mickey Mantle” from his lineup during a crucial game in order to let other team members improve their batting percentages.

In our present vocational agriculture program we are not even producing enough graduates to meet the replacement requirements in farming in the nation as a whole, to say nothing of other agricultural occupations. The U. S. Census shows a total of about four million commercial farm operators and hired farm workers. Assuming an average 40 year working life this would require a 2% annual replacement rate or a total of 80,000 replacements for farming each year. Compare this with the 70,000 graduates in vocational agriculture and consider also that many of these graduates will enter farm related occupations as well as agricultural colleges and technical schools and non-agricultural fields.

A second error of our critics lies in their assumption that vocational agriculture provides education only for farmers. Graduates of vocational agricultural courses, have always been free to choose the occupations they have preferred. While over the years many have preferred to become farm operators many others have pursued degrees in agricultural colleges, entered farm related occupations or in some cases taken jobs unrelated to agriculture. Had any of these writers taken the trouble to review a number of research studies they could have found out for themselves that vocational agriculture is not now nor has been limited to “training farmers” even though this was its stated purpose.

No one in agricultural education will disagree with our critic's suggestions that other aspects of vocational education should be expanded in rural as well as urban schools. We are proud of the contribution that

(Continued on next page)

Science . . .

would be created and understanding developed by the students would be well worth the effort.

Other demonstrations of scientific principles could be more time consuming and might take several days or weeks to complete. For example, the factors of seed germination are light, moisture, temperature and air and can be demonstrated by a simple experiment consisting of eliminating one factor and providing the other three. The relation of the depth of seeding to the size of the seed and the vigor of the seedling can also be demonstrated simply by placing seed at different depths in a box of soil and observing the results. Students are interested in preparing such a demonstration, but should be instructed that they follow a carefully planned procedure, observation and conclusion.

The use of plants and live small animals creates a great amount of interest among students. A feed sales-

man once said that his company sold more feed by the use of their live animal demonstrations than any other method of advertising. Why can't a vocational agriculture instructor sell scientific knowledge in the same manner?

Vocational agriculture instructors might hesitate to use demonstrations due to the lack of laboratory equipment or space. Much of the equipment can be constructed by students or borrowed from the science department within the school system. The equipment necessary to perform many experiments need not be expensive. Shelves in windows or small tables in the classroom or shop provide the space.

The use of scientific demonstrations can be used as another technique in making agricultural teaching challenging to the students in your class. The instructor should include many of these demonstrations into the proper place in his teaching outline. □

Role in Improving . . .

vocational agriculture has made to the productivity of the nation and we believe we must continue to serve this need. Other needs must likewise be met by vocational education if it is to achieve its potential. Agricultural educators will be first in line in assisting their communities to take advantage of additional opportunities afforded by other types of vocational education. □

Ralph J. Woodin

Sir:

After a quick glance over the May issue of the magazine, I thought I had better hurry to set the record straight.

I have reference to the legend under the picture of representatives of states with 100% membership in the NVATA. It should have read: "State Associations which had 100% membership in the NVATA were recognized at the Milwaukee Convention. Those from Region IV were: L. to R., George Irvine, Illinois President; Walter Bomeli, NVATA Vice President, Region IV; Glen McDowell, Kentucky President; Robert Denker, Missouri President; and Fred Mengert, Ohio Treasurer and Membership Chairman."

I am afraid someone would think we meant Michigan had 100% membership also. We are still trying, but we haven't quite made it yet.

Walter L. Bomeli
Bangor, Michigan

Sir:

At the joint staff meeting in Agricultural Education held last Friday, which includes Supervisors, Teacher Trainers and a representative of the Illinois Association of Vocational Agriculture Teachers, the proposal to change the name of The Agricultural Education Magazine to "The Journal of Agricultural Education" was presented. There was not a single one of the entire staff including the President of the Illinois Association of Vocational Agriculture Teachers who was in favor of making a change.

The joint staff was aware of the fact that the Extension Service has just started their own publication "Journal of Cooperative Extension." This information came out about 3 weeks ahead of your letter. In any event, the group did not favor a change at this time. It is possible that if it were presented to them in a little different light, that insofar as professional people are concerned the idea of writing for a journal gives more prestige than writing for an educational magazine, then the vote might have been different.

It would appear that the group was not in favor of changing the name without any specific reason. Therefore, I would suggest that in surveying the group, if it is done another time, the reason for the change be included in the letter.

Sincerely,
Herbert R. Damisch, Chief
Agricultural Education
Springfield, Illinois

LETTERS

Sir:

I wish to commend you upon printing the special report by Dr. A. W. Tenney entitled "Agricultural Occupations, The Education Needs in the United States." This article certainly exemplifies a new dimension in leadership for agricultural education.

The concise and forceful statement of the needs for agricultural education should help all of us to assume a more positive leadership role in expanding vocational agriculture programs in terms of better meeting the needs of the citizens in our state and local school communities.

H. D. BRUM
Columbus, Ohio

April, 1963

Sir:

Dr. Bail's article, "Planning for a Master's Degree," should be "required reading" for everyone enrolling in a graduate school for the first time.

A catalogue cannot tell the whole story. Before a final decision is made I would recommend that a visit be made to the campus of the institution so that instructional and housing facilities can be seen. Many married graduate students believe that living accommodations are as important as instructional facilities, because a happy family is necessary to successful graduate study. Also, a visit offers the opportunity to meet staff members and thereby gain some knowledge of their philosophy of graduate education.

Another suggestion would be to talk with someone enrolled in graduate work at the prospective institution. This will give additional information that will be helpful in determining whether the insti-

tution is offering a program that will meet a particular individual's needs.

I agree with Dr. Bail that undertaking a Master's Degree program should be the goal of most teachers and I also believe that after the decision to do graduate work has been made considerable thought should be given to choosing the institution.

Sincerely,
Ralph P. Barwick
Newark, Delaware

May 10, 1963

Sir:

Dr. Lawrence W. Drabick in "Study the Whole Community—There Is More Than Meets the Eye" brings us the kind of article that we need to publish more frequently.

Here we have a scholarly application of a discipline that we have been too prone to overlook. It also suggests that we need to broaden our teacher education base so that we can do more of this kind of thinking for ourselves. Teacher educators and supervisors would do well to follow up this article with some how-to-do-it programs.

There is no discipline of knowledge that can be identified as vocational education. The whole of the field of teacher education is just beginning to make some justification for this. Vocational education attempts to apply selections from many disciplines to vocations specifically and to the way of life they involve. This point of view certainly refutes the "separate-and-apart" concept often attributed to us. This article should improve our reputation on this score.

Sincerely,
R. W. Montgomery
Auburn, Alabama



Programed Learning in Agricultural Education

JIM HANNEMANN, Graduate Assistant, Cornell University

A new method of assisting the teacher to provide instruction designed for the individual student's capabilities is receiving an increasing amount of interest in educational circles today. The terms, automated instruction, self-tutoring, programed instruction, auto-instruction, and self instruction are rearrangements of familiar words to describe new teaching methods.

Each of the above descriptive terms use the same techniques in the process of teaching the student. They present subject matter in a logical sequence of small steps which direct the student to specific goals, requires an active response by the student to each step, and allows the student to progress at his own pace. When the above characteristics are incorporated into a single unit, it is called "Programed Instruction."

A teaching machine is a device, either mechanical or in text-format, which contains the subject matter to be presented. The subject matter is called the program. The machine records the student's verbal, written or mechanical response. If parliamentary procedure is presented in a text-book-format, the book becomes the machine and the subject matter the program. When the machine and the program are combined into a single unit, it is called programed instruction.

Development of Programed Learning

The first teaching machine was patented in 1886, although it was unlike teaching machines as we know them today. Sidney Pressey, an Ohio State Psychologist, developed a self testing device prior to 1920 but found little interest and enthusiasm among educators of that era.

The modern movement began when B. F. Skinner, a psychologist at Harvard, wrote an article entitled, "The Science of Learning and the Art of Teaching" which was published in the *Harvard Educational Review* in 1954. Since that time, educators and laymen alike, have shown a great

deal of interest in this different approach to teaching and learning.

A program may have many different forms. However, each program presents its information in a series of small, systematic steps called frames. The student is required to actively respond to each frame. He is also shown the correct answer before moving to the next frame. This method of presenting subject matter enables each student to work individually and adjust his progress to his own needs and capabilities.

Program holders and programs are available in a wide range of types and prices. The Center for Programed Instruction¹ reported 122 programs were available to the public as of September, 1962. The majority of these programs are designed to be used in a programed text-format. Other programs are designed to be used in a mechanical program holder such as the one shown in figure one.

Will Teaching Machines Replace Teachers?

The teaching machine does not teach. It simply brings the student in

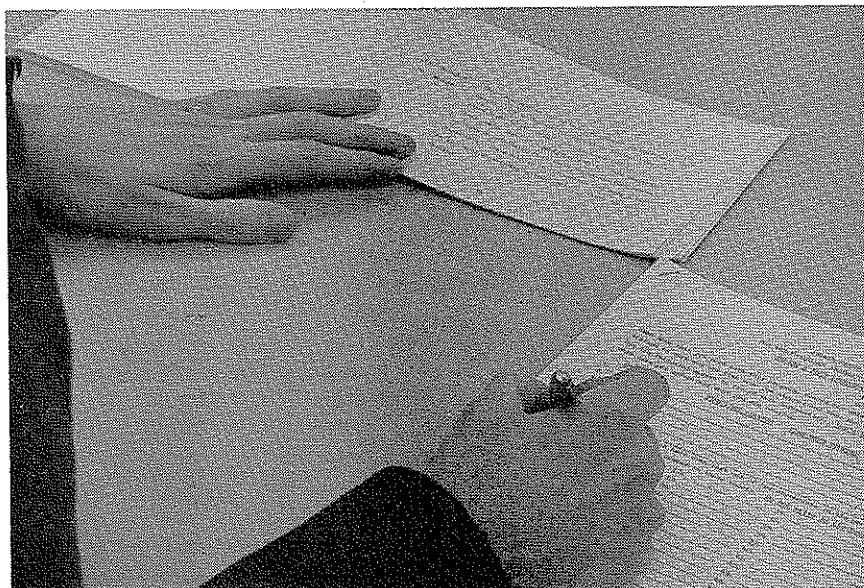
contact with the individual who wrote the program. The method used in programing can be compared to the tutorial system practiced by Socrates. Socrates merely asked questions to which the student would reply. However, effective tutoring requires an individual with an understanding of the subject matter and the ability to transfer this understanding to the student. Likewise, an effective writer of programs must understand the subject matter he is programing and be able to transfer this understanding to the student.

The concept of programing resembles the tutorial system in a number of ways.²

1. The student is always alert and busy.
2. There is constant interchange between program and student.
3. The program insists, as does a tutor, that a particular point must be understood before the student can continue.

¹The Center for Programed Instruction, Inc. 1962, Office of Education, U. S. Department of Health, Education and Welfare.

²Skinner, B. F., "The Science of Learning and the Art of Teaching," *Harvard Educational Review*, Vol. 24: 86-97, 1954.



A student working with a programed text format and answer sheet. This type of program may be used repeatedly as the text and answer sheet are separate.

4. The program presents only the material the student is ready for.
5. Like a skillful tutor, it helps the student to arrive at the correct answers.

Education in vocational agriculture places emphasis on learning by doing. However, one must understand the information before he can learn by doing. Much of the teacher's time in the classroom is spent on preparing the student to learn and this often leaves too little time for actual learning to take place. Imagine the agriculture class entering the classroom with the basic principles of nutrition already established in their minds, ready to be used. The teacher could then spend the majority of the time helping the students analyze and apply the principles to actual situations.

Studies³ have shown that less time is required for a student to learn a specific amount of subject matter through the use of programmed instruction when compared to more conventional methods of instruction. The student could spend less time at supervised study or "homework" to learn the basic concepts of a particular problem. More time would be available for additional exploration into an interesting phase of the problem.

An Example

The following three frames are an

³"First Reports on Roanoke Math Materials," *Audio Visual Instruction*, Volume 5, April 1961.

Blyth, J. W. et al. "The Hamilton College Experiment in Programed Learning," The fund for the advancement of Education of the Ford Foundation, September, 1961.

example of applying programming to Parliamentary Procedure.

Frame one

Parliamentary procedure dates back to the Roman Empire. The British have used certain principles of parliamentary procedure in their legislative body since 1290. The colonists brought the basic rules, which were developed in the British Parliament, to America in the 17th century. The principles of parliamentary procedure can be traced back to the days of the I. . Empire.

Frame two

1. Roman The principles of parliamentary procedure which can be traced back to the days of the Roman Empire are alike in many democratic countries. Parliamentary procedure is a set of rules for a group of people to use when conducting a meeting. Without rules, nothing would be accomplished. We may define parliamentary procedure as a set of . . . 2 to help people conduct a meeting.

Frame three

2. rules The early colonist brought parliamentary procedure to America from England. It was used by the colonists when they were securing their independence from England. *Thomas Jefferson*, who wrote the Declaration of Independence, was the first great parliamentarian in America. Jefferson wrote down the rules and principles to guide the Senate of the United States in its discussion. Many of the rules we follow today were written down by 3. . . who also wrote the constitution.

(the following frames would follow the same pattern)

Preparing Subject Matter

There are many ways of preparing subject matter for programed instruction. The above method is known as linear programming. Linear programming

requires each student to read every frame in the same sequence. Each student covers the identical material at his own rate of progress.

Branching is another form of programming which can be adapted for teaching concepts and comparisons in agriculture. In branching, the student reads a frame and selects one answer from two or more answers provided at the end of the frame. Should a student select a wrong answer, he is directed to a frame which tells him why he is wrong. A branching program enables a student with a good background in the subject matter to complete a unit faster than a student who needs additional tutoring.

Like a good tutor, a well-constructed program permits students of different abilities to master the same material. There is no evidence that a difference in intelligence is reflected in the amount learned from a program. The present assumption is made that if a student finishes a program, he will score approximately the same as anyone else on the criterion exam regardless of his I. Q.

What does the future have in store for programed instruction and vocational agriculture? Presently, there is no commercial firm marketing programed instruction designed for use in the total program of vocational agriculture. However, one can foresee the rapid appearance of teaching machines and programs designed for teaching vocational agriculture. Programed instruction will not initiate a complete change-over of the present methods but should prove very effective in supplementing our present methods of teaching. □

Adjusting the Curriculum in a Nebraska Department

RICHARD F. WELTON, Vocational Agriculture Teacher, Kearney, Nebraska



Agriculture faces its greatest challenge—the task of providing food and fiber not only for our own exploding population, but also for the peoples of the free world. An unfavorable image of the farmer has plagued our ranks as the public becomes less sympathetic with agricultural problems. We are also faced with a possible famine of agricultural leaders

as a result of the decreasing farm population.

We have at our disposal two keys that have the potential of unlocking the door of farm problems: farm boys and the Future Farmers of America. The integration of these two tools may be one of the answers to our dilemma.

The Kearney department has taken

positive steps to correct these situations in our community. The primary methods of accomplishing these goals is through the FFA and its activities. Here are three ways the chapter advances agriculture:

1. Developing a better understanding of farming through a comprehensive public relations program.

Many of our state fairs have an FFA Children's Barnyard. This idea could be carried to the local level by presenting demonstrations and exhibits to our local grade school children.

Our chapter has shown these children a loaf of bread and a carton of milk and then explained, with the aid of the actual raw materials, the many steps each product undergoes before it reaches the supermarket. Seasonal planning will leave a lasting impression upon the audience, (i.e., chicks hatching at Eastertime). The possibilities are unlimited.

2. Keep the potential leaders we now have in Vocational Agriculture in the FFA.

The high school program must now be geared to meet the needs of two groups: Those returning to the farm and those planning to enroll in agricultural college. Each week time should be devoted to vocational work and technical agriculture. In addition to this, the all-day program must be challenging and arouse curiosity. In this situation, we realize the direct relationship between Vocational Agriculture and the FFA. The local high school has a greenhouse or life science court for use by the Biology



Two nonfarm boys awaiting the first load of milo from their crop enterprise.

department. FFA students have an excellent opportunity to conduct experiments under the supervision of their biology and vo-ag instructors. Our chapter is currently sponsoring an experiment to show the effects of vitamin deficiencies in white rats. Chapter sponsored activities play an important role in maintaining interest. The Kearney chapter annually sponsors the Central Nebraska Sheep Improvement Association Show and Sale. This activity has proven successful and a prime factor in continuing interest.

3. Provide a program that will encourage interested nonfarm

boys to enroll in Vocational Agriculture.

Each year potential agriculture leaders are turned away from agriculture because they fail to meet project requirements. The Kearney chapter is allowing these boys to enroll, providing interest is apparent. The chapter farms land that is owned by the school district and leased from local farmers. Along with the land, the chapter owns a tractor and farm machinery. The land and equipment allow the town boys to carry chapter owned enterprises. When these students enroll, they are assigned land and then carry out the production and management of their chosen crop. The equipment is also used to perform custom work in the community and further provide experience for non-farm boys.

The effects of this program have been far reaching in our community.

Each chapter may advance agriculture by providing the necessary opportunities to develop leaders and a thorough public relations program. We must not overlook a certain amount of experimentation in chapter activities. The provision of such a program will contribute to new successes for the FFA as we progress toward new horizons. □

"Flexibility in Planning"

DOUGLAS C. TOWNE, Teacher of Vocational Agriculture, Philadelphia, Pennsylvania



Planning and flexibility are recognized by most Vocational-agriculture teachers as key characteristics of a good vo-ag program of instruction. Under usual methods of developing a course calendar we find these factors are not complementary but rather work against each other. As a result of their incompatibility we may compromise one in favor of the other. This need not be the case. What is needed is a new method which makes the two work together—in other words a flexible planning system.

I have found the following planning system to be very effective in developing a course calendar for a year in advance. It is flexible, in-

expensive, easy to construct, and at the same time reduces greatly the time needed for planning. This system is presently being used for a school year with four quarters consisting of ten weeks each, but could be tailored to meet individual needs. One plan board for each class will assure flexibility throughout the year.

Assembling the Board

There are seven (7) simple steps in assembly of the flexible planning board. They are:

1. Cut ten $\frac{1}{2}$ " x 28" strips from a 22" x 28" bristol board.
2. Cut ten 1" x 28" strips from the

same board. (Before cutting these strips rule lines one inch apart at right angles to the cut to be made.)

3. Glue one of the $\frac{1}{2}$ " strips to the

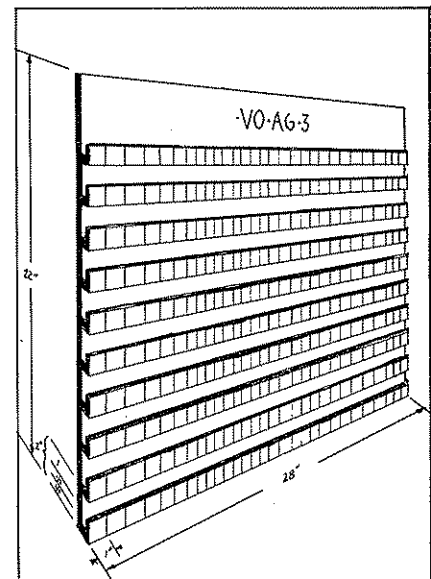


Figure 1 A working drawing of the Vo Ag planning board.

bottom edge of 22" x 28" bristol board.

4. Using a straight edge as a guide glue the remaining nine $\frac{1}{2}$ " spacers at 2" intervals. (See diagram.)
5. Glue the ten 1" face strips to these spacers. (Have bottom edge of both spacer and face piece even—see diagram.)
6. Print the course title in the top two inches of plan board.
7. To prolong the life and neatness of the board apply a transparent plastic spray to the front.

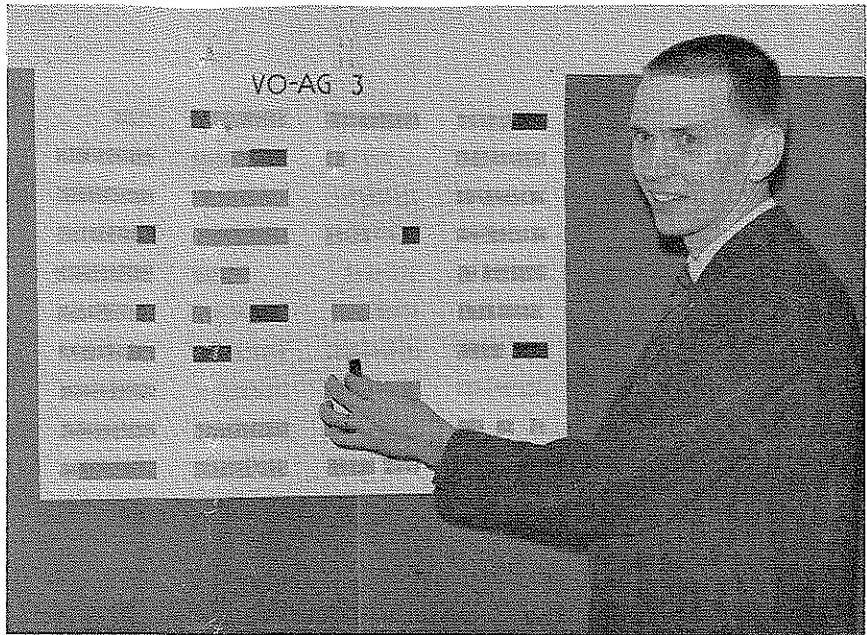
Using the Planning Board

On the left-hand margin, from top to bottom, is space for the first ten weeks of school. Place a $\frac{1}{2}$ " x $\frac{3}{4}$ " gummed label on the space indicating the first day of school. Print the date on this label. Continue placing dated labels on other spaces to aid in determination of the exact date of all squares. One label per month plus labels for other important dates such as vacations, exams, etc. is recommended. Be sure to use the new self-sticking labels which will not deface the board when removed at the end of the year.

The class plan strips are one inch pieces of colored poster paper. Use various colors to represent the different areas of study such as red for Dairy, orange for Farm Mechanics and grey for departmental activities.

Now refer to the course of study and cut the strips to correspond to the length of time planned for each unit. Allow one inch for each day. Place the job number and/or name in the upper margin. When all units are represented on plan strips, start planning. Below is the sequence I have used:

1. Plan the inflexible items first. Use black paper to represent vacations or other days missed from school. Place these in the proper time slots.
2. Schedule test periods, orientation units and other seasonal



Douglas Towne demonstrates an adjustment in schedule by using his planning board.

- items in the desired dates.
3. Agricultural mechanics is scheduled next to assure that one class will be in the shop at all times. Schedule the seasonal shop activities and then build on with the other shop units to make most efficient use of the shop.
4. Now fill in the other days with the remaining units. As we do this bear in mind the best time during the year for the unit and also any sequence which should be followed.
5. If it is desired to study more than one job at a time place the strips in the appropriate date and place in front of them a $\frac{3}{4}$ " high strip of white poster paper with the job numbers listed on the upper margins.

Some Additional Advantages

The initial planning is now complete. Some may argue that the boys have not helped in the planning. Remember however, that this plan is flexible. All we need do is pull a unit from the board and exchange it with another. This allows the students to help in the final planning. As the year

progresses we may change units to meet our needs. With plan strips we will be more apt to cover each unit and not forget that we skipped over a unit a while back.

To meet the requirements of a written course calendar all we have to do is copy the sequence from the board. As an extra bonus, if we maintain it during the year, is a tendency to keep our course of study up to date. At the end of the year we can look at the board to find out just what we actually covered. To assure varied and interesting presentations, hang folded 1" x 1 $\frac{1}{2}$ " poster paper tabs from the face piece using different colors to represent the various methods such as films, group discussion, supervised study, etc. At a glance we can see whether or not we are maintaining a variety of teaching methods. The possibilities for assuring flexibility and variety with this system are unlimited.

We accomplish two basic requirements of an efficient department by using this system, namely long-range planning and flexibility. With these two factors working for us we are more apt to have the time and the desire to do the job as it needs to be done. □

Themes For Future Issues

Copy Must Reach the Editor Three Months Prior To Publication

October	Teaching Adult and Young Farmer Classes	January	Today's Teaching Methods
November	Training Technicians	February	Better Communication
December	Recruiting Tomorrow's Teachers	March	Teaching Farm Mechanics



Arguments for and Against Special Funds for Public School Education in Agriculture¹

J. R. WARMBROD, Teacher Education, University of Illinois

Public school vocational education in agriculture is financed at the federal and state levels through special aid funds, that is, funds that are appropriated and earmarked specifically by the Congress and state legislatures for vocational education. Currently, more than \$13,000,000 from federal funds is appropriated annually for vocational education in agriculture under the provisions of the Smith-Hughes and George-Barden Acts. These funds are allocated to states in the proportion which each state's farm and rural population bears to the total farm and rural population of the United States.

Similarly, most state legislatures appropriate special funds for vocational education. Appropriation acts in 46 of the 50 states included funds earmarked specifically for vocational education for the 1960-61 fiscal year. In 11 of these states, a specific amount of the vocational education funds were further earmarked in the appropriation acts for vocational agriculture. Statutes of the four states with no specific appropriation for vocational education directed that funds be allocated to vocational education from funds appropriated for the support of public elementary and secondary education.

Special Funds Versus General Purpose Funds

Generally, students of educational finance take an unfavorable view of special funds as a means of financing certain phases of the educational program. It is argued that adequate financing of any part of the educational program such as vocational education, cannot be dissociated from ade-

quate financing of all education. An adequately supported foundation program of education has been proposed as the most encompassing method of educational finance. Briefly, a foundation program of education can be described as a program of state support of public education which defines basic educational services that should be available to all students and provides for the financing of the basic program through local tax contributions and funds granted from state revenues. Advocates of this method of educational finance recommend that special funds for vocational education be incorporated into a foundation program which makes appropriate allowances for variations in costs of vocational programs through weighted pupil or classroom units.

Special purpose funds, whether federal or state, are established to stimulate and promote certain phases of the educational program. Both friend and foe of the federally aided program agree that federal funds have served to expand vocational education in agriculture more rapidly than would have been possible otherwise. In turn, federal appropriations have stimulated state and local support for vocational agriculture. For each dollar of federal funds expended for vocational agriculture in the United States during 1959-60, \$1.80 from state funds and \$2.12 from local funds were spent for the same purpose. These expenditures do not include amounts spent for land, buildings, equipment, libraries, and teaching aids which must be financed from state and local funds.

Excluding the current study of the Panel of Consultants of Vocational Education, three national advisory groups have considered the subject of federal funds for vocational education since 1917. The National Advisory Committee on Education recommended to President Hoover in 1931 that if federal aid was to be extended to the states it should be given to aid education as a whole and not as special grants for the stimulation of specific types of training.

In 1938, the Advisory Committee on Education appointed by President Roosevelt recommended that federal funds for vocational education be consolidated with general aid for elementary and secondary education. The Commission on Intergovernmental Relations recommended to President Eisenhower in 1955 a tapering off of federal funds for vocational training that did not contribute directly to national defense.

It is interesting to note that Congress has yet to take the advice of these national advisory groups. Congress has continued to provide federal funds for public education as special earmarked funds rather than as general aid—a recent example being the funds appropriated for mathematics, science, foreign languages, and technical education under the provisions of the National Defense Education Act; and, instead of tapering off federal appropriations for vocational education, the trend has been just the opposite since 1955.

Another rather practical matter bearing on the issue of special state funds versus general purpose funds should be considered. Have increases in the amounts appropriated by state legislatures for vocational education kept pace with state appropriations for the general support of elementary and secondary education? For example, from 1951 to 1961 state appropriations to the common school fund in Illinois increased 227 percent while during the same period appropriations for vocational education increased only 46 percent. Similar trends were found in other states. These data strongly indicate that vocational education could profit financially if state vocational funds were more closely tied to general state aid for public education.

Do Special Funds Lead to Unbalanced Educational Programs?

Critics of special purpose funds as a means of educational finance charge that special funds result in unbalanced educational programs at the state and

¹The second of a series of three articles based on the writer's doctoral dissertation, *State Policies for Distributing State and Federal Funds for Vocational Education in Agriculture to Local School Districts*, University of Illinois, 1962, 291 pp.

This article should provide useful information to supplement the Report of the President's Panel on Vocational Education.

local levels and promote separateness rather than coordination of educational programs. It is argued that special funds stimulate local districts to give major attention to the aided purpose even though other equally important purposes may be neglected. The specific charge is that such a policy tends to freeze funds for specific aspects of the program thereby limiting local initiative and responsibility in developing educational programs best adapted to local needs.

Is this criticism valid for public school education in agriculture? A previous article reporting an appraisal of the effects of federal aid on agricultural education indicated that public school education in agriculture in most states is "vocational agriculture" limited primarily to farm males who are engaged in or have an interest in the occupation of farming.² Consequently, special funds for a particular type of agricultural education—in this case vocational education in farming—have been accompanied by a lack of initiative on the part of states and local school districts in developing other types of agricultural education adapted to local, state, and national needs.

Some critics of federal policy for vocational education have charged that federal legislation sanctions special vocational schools administered separately from the regular public school system. In answer to this charge it can be pointed out that 46 of the 50 states have designated the regular State Board of Education as the State Board for Vocational Education rather than creating a separate board to administer vocational education. Two of the states with special State Boards for Vocational Education have no State Board of Education. More than 99 percent of the all-day, young farmer, and adult farmer programs of vocational education in agriculture conducted in the United States in 1958-59 were in comprehensive high schools, not separate vocational and technical schools. So vocational agriculture is conducted and administered largely through the regular administrative structure for the public schools.

Does Control "Follow the Purse"?

The policy of stimulating educational developments within states or

local school districts through the use of special purpose funds has been criticized on the grounds that such a policy substitutes central direction for local initiative and public acceptance of the new undertaking. Particularly, it has been asserted that direct federal participation in the support of public education will inevitably lead to federal control. The federally aided program of vocational education has been cited as evidence that control "follows the purse."

Is vocational education in agriculture a "federally dictated" program of public education? Control may come from two sources—the legislation itself and the administrative interpretations of the legislation. Basic national policy for vocational education in agriculture, stated in the Smith-Hughes Act,³ places only two specific restrictions on approved programs of vocational education in agriculture. First, instruction must be designed to meet the needs of persons over 14 years of age who have entered upon or who are preparing to enter upon the work of the farm or the farm home, and second, each enrollee must receive at least six months directed or supervised farm practice each year. These requirements are in addition to the general requirements for the administration of federal funds applicable to all federally aided programs of vocational education. Regulations for the administration of vocational education in agriculture are, by and large, general in nature allowing broad interpretations by the states.³ State plans, describing how the legislative and administrative requirements are to be met, are prepared by the individual states and approved by the U. S. Office of Education.

Each state through its state plan for vocational education sets minimum standards which must be met by local schools if they are to receive reimbursement from federal and state funds. These minimum standards, specified by the individual states not the U. S. Office of Education, are the means of control of programs of vocational education in agriculture. Federal control of public school education in agriculture is very real in the limitation that is put on the type of agricultural education that may be reimbursed from federal funds, that is, vocational education in agri-

culture commonly interpreted as vocational education in farming. With the exception of this restriction placed on the type of agricultural education that may be reimbursed from federal funds, the primary financial control of local programs of vocational agriculture rests with the states not the federal officials charged with the administration of national policy.

Specific requirements for approved programs—for example, plans for scheduling classroom instruction, specific on-farm instruction requirements, specifications for plant and equipment, qualifications of teachers, and requirements for young farmer and adult farmer classes—are entirely state directed. The determination of the schools eligible to receive reimbursement from state and federal funds rests solely with the individual states. Each state is free to devise its own policies for reimbursing local school districts for expenses incurred in conducting approved programs of vocational education in agriculture.

Two points are often overlooked by those who charge excessive federal control of vocational education. First, national legislation does not direct that states accept federal funds for vocational education. States may reject federal funds for vocational education if they feel the restrictions placed on the use of the funds are too severe. Second, national policy in no way prohibits states and local school districts from developing needed programs of vocational education which do not meet the requirements for reimbursement from federal funds. □

From Former Issues

July, 1931—A memorandum, issued by the Committee on Agricultural Extension Organization and Policy and the Association of State Directors of Vocational Education in Washington, D. C., contained this statement: "Cooperation should be the watchword in all Smith-Hughes and Smith-Lever relationships. This means going beyond the letter of the law and doing what one is not obligated to do. Both these laws were instituted in the interests of all the people. Each group while attending to its own task first, should lose no opportunity to promote in all practical ways, the work of the other. With this spirit animating both forces, good feeling is likely to prevail everywhere and the maximum accomplished in both lines of work."

²J. R. Warmbrod, "Public School Education in Agriculture—Before and After Federal Aid," *Agricultural Education Magazine*.

³U. S. Office of Education, *Administration of Vocational Education*, Vocational Education Bulletin No. 1, General Series No. 1, Revised 1958, p. 13.



A boy's question on college is answered in—

A Letter to Robin

ALFRED H. KREBS, Teacher Education, University of Illinois

Dear Robin:

I don't know you, but one of your teachers wrote that you are wondering whether you can prepare properly for college and also take vocational agriculture. The question can be answered very quickly, but a quick answer doesn't always result in a good understanding of the answer because there are several things that must be considered.

One of the first things to consider is the list of courses required for admission to the kind of college you wish later to attend. There is no proof that the courses required do a better job of preparing you for college than some other groups of courses, but you must still have taken them in order to gain admission. The College of Agriculture, University of Illinois, requires three units of English, one unit of algebra, and one unit of geometry. The general University requirements are easily met for students who rank in the upper half of their high school classes. If you meet the requirements for admission to the University of Illinois College of Agriculture, you will be able to enroll in a great number of colleges.

A second factor to consider is the matter of your own special interests. If you have strong interests in particular subjects, you will study more and learn more than you will if you take only certain courses that someone said you ought to take because "they will be good for you." Research on programs of preparation for college has shown that it is how well you do in your high school work that is important, not which courses you take. This research includes a study made here at the University of Illinois which shows that College of Agriculture students who had taken vocational agriculture in high school did just a little better in college than did the students who had followed some other path through high school. Doing well in agriculture would better prepare you for college than would doing poorly in something else. Doing well in your courses will also help you earn a high

rank in your high school class and rank in high school class is one of the major factors used to determine admission to college.

A third factor to consider is the requirement for graduation from your own high school. Certain courses are required if you are to be granted a high school diploma.

A fourth factor should also be considered and that is the extent to which certain other courses will help you in your special area of interest. For example, mathematics and science courses are needed if you are to do your best in agriculture. Taking all the agriculture you can because of your interest in it is fine, but you need also to take as many as possible of the courses available which will help you be an expert in agriculture. Agriculture alone is not enough, just as science and mathematics alone are not enough.

As you plan your high school program, you may wonder just how you can possibly fit all of the desirable courses into a four year program. You will find that you must choose among the many courses offered and choose wisely. Don't expect to learn everything there is to know in four years of high school. Even taking five subjects each year will place limits on the number of courses you can take. You will have time in college to branch off into some subjects you couldn't fit into your high school program. You may even decide, as many students do, that it will take more than four years in college to get all the courses you want.

I have touched on some of the problems you will have in planning your high school program. You should, of course, talk with your father and mother about all of these problems. Your teacher of vocational agriculture and school counselor can also help you. Just remember that:

You do need to meet the admissions requirements for the kind of college you plan to attend.

Doing well in vocational agriculture will better prepare you for col-

lege than will doing poorly in something else. Doing well in your courses will also help you earn a high rank in your class, an important factor when seeking admission to college.

You do need to take the courses necessary to meet your high school graduation requirements.

You should take as many as possible of the courses available which will help you be an expert in agriculture.

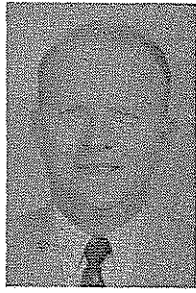
You should keep in mind the need for planning carefully. It is not possible to prepare for all future eventualities during four years in high school. You should plan well for your present interests, knowing that you are free to change and that a little extra time in college (or in high school) to adjust to new interests is to be expected.

You should keep in mind that it is possible to transfer from one college to another if you change your mind regarding your future. You can always enroll in the college for which you have met the requirements and take the additional courses you need for entering the college to which you wish to transfer. Transferring from one college to another is very little different than transferring from a junior college to a four-year college.

The answer to your original question is, of course, that you can take vocational agriculture and be well prepared for college. There are, however, many other factors that need to be considered. I hope this letter will help you as you plan for the future. □

Sincerely,
Alfred H. Krebs
Associate Professor
Agricultural Education

The cynic is one who knows the price of everything and the value of nothing.
—Oscar Wilde



The Need for Vocational Agricultural Training

CARLUS R. OWEN, Vo-Ag Instructor, Madisonville, Tennessee

There is much disagreement among teachers about what the youth of our Nation should be taught. Parents and other groups have joined in the discussion and quite a lively argument has been the result. The problem of selecting what courses a high school student should study has attracted widespread attention recently. Suggested solutions usually fall into one or the other of the following groups:

1. To stop teaching certain high school courses.
2. To add certain courses to high school training.
3. To teach fewer courses in certain departments and add certain courses in other departments.
4. To stop teaching certain popular courses because students enroll in them and fail to enroll in other (less popular) courses.

Those courses mentioned most often as the subjects that should not be taught in high school include driver's training, industrial arts, shop, vocational home economics, vocational agriculture, distributive education, Latin, art, and music. As a general rule, the complaint is that so many students enroll in those courses that some other teacher is unable to enlist enough pupils to conduct a class in some other subject which the school administrators feel the curriculum should offer. There are many arguments for or against the changes proposed. Both wise and unwise decisions have been made in many communities throughout the nation. It is not the aim to discuss the merits of all issues involved here. We are primarily interested in how the controversy is affecting vocational agricultural training.

Why not cut out agriculture and teach the sciences? This is nonsense. What science teacher could take the time to explain all the scientific details of a modern farm trac-

tor when he has to cover dozens of other machines not even remotely related to farming? It would be equivalent to asking the English teacher to combine her class with the American history class. Science teachers also have to consider the interests of students not interested in farming, too. It has already been pointed out that about 38% of all jobs are in agriculture. This means that about 62% of any given science class would not be interested in agriculture except indirectly as it affected them or the job they hoped to get. Also, the science teacher has an obligation to the farm boy to teach him the larger concept of science; that is, the farmer must be educated to live in a modern world just as everyone else. If he chooses to take agriculture as a vocation, it does not mean that he is interested only in agricultural science. Science classes are basic courses. They cannot specialize in agriculture, medicine, astronomy, electricity, mechanics or anything else.

Another factor overlooked by those who would stop training farmers and maintain production at present levels is soil conservation. This requires constant and continued education by specialists. Vocational agriculture classes do not carry this burden alone but any soil conservationist will tell you that vo-ag teachers and county agents render valuable services in getting their message to the people. If farmers do not care for their soil properly, production will decline. There is one other major argument for vocational training to be continued even if we do not wish to improve efficiency of farming. We must remember that new farmers are entering the industry every year. Even if every farmer who entered the profession did not require further training while on the job, and did not retire until age 65, we would need to train over 66,000 replacements for the three million commercial farms each year. These are the farms which produce most of our food. Thousands

of smaller farms will need operators, too. There is also a need for about 15,000 professional workers in agriculture each year. A conservative estimate is that vocational agriculture should have 100,000 boys graduating from high school each year. Some will go on to college to be engineers, scientists, teachers, bankers, lawyers, salesmen and servicemen serving farmers, but the bulk of them, or around 85,000, can find a full time job, good pay, and steady employment right at home by starting to farm as soon as they graduate from high school. These figures assume that every farmer would live to be 65 and that no farmer would quit farming before that age. Thus they are probably low. Can we ignore the need for such a large number of trained workers? At present our schools are not training enough boys to meet this demand. Can we afford to cut back our vocational agriculture program when we know that in the foreseeable future we will need at least $\frac{1}{3}$ (33%) more food than we now consume annually?

Can vo-ag teachers give instruction in other subjects? The answer to this question is in dispute. Certainly they are extremely well qualified to give instruction on such subjects as biology, chemistry, general science and physics. But if they perform their duties as vo-ag teacher, they do not have time to devote to such activities. Also, it is the opinion of most educators that a school should have a full time instructor in science, rather than a teacher who must divide his time between two departments. It would seem unwise to have the vo-ag teacher teach any other subject in addition to vocational classes. In the state of Tennessee it costs the local school more money if the vo-ag teacher teaches a non-vocational subject. The school receives more state aid if he teaches only vocational classes in agriculture.

In conclusion let us answer the question we set out to answer in our introduction. Should high schools offer

suitable training to students who wish to find employment in the industry of agriculture? The answer is yes. Vocational agriculture should take its place along side the other departments of specialization in the high school! It is as important as mathematics, science, or commercial training. How many of the boys actually farm or enter agricultural occupations is a matter for the guidance counselor to ponder. All the math students will not become accountants. All science students will not become spacemen, or engineers, or doctors. All typing

students will not become secretaries. But these facts are not evidence that we should stop teaching mathematics, science, and commercial education.

Vo-ag should not be suppressed or cut out to favor any other department in school. It should not be continued where there is no demand for it either, but the city student can profit from vo-ag as much as the farm boy can. The nature of the training is such that even if the student does not go into agriculture at all, he can profit by taking four units of vocational agriculture. □

Pumpkins on Oak Trees

ARTHUR FLOYD
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Alabama

The story is told of a man who questioned the handiwork of God. He observed a huge pumpkin growing on a flimsy vine and small acorns growing on a giant oak tree. "This," said the man, is all wrong. If I were the Creator, I would have caused the pumpkins to grow on this oak tree and assigned the acorns to the flimsy pumpkin vine." Just as he finished his declaration, an acorn fell from the towering oak and struck him on his bald head. He summed it up by saying, "I guess God was right after all. What if that had been a pumpkin?"

Teaching Objectives

Many of our efforts as teachers of vocational agriculture, unfortunately, follow the above pattern of thinking. It is not uncommon that many of us jump to conclusions after but a cursory observation instead of studying all angles and weighing all of the facts regarding a situation or condition before arriving at a conclusion. As teachers of vocational subjects to high school students, what are some of the major objectives that should characterize the teachers' efforts? First and foremost, the teacher desires a manifestation of desirable, changed behavior in the student that will ultimately make him a progressive, energetic, worthy member of his family, his community, his state and nation.

The agriculture teacher wishes his students to become familiar with the current farming and agricultural issues of today. He may be inclined to feel

that many of his students may become confused, befuddled and discouraged over much of what is talked and written by many well meaning, but misinformed, people. These people are saying that since farming, which is the main objective of vocational education in agriculture, has become of minor importance as a vocation which formerly occupied the time, attention and consideration of more than one-half the working population of the United States, and therefore it should now be de-emphasized.

Guidance

The agriculture teacher will not overlook the *importance* of *vocational* guidance as one of his objectives, since he will realize that in a group of rural farm boys where a selective factor has not operated, there will be some individuals who will have different vocational desires and choices. Thus, he will be concerned about acquainting his students with the broad field of vocational education while, at the same time, emphasizing the requirements and obligations inherent in preparing for a certain vocation along with the advantages and opportunities therewith.

Placement Opportunities

Instead of advocating the de-emphasis of agriculture let us, through research and experimentation, find ways and means to discover and create more agricultural activities where a larger number of people both rural and urban may find employment

in agriculture or related activities. As the trend toward urban living continues, agriculture may extend its efforts into such activities as training workers in its farm shops as electrical helpers, welders, cement and concrete workers, plumber helpers, landscape gardeners, nurserymen, warehousemen, civil engineers, fishpond developers and managers, wildlife carers, agricultural implement salesmen, and many other activities which afford a good living and continuous placement.

Teaching Students to Think

The agriculture teacher operates under the injunction that his foremost and major objective is to activate and inspire his students whereby they will learn to think clearly, constructively, consistently and soundly. The agriculture teacher wants his students to be able to have or develop the ability to discriminate between similar things. Any simpleton can most likely discern the difference between a pear and alligator, but there is a great similarity between two white leghorn hens of the same age and strain, or two Duroc Jersey pigs of the same litter, treatment and care.

The agriculture teacher wants his students to understand and appreciate the causes involved in the vicissitudes of agriculture and farming, and life in general. He wants them to learn how to interpret and formulate hypothesis that will tend to resolve the problems involved. He wants them to develop a maturity in clear thinking wherein they will immediately recognize priorities in objectives, jobs and content as they pursue their courses in vocational agriculture.

In Conclusion

The man who would have put the pumpkins on the oak tree could have been of more use to himself and society, and would have worked in a more cooperative spirit with the Creator, if he had spent his effort in trying to produce a better and bigger and more nutritious pumpkin.

The very nature of vocational agriculture makes possible the great opportunity to encourage and develop thinkers not only in the vocation of agriculture, but the whole gamut of life. □

Fear not that thy life shall come to an end, but rather fear that it shall never have a beginning.

—Cardinal Newman



Using Problem Solving in Supervised Farming

IRVEN PARKER, Teacher of Vocational Agriculture, Creighton, Nebraska and JIM HANNEMANN, Graduate Assistant, Cornell University, Ithaca, New York



"Learning by doing has many ramifications. It applies not only in learning to do manipulative jobs, but in learning to think, to plan, to cooperate, to lead and to manage." The above statement by H. M. Hamlin has many implications regarding supervised farming programs in vocational agriculture. Effective farming programs for high school students should include activities which contribute to the development of abilities needed for establishment or advancement in farming.

Improving a Swine Chain

How can a Vo-Ag Department develop those abilities in its students? Which method should be used or what combinations of methods should be used? One method which has received a considerable amount of interest and cooperation from many organizations is the livestock chain. Every livestock chain is formed for one purpose, the improvement of the student's supervised farming program which will lead to establishment or advancement in farming.

The Creighton Vo-Ag Department had conducted a swine chain for a number of years. The type and performance of the animals was difficult to maintain at the desired level. Superior sires were difficult to find for the number of females involved in the program. Disease was always a risk when moving animals from farm to farm. The chain was not performing the job it was intended for and therefore was discontinued.

A group of students and the teacher were discussing how to improve the commercial phase of their swine program. Many ideas and methods were discussed to aid in solving the problem and it was decided to use the *problem solving method* to arrive at a suitable and practical answer.

After considerable discussion the problem was identified as such: "What method should be used to improve our commercial swine production." Efficiency of gain, rapid growth, high carcass quality and above average

type were the selected traits to be considered.

Further Study of the Problem

Identifying the various alternatives was the next step. The alternatives selected were as follows:

1. The chapter owned 7/15 interest in a high quality boar which could be used on the members gilts.
2. Purchase bred gilts from a herd recognized for its production testing program and success at market shows.
3. Purchase high quality gilts and breed them to the home farm boar.
4. Purchase high quality gilts and a boar on a cooperative basis.

Collecting the information concerning the alternatives presented the opportunity to think and plan. Classroom instruction, research, discussing the alternatives with swine specialists and prior experience were used to obtain information. The information collected showed that a three-way

cross produced larger litters and faster growing pigs than any other type of breeding system. It was also found that carcass characteristics were more hereditary than litter size and litter weight at weaning.

Each alternative was evaluated and discussed by the classes. Alternative number four was selected and the students were ready to act on the solution to their problem. They defined "high quality" as breeding stock which came from a herd conducting production testing and meat certification for at least three generations in the selected breed family.

A New Swine Cooperative Is Formed

Nine members, representing each class in the high school, formed a cooperative. The co-op enabled the participating students to lead the initial attempt in the chapter and to combine their resources. Officers were elected and the co-op borrowed money from the local bank to meet initial expenses.

Fifteen Hamp-York gilts were selected. Barrows and cull gilts of the identical breeding as the selected gilts



Vo.-Ag. Teacher Irven Parker and Fred Ruzicka, sophomore in the Creighton school, looking at Fred's sows. He began with one sow bought in the FFA sponsored Cooperative, and now has seven, including the original sow.

averaged 5.92 square inches of loin eye, 1.63 inches of backfat, and had a carcass length of 30.5 inches with a 71.5 percent yield.

A boar with a background to match or exceed the breeding of the gilts was purchased from a member of the adult farmer classes. A litter mate barrow to this boar produced a 29.8 inch carcass, 1.2 inches of backfat, 5.87 square inches of loin eye and weighed 210 pounds at 150 days. A litter mate boar was the Nebraska Junior Champion and another litter mate gilt was the high selling bred gilt at the Sioux Empire Farm Show.

The gilts were delivered on Thanksgiving Day. After the gilts were bred and time had elapsed to observe those gilts which did not settle, they were delivered to the participating students' farms. The cost of the gilt, boar and other items were pro-rated among the students in accordance with the number of gilts received.

Results in Larger Litters

The gilts began to farrow the latter part of March. The fifteen gilts averaged 8.6 pigs per litter under nine different types of management and environmental conditions. Litters were selected at random to provide information on birth weights and litter weights at various ages. One litter of eight weighed 28.2 pounds at birth. At 21 days a second litter of 8 averaged 20.1 pounds each. Fifty-one pounds was the average weight of each pig of a nine pig litter at 8 weeks of age.

The difference in environment and management practices were more evident in early August when one litter averaged 203 pounds and had to be put on a restricted feeding in order

to show at the county and state fairs. Other litters were kept on full-feed until the first of September.

An FFA Project Tour was arranged and taken in late July and included approximately 30 fathers of the FFA members. Comments were entirely favorable from this group and the suggestion was made by several fathers that the Chapter should provide this opportunity again on a cooperative basis.

Carcass Evaluation

Three of the individuals who received gilts exhibited at the County and State Fair. All the pigs shown received a blue ribbon at the State Fair. One barrow was Champion of the light weight division and a pen of three was Reserve Champion in the medium weight class.

The market hogs were then taken to a commercial packer to be slaughtered. This was a requirement for the market hogs exhibited. The hogs were sold on a grade and yield basis and the top twenty carcasses in the show were selected. One student's hog received fifth place in the carcass contest. Each student received a grade and yield report and the student's hogs sold from \$.73 to \$.75 per 100 pounds above the top live market weight for that day. The student's entries ranged from 3.3 to 5.8 percent higher yield of lean cuts than the standard hog of the particular weight.

Evaluating the Teaching Learning Process

The entire program was then analyzed in the classroom. Not only those participating in the swine co-op were included in the discussion, but

all classes and students were involved. The different types of management were discussed by the students as well as the various steps used in planning and carrying the project to completion. It provided the students an opportunity to begin thinking in terms of their own livestock and a systematic method of improving them.

How well do we feel we have accomplished our task? We can return to the opening statement by H. M. Hamlin: "Learning by doing has many ramifications. It applies not only in learning to do manipulative jobs, but in learning to think, to plan, to cooperate, to lead and to manage." Our question will take more than one experiment to answer. However, we do feel that the ability to think and to plan, as well as the interest to do so effectively, was given a big push in the right direction by the use of the problem solving method. It is evident in the farming programs planned for this year that this type of instruction has made the students more aware of their own abilities. It has given the students the incentive to think about and to carry out programs of larger scope than they once had.

The "learning by doing" slogan does not have to be confined to the manipulative skills of the student. If we are to encourage our agriculture students to remain on the farm or in a closely related occupation and then not provide the management and leadership skills he needs, we as agricultural leaders are not providing the education which we should be providing. One of the most realistic ways we can teach our youngsters these skills is in the learning by doing situation in their own supervised farming programs. □

Procedures for Providing On-Farm Instruction for In-School Students

C. JORDAN HUDSON, JR. Teacher of Vocational Agriculture, Victoria, Virginia

This article is based on a study to determine the most effective procedures to use in providing on-farm instruction for in-school students of vocational agriculture in Virginia.¹

¹C. Jordan Hudson, Jr., "Procedures for Providing On-Farm Instruction for In-School Students of Vocational Agriculture in Virginia." Thesis, M.S., Virginia Polytechnic Institute, Blacksburg, 1962.

The data were secured by questionnaire from 157 teachers of vocational agriculture representing 110 departments of vocational agriculture in 69 counties in Virginia.

Extent to Which On-Farm Instruction Was Provided

The vocational agriculture teachers made an average of 138.8 farm visits per teacher, with a range of 31 to 366

farm visits per teacher, and visited each in-school student an average of 3.7 times per year. The average length of farm visit per student in all four classes was 72.5 minutes, with a range of 15 to 180 minutes per student.

Procedures Used in Making Visits for On-Farm Instruction

The following procedure was rated

(continued on page 22)

How to Prepare for Teaching

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



In order to do a good job of teaching vocational agriculture in any school, the teacher must first determine the needs of the pupils. This may be done through farm surveys, U. S. Farm Census reports, local advisory councils, county agricultural agent annual reports, parents, pupils, and many other available sources.

Although there is still disagreement among the experts, most educators in agriculture are talking in terms of approximately one-half of the course content being based on a state-wide standard curriculum with emphasis on agricultural science and the other one-half being based on local, immediate needs as determined by the above mentioned surveys. Most teachers agree that once we have determined the need that we must do all we can do to create interest among the students and get them to feel the need for solving the problem.

It is an absolute requirement for students not only to feel the need for solving the problem but that they set up goals or objectives that they plan to reach or carry out in solving the problem.

In order to determine needs, define goals and determine ways and means of solving the problem, the students and teacher must work and reason together. Democratic procedure with all students contributing to the discussion would be desirable in every classroom. This cannot be done without thorough advanced preparation on the part of the teacher.

Making Necessary Arrangements

After the surveys have been made, the necessary data obtained, and the goals established, there is a considerable amount of work to be done before the students enter the classroom. Some of this advanced work may be listed as follows:

1. Selecting, previewing and setting up films for classroom use.
2. Securing materials and preparing for demonstrations.
3. Selecting books, bulletins and pamphlets and having them

available for students to use during supervised study periods.

4. Contacting and scheduling resource personnel.
5. Setting up field trips so that students can receive the maximum benefit from them.
6. Making tests, examinations or evaluations to be used at the end of the unit.
7. Planning a follow-up with each student to see that he puts into practice those things learned in class.

The Teachers Won-Loss Record

Many teachers of vocational agriculture fail to do a good job in the classroom for various reasons. Sometimes a teacher may be lacking in personality, training, or ability to gain rapport with the students. However, it has been this writer's observation that the difference between a fair classroom situation and a good classroom situation can easily be, and

often is, how well the teacher has prepared for each day's work.

Just as the minister works hard preparing his sermon for Sunday morning, and the medical doctor makes a thorough preparation for the delicate operation he is to perform in a few hours, so must the teacher of vocational agriculture work hard in planning his instruction to better meet the needs of his pupils.

You often read on your sports page where a certain basketball coach has a 16-4 or a 20-2 won-loss record for that season. Each teacher should ask himself this question, "how would I be rated at the end of the year if a won-loss record could be run in the local paper on me?" More thorough preparation often makes the difference. If you are one of those few that use a hit-or-miss, scatter-load type of approach, you should resolve to do something about it now before a new school year begins. No occupation is more important than helping mold the lives of our adults of tomorrow. □

Teaching Farm Related Occupations in Maryland



WILMER L. HARRIS, Vocational Agriculture Teacher, Cumberland Valley Joint High School, Mechanicsburg, Pa.

During the past several years we have heard much discussion of "Related Occupations." In many areas we realize there is a need for this term, but what have we done about it? At Cumberland Valley, my fellow teacher, Elmer Sealover and I are attempting to do something about it.

We have incorporated within our teaching plan those "Related Occupations" which we believe are important in our area. These are integrated in our teaching plan the same as our farm mechanics jobs. As an example we acquaint the students with the occupation of the DHIA tester at the time we teach milk testing. We do

not hope to train a student to perform the various related occupations, at this time, but our objective is to acquaint him with the various opportunities available.

We are also cooperating with The Department of Public Instruction in a pilot study whereby a coordinator of Distributive Education teaches interested agriculture students labor relations, business ethics, etc. two periods per week. These same students are placed in a "Related Occupation" of his particular interest for additional training.

The Distributive Education instructor, working with the employer and

student, trains a more valuable employee by developing in the classroom any weak areas which are revealed on the job. I believe this is a field which we as agriculture teachers can explore and possibly can use to provide training for students that could be gained in no other way.

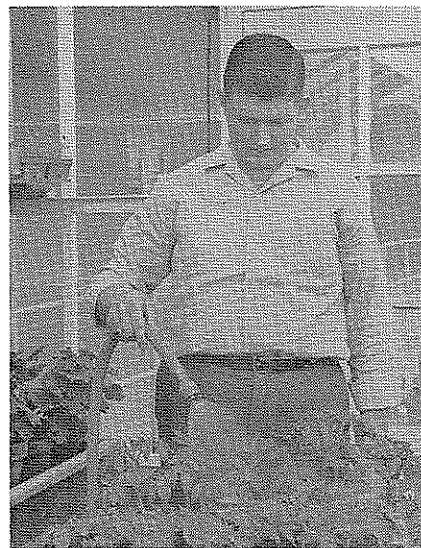
This "on job" training could replace the required home farm project and, I am certain in many cases, be of much greater value. The student would receive credit for this work in lieu of project work. He would be paid a nominal fee for his work, and would be graded according to a report by the employer along with the teacher's observations. This "on the job" training could be provided during the summer months, after school hours, or both.

The agriculture teacher's job under such a plan would be: 1. To acquaint students with various agriculture related occupations and their opportuni-

ties. This should come well in advance of any employment. 2. To assist the student in obtaining employment in a field of his interest, 3. To help the employer to understand that the student should learn the business as well as be an asset to the business, 4. To assist the student in developing skills so that he would be ready for gainful employment upon graduation or soon thereafter. The ultimate goal would be a satisfied and valuable permanent employee as well as an employer who is pleased with his employees.

We have found in our area that employers are eager for a source of employees who understand their business and even more important understand farmers.

Can our agriculture departments help fill these needs? I believe they can and must if we are to be successful in meeting the needs of our students and our community. □



Barry Kilmore, a Vocational Agriculture student now taking Distributive Education is employed by a commercial greenhouse in the Mechanicsburg, Pennsylvania area.

When a man assumes a public trust, he should consider himself a public property. —Thomas Jefferson



Graduate Guidance Courses for Vo Ag Teachers

MARVIN EBBERT, Vocational Agriculture Teacher, Elwood, Indiana¹

When I mention the guidance program or the work of the guidance counselor the reaction I get is remarkably uniform: a verbal response that borders on rebellion. Far too many of us in agricultural education want to ascribe a large proportion of our problems, especially with regard to enrollment, to the guidance counselor. And our feelings are not without some justification. It is indeed frustrating to have a competent student "guided," or, in some instances, practically "directed" out of agriculture by a counselor who appears to be bent on stripping vocational agriculture classes of any student who has a remote possibility of going on to college.

Regardless of how we feel about guidance programs and counselors, we can always ask ourselves what we have done to make vocational agriculture and guidance a team. And

if we are candid, we may be forced to admit that we have done very little.

Guidance Courses Are Helpful

At least I personally must admit that I did very little to help make vocational agriculture and guidance a team until I became engaged in a formal study of educational guidance while working for a master's degree in education. As I, as a vocational agriculture teacher, became more knowledgeable in the philosophy and techniques of guidance, both through formal training and personal contact with guidance counselors, I was able to function more effectively in making vocational agriculture and guidance a team. Here are some things I learned from guidance courses which have been helpful to me, and which I wish to share with other agriculture teachers:

First, the counselor is working in the context of a social climate where a great deal of emphasis has been placed upon science, mathematics, and the academic courses. Hence it became necessary for me to interpret the content of my courses in voca-

tional agriculture, and to emphasize the applied science nature of the work in agriculture, and the increasing need for scholastically competent persons in agriculture.

Second, the counselor works constantly with data about students. The data most readily available to guidance counselors are obtained from batteries of tests and inventories and from grades in courses completed in school. I learned that if I wished to team with the counselor, it was necessary for me to assist him to collect data from sources that were accessible to me. My contacts with my students in the classroom or shop and on their home farms provided me with anecdotes and items of information in which counselors have been eager to share.

Third, it is necessary for us teachers to determine our role in the guidance function as applied to the classroom, and to determine the role of the guidance specialist. We function as part of the guidance team through our day-to-day contacts with students. But, at the same time, we must learn to communicate with and utilize the services of the specialist. Increasing-

¹Subsequent to the submission of this article, Mr. Ebbert was appointed Instructor in Agricultural Education at Purdue University, where he currently is working on his doctorate in agricultural education, with a minor in educational guidance—Ed.

ly, as I became more interested in the guidance function, I conferred more frequently about my students, and, as a by-product, communicated more effectively about my program.

Understanding Each Other's Biases

Developing vocational agriculture and guidance into a team is not a one-way proposition; the guidance specialist has the obligation and responsibility to develop an understanding of our programs and of the functions we perform. Frequently, however, the guidance specialist does not have a vocational background, and consciously or unconsciously his non-

vocational background may affect his attitudes and his efforts. Even some guidance workers with whom I am acquainted freely admit their biases. As guidance workers mature in their profession, we have a right to expect biases to diminish.

The factor of training is the subject of most concern in this article. It is suggested that guidance courses be given full consideration by vocational agriculture teachers when planning a graduate program. What, in the field of education, would make a more logical minor in agricultural education master's degree work than guidance?

Two or three guidance courses give

us some common ground upon which to meet and work with guidance personnel. Some courses, one in occupational information, for example, will not only help us better understand the total guidance function but also make us much more competent to prepare for challenges in our regular teaching responsibilities. The same can be said for other courses normally considered part of the sequence for certification in guidance.

If we prepare ourselves, and offer our help, we can make vocational agriculture and guidance a team. When the two become a team, we'll see definite results in our vocational agriculture programs. □

Thirty-two Years of Vo Ag at Shawnee Mission

HAROLD GARVER, Retired Vocational Agriculture Teacher, Shawnee Mission, Kansas

Editor's Note: Harold Garver and the Shawnee Mission FFA Chapter will be remembered by many persons in the Agricultural Education field, due to their cooperation with the National FFA organization at the time of the National FFA Convention. Mr. Garver was vocational agriculture teacher at Shawnee Mission from 1927 to 1961. Urbanization of the farm area around Kansas City, Kansas has caused this vocational agriculture department to be discontinued, at the time of Mr. Garver's retirement. H. R. Bradley—Kansas

It's difficult to look back on my thirty-two years as a vocational agriculture teacher at Shawnee Mission, Kansas without going overboard in discussing either the "good old times" or the "terrible times."

Certainly no one needs to be reminded that this period saw the passing of the work horse, the pitch fork, scoop shovel, rural outdoor "plumbing," the kerosene lantern, the wood burning heating stove, mud roads and countless other things symbolic of farm work and family living. Too, Smith-Hughes vocational agriculture was still comparatively in its infancy and far from being universally accepted in the education field. The concept of "learning by doing" was frequently denounced by educators. This is the situation in which vocational agriculture was taught in the "good old days."

The Vocational Half-day

Old-timers in the field will recall the original "vocational half-day" enjoyed in most states. From the viewpoint of the vocational agriculture teacher this, without doubt was one of the "good things." The generous time allotment permitted extensive field trips, major construction jobs, entire orchards pruned and flocks of sheep sheared. But, like many other good things, the vocational half-day came to an end.

The discontinuing of the vocational half-day was compensated to some extent by improved shop and classroom teaching facilities. There were few, if any, power tools, welders, hoists, etc. in the early day shops. In fact, in the early days such tools and equipment were frowned upon in many quarters, as too few boys had them on their home farms. Some early shops seemed to be flooded with neck-tie racks, handkerchief boxes, and similar items while others overflowed with hay racks, feeders, trailers, etc. It was the vision of the teacher that set the pace.

There were the town boys who had no need for hay racks since their "home project" (as it was called then) often consisted of a few laying hens. Too often these boys were regarded as a scourge by State Farmer minded teachers. Admittedly, too many town boys enrolled in vocational agriculture only for an "easy" credit. Even then,

and far more so now, many such boys enrolled for reasons of genuine interest in farming or related occupations. It is my firm belief that there must be a universal acceptance of the non-farm boys, who wish the course preparatory to agriculturally related life-time occupations.

Classrooms Were Different

Let's take a look at the vocational agriculture classroom—then and now. Economic conditions made it necessary for the early day teacher to acquire his teaching materials the best and cheapest way he could. Summers were spent (after annual conference) in building, varnishing, and painting furniture and making equipment. Plant and seed specimens were mounted, charts made and arranged, and many other things now available from a catalog. Today, a flood of excellent teaching material comes each year to every vo-ag teacher. This ranges from free film strips (in color), rent free sound movie films, free charts and many other things—all for merely checking a postage paid card.

One of the greatest aids to come about in the past thirty years is from the agricultural press. Well edited and authentic magazines come to each department at little or no cost. These provide excellent assignment or reference sources. These with bulletins and circulars from the colleges and extension experiment stations provide an abundance of materials. Text and

reference books to have kept pace with the periodicals in this respect.

Probably the greatest boom of all for vo-ag teachers over the years is the Future Farmers of America. Its constitutional setup has been changed very little in its thirty-five year history; yet it has been flexible enough to meet changing conditions. This organization more than any other, has put into action the lofty aims and ideals of all secondary education. Throughout the years, teachers who believed in teaching boys rather than books, have made use of the FFA. Understandingly, many early teachers

were of the opinion that they were "too busy teaching, vo-ag to fool with FFA." But, that has changed, and today the FFA is the vehicle of implementing the vocational agriculture program.

Human Needs Remain

Who in 1930 could have dreamed of DDT, 2-4-d, the antibiotics, usable trace minerals, crop hybridization and countless other familiar items of today? Or the huge cattle feed lots, multiple farrowing hog farms, contract farming, the farm living standards of today? How soon will it take

today's rubber tired tractors, self-propelled combines, and comparable machines to become collector's items? Dare we imagine the agricultural situation should synthetic photosynthesis become a reality? Or genetic control for plants and animals?

Today we are entering the atomic age and the space age, however, regardless of the scientific inventions the human factor of vocational education in agriculture will always remain. Young boys will be taught by qualified adults dedicated to the philosophy of "learning by doing." □



Factors Influencing High School Vocational Agriculture Graduates' Choices of Occupations

JOHN E. BISHOP, Teacher of Vocational Agriculture, Winterset, Iowa

A master's thesis study of 392 vocational agriculture graduates of the Winterset, Iowa, Community High School revealed that several factors have had an influence on the selection of an occupation. Graduates from the Class of 1930 through the Class of 1961 were studied.

There were 25.57 per cent of the graduates who reported being a farm operator as their first occupation, whereas presently 25.82 per cent were farm operators. More than 28 per cent of the graduates reported working as a craftsman or operative as their first occupation, whereas, 25.82 per cent were presently employed in these occupations. Service or labor occupations were reported by 20.58 per cent of the graduates as their first occupation, whereas, 5.77 per cent were presently employed in those occupations. Those graduates who indicated professional or managerial, clerical or sales, and military occupations as their first occupation reported 7.49 per cent, 10.16 per cent, and 7.49 per cent respectively, whereas, those presently employed in the same occupations were 24.18 per cent, 10.44 per cent, and 7.97 per cent respectively.

For the entire group, the graduates' supervised farming programs had "little" or "no influence" on the selection of their present occupation. However, more than 65 per cent of the farm operators and 57.14 per cent of the farm laborers were influenced "some" to "very much" by

their supervised farming programs in the selection of their present occupations.

A larger percentage of the graduates who were in the upper one-half of their graduating class, and who had had 5 to 8 semesters of vocational agriculture had incomes above \$4,500 per year.

There were more than 29 per cent of the graduates who had attended college. Of these 55.3 per cent were in the upper one-half of their graduating class, and had had 5 to 8 semesters of vocational agriculture. A larger percentage, 47 per cent, of the graduates who were in the upper one-half of their graduating class had attended college than those, 20.3 per cent, who were in the lower one-half of their graduating class. Nearly 12 per cent of the graduates had completed four or more years of college, and 37 per cent of those graduates had had 5 to 8 semesters of vocational agriculture.

More than 26 per cent of the graduates who had attended college majored in agriculture. Their present occupations were as follows: 44.44 per cent reported professional or managerial, 40.74 per cent reported farm operator, 7.41 per cent reported clerical or sales, and 7.41 per cent reported craftsman or operative.

Eighty per cent of the graduates who had studied agriculture in college were in the upper one-half of their graduating class, and 60 per cent had had 5 to 8 semesters of

vocational agriculture.

Of the 96 graduates who reported farm operator as present occupation, 19.79 per cent had attended college, whereas, 96.77 per cent of the 31 graduates who reported professional occupations had attended college. Of the 58 graduates who reported managerial occupations, 37.93 per cent had attended college, whereas, slightly more than 23 per cent of those who reported clerical or sales had attended college.

More than 73 per cent of the graduates were living within the State of Iowa and 32 per cent of this group were in the upper one-half of their graduating class. Ninety-five per cent of those who were farming lived within Iowa, and 36 per cent were in the upper one-half of their graduating class. Of those graduates in nonfarm occupations, 53 per cent lived within Iowa, and 32.1 per cent were in the upper one-half of their graduating class. About 42 per cent of the graduates had farmed since high school graduation. More than 16 per cent of the 381 graduates had farmed ten or more years.

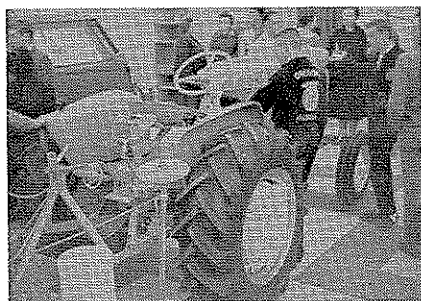
There were 33.88 per cent of the 366 graduates who reported their occupations were exactly as planned in high school, and 96 per cent were satisfied with their present occupations. Nearly 20 per cent of the graduates who had no occupational plans during high school, but only 6.8 per cent were dissatisfied with their present occupations. More than 74

per cent of the farm operators had planned to farm, and about 96 per cent were satisfied.

In conclusion, it appears there were many factors which had an influence on the selection of an occupation by the Winterset vocational agriculture graduates. Further, vocational agriculture is fulfilling its purposes, especially to those graduates who are farming or in farm related occupations. □

Parents Enjoy an Exhibit at the FFA Banquet

Each year as FFA Chapters put on parent and son Banquets, the FFA officers along with the advisor are faced with problems of the guests finding something to do with their time before the banquet program actually starts. We have hit upon a method that has certainly worked for our group the last few years.



A farm machinery exhibit which is a feature of the Nyssa, Oregon, FFA parent-son banquet.

I would surmise that the Nyssa FFA parent-son banquets are much like others throughout the nation. We hold it in the School Cafeteria, fortunately it is a large one, with the Future Home Makers preparing and serving the meal. After dinner we have a regular awards and entertainment program. However, we felt something was lacking for parents and guests coming in early. We solved this problem by having educational displays around the banquet room. This exhibit includes items made in the vo-ag shop, skills learned, and even visual aids used in the classroom; we have also invited local farm machinery and equipment dealers to put on displays. This must be controlled by the type of equipment and the space available for such displays, but can range from flood lights, or shop tools up to tractors or combines, if space is available.

The things that are most noticeable in our program were, that when people have things to look at and talk about they tend to socialize more. Though we have not allowed "sell-

ing" in the display, we have improved our public relations with Agricultural dealers and received much more favorable acceptance when the chapter approaches them on other types of programs. These displays oftentimes add to the atmosphere of the banquet program, and aid in decorating in accordance with a certain theme.

Though we have had difficulty in getting large pieces of equipment inside the cafeteria, in good weather we have been able to display these items in the parking area near the exit. □

Carl G. Devin
Teacher of Vocational Agriculture
Nyssa High School
Nyssa, Oregon

Fifteen Years Experience in Teaching for Agricultural Careers—in North Carolina

Some authorities say that about 40 per cent of the working population of the U. S. A. depend on agriculture in one way or another for their livelihood. This would include food processors, machinery manufacturers, and the like, besides farm people. The potential of our high school courses in agriculture is easily understandable.

Are we preparing our students to meet the needs of their communities? Are we preparing boys to be farmers *and* to serve in the vocations that service the farmers—for example, in feed, soils, forestry, dairy, fertilizer, and other industries?

State and local advisory groups have agreed that we can improve high school courses by. (1) *Making a survey of skills needed in our community.* (2) *Enrolling boys who are capable and interested in training for these skills.* At our school, we have introduced boys to various agricultural and related occupations with an overall career-introduction program developed over the past fifteen years. This introduction to careers includes a set of color photograph slides that I have made during these years. This series of slides is used with students planning to enroll, and is used in depth at a series of three meetings with eighth-grade students. This slide program will make a good program to give when called upon by the



John W. Allison

various civic clubs thereby informing the general public. (3) *Ascertaining that our high school courses train boys for the available career objectives.* The average high school curriculum cannot give terminal training to prepare boys for every specific occupation, but it can provide the core of preparation and breadth of understanding that will assure the boy a good starting point for adding specific knowledge and skills when he enters related training or apprenticeship beyond the high school. This is not to say that no specific skills are taught, even when they are useful to practically everyone who plans for a career in agriculture. We not only teach these universally helpful courses—we use community talent. For example, this year in teaching farm plumbing, we invited a local plumber to help with the course. This makes good public relations for the school as well as teaching the needed skill.

By being familiar with such available local talent, we teach many skills that we would otherwise have to omit as laboratory work.

In summary, the key points of any success we enjoy are: (1) Surveying who will train for the skills needed in our community and supplementing the teaching of these skills by using key men in similar vocations in our community—career opportunities and informing students of these; (2) Enrolling boys who are capable and who are interested in agricultural careers; and (3) Using available volunteer local craftsmen for truly expert instruction in some of the laboratory skills. □

John W. Allison
Teacher of Agriculture
South Rowan Senior High School
Route 3
China Grove, North Carolina

Kiwanis Honors Wisconsin Vo-Ag Accomplishments

Certificates of Recognition for Outstanding Accomplishment were presented to FFA teams from Madison East High School and DeForest High School by the Madison, Wisconsin Kiwanis Club in February, in recognition of National FFA Week.

The Madison East team had won a silver emblem award and the DeForest team a gold emblem award last October at the National FFA contests in Dairy Products and Meats, respectively. Roger Gust, of Verona, who was the only person from Dane County to receive the American Farmer degree

last October, was also given a certificate.

Short talks were given by representatives of each team and Roger Gust, by Robert D. Gilberts, Madison Superintendent of Schools and Arthur Kurtz of the State Department of Agriculture. Gerald Weiss, an East Madison team member, gave the FFA Creed. The Certificates of Recognition were presented by Ray Elliott, President of the Madison Kiwanis Club.

Master of Ceremonies for the pro-

gram was Kiwanian Dale C. Aebischer, Chief of Agricultural Education with the Wisconsin State Board of Vocational and Adult Education.

Guests, in addition to those receiving the certificates and Arthur Kurtz, were the instructors in agriculture and the supervising principals of the three schools and the Madison Superintendent of schools.

Louis M. Sasman □

Our High School - College Bridge

DURLAND WEALE, Vo-Ag Instructor, Addison, New York

Students of vocational agriculture have an increasing need for positive guidance immediately before and after high school graduation in order that they may profit greatest from the secondary school training which they have completed.

"John will be graduated from high school next June. Really, he would like to enter a college training program; but he hesitates." And why does he hesitate? I venture that this young man is like lots of others who are not sure that the college training available represents a move in a positive direction. How much different is college work from high school? Does college offer the type of instruction desired? What will be the opportunities for employment upon completion of the college course? Can the costs of collegiate instruction and the time that is consumed be justified?

These and other questions confront senior agriculture students throughout our country as they reach the crossroad of decision to continue their education or to seek employment. Teachers of agriculture and college personnel are in a key position to guide and assist these individuals from their indecision.

This was the feeling of the Steuben County Agricultural Teachers' group who appointed a committee of teachers to meet with the staff at the State University Agricultural and Technical Institute at Alfred, New York, and to design an appropriate program, using the personnel and facilities available at the Institute. All department heads and several interested professors, as well as our agricultural teachers' committee, attended a planning session.

A program was designed to accomplish two purposes: 1) to ac-

quaint high school vocational agriculture students with the calibre of college instruction, and 2) to acquaint the high school students with college offerings, the college staff, and the available facilities.

To meet these goals, class sessions were developed in the following eight areas:

1. Evaluating dairy cattle
2. Marketing poultry products
3. Automation on the farm
4. Welding with arc and gas
5. Producing forage crops
6. Making and interpreting soil tests
7. Producing farm power
8. Studying plants and their ailments

The college professors designed their class instruction to be more intensive than that offered in regular vocational agriculture classes. Each class was two hours in length and limited registration to 12-15 students, giving ample opportunity for individual instruction. Class pre-registration was made for all those attending, with opportunity for each boy to participate in two study areas of his choice and with a high school teacher of agriculture assigned to take attendance and assist with each class.

On the scheduled day of instruction regular Alfred students assisted with registration of each group of vocational agriculture students as they

arrived for the afternoon sessions. These same college students conducted the vocational agriculture boys to the respective areas where their instruction was scheduled. Still other Alfred students assisted professors in subject matter and demonstration presentations.

Upon conclusion of the two formal instruction-demonstration-laboratory sessions, the boys were conducted to the student activity building for dinner, where the boys dined with the college president, various department heads, professors, and local teachers of agriculture. A brief program followed. A college senior spoke of life at the Institute, followed by a second senior student who talked concerning employment opportunities available to the technically trained agricultural person. The final event was distribution of recognition certificates to the boys for their attendance.

This project was evaluated independently both by the teachers of agriculture and by the college professors. Each group viewed the experience as very worth-while and expressed a desire to repeat the program. A critical evaluation was that more actual "doing" by the vo-ag pupil as a part of the classroom and demonstrational instruction should be incorporated into the program. With this in mind the committee has already considered the program for next February.

Our project of conducting a College Seminar Day for high school vocational agriculture seniors is one way that the agriculture teachers of Steuben County, New York, are encouraging good farm boys to pursue their education beyond the high school level and, therefore, to become better prepared for a vocation. □



A concluding event of the evening banquet program was for each vocational agriculture instructor to present a certificate of completion to the pupils from his school. Each certificate was signed by the Institute President and by the local instructor. In this picture, the author presents certificates to the boys from his school.

Farm Visits

(continued from page 15)

"very effective" in making visits for on-farm instruction and was used by 156 or 99.4 per cent of the teachers:

1. Become familiar with the boy's home farm facilities.

The following seven procedures were rated "above average" in effectiveness and were used by more than 75.0 per cent of the teachers:

1. On the first visit, attempt to meet both parents.

2. Keep appointments with students.

3. Gain the confidence of the boy's father by providing information or assisting him in performing a specific job, when appropriate.

4. Explain to the parents the purposes and objectives of the student's supervised farming program.

5. Take the boy or boys home after school.

6. Visit as many boys as practical while in a particular neighborhood.

7. Visit a boy occasionally solely for the purpose of encouraging him.

Conclusions

The following conclusions are based on the data collected during the study:

1. The number of students taught has little or no influence on the average number of farm visits each teacher makes. However, it does have an influence on the average number of farm visits the teachers make per student.

2. The teachers who teach less than 30 students provide more on-farm instruction per student than those who teach 30 or more students.

3. The teachers who have to travel over 13 miles, one way, to provide on-farm instruction make fewer visits per student per year than those who have to travel less than 13 miles.

4. The procedures which were rated "above average" in effectiveness and were used by 50.0 per cent or more of the teachers should be used as guides by all teachers of vocational agriculture in Virginia for providing on-farm instruction.

5. Teachers of vocational agriculture in Virginia encounter many of the same difficulties in providing on-farm instruction for in-school students of vocational agriculture. □

News and Views of the Profession

Dr. Ray Agan of Kansas was named regional AATEA vice-president for the central region for the coming year. Dr. Carl LaMar of Kentucky will serve as alternate.

Two members of the staff in Agricultural Education at the University of Missouri hold dual appointments in the College of Education and the College of Agriculture. C. R. Weston specializes in methods of teaching farm mechanics and E. T. Carpenter in methods as related to teaching farm management. The assignments include the preparation of instructional materials and scheduling of workshops and credit courses for teachers of vocational agriculture.

Deaths

Dr. Harry E. Bradford, 85, retired chairman of the Department of Vocational Education, University of Nebraska, died Monday, April 8.

Dr. Bradford was an early and prominent leader in the field of vocational education. He assisted in organizing the Teacher Trainer Breakfast meetings of the A.V.A. and was their first speaker in 1930.

One of his big contributions to education in Nebraska was his research

project conducted in 1945 on the expansion of vocational education in Nebraska.

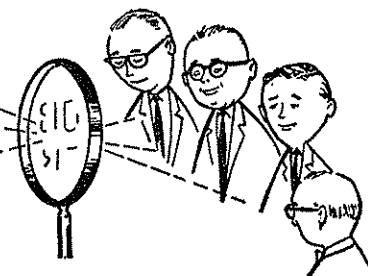
Harry J. Braud, Sr., Associate Professor of Agricultural Education, Louisiana State University, died at Norco, La., February 26, 1963. Mr. Braud had served in the field of public education for 40 years.

Mr. Braud received his B.S. and M.S. degrees from Louisiana State University.

Irwin R. Jahns, who is presently completing graduate work at the University of Wisconsin, will join the Department of Agricultural and Extension Education at the University of Maryland in the fall semester, 1963 as an assistant professor.

A native of Wisconsin, Mr. Jahns holds the B.S. and M.S. from the University of Wisconsin and will receive his doctorate from there in August. His new assignment will include teaching courses in "Adult Education" and "Rural Leadership." His research program will include the study of community development and other problems pertinent to the development of programs in vocational agriculture and in extension work.

BOOK REVIEWS



The following books have been received from Melmont Publishers, Inc., Jackson Blvd. and Racine Avenue, Chicago 7, Illinois.

ABOUT SOME ANIMALS THAT WORK FOR MAN, by Uhl, Melvin John. 1963. Pages 47. Price to schools and libraries, \$1.88.

THE AMERICAN INDIAN AS A FARMER, by Morris, Lovern. 1963. Pages 47. Price to schools and libraries, \$1.88.

Both books are nicely illustrated. They are written primarily for the

middle elementary grades and could be used very well for helping to develop an understanding of agriculture among pupils who have not had actual farm experience.

Raymond M. Clark
Michigan State University

THE DESERT WORLD by Alonzo W. Pond. Published by Thomas Nelson and Son, 18 East 41st Street, New York 17, New York. 342 p., illustrated; 1962. Price \$6.50.

This new book deals with a com-

prehensive review of the deserts—the forces of climate, geography, and geology. It vividly presents a story of the wastelands of the earth in all their beauty and terror, and examines their limitations as well as their often surprising potentials. The author, while relating the beauty and fascination of these arid wastelands, which cover 20 per cent of the earth's land mass, dispels some of the mystery of desert life.

This should appeal to both teachers and students of vocational agriculture. Selected topics include: The Face of Sahara, The Dunes, The Gobi Basins, Desert Climate, Desert Weather, Desert Plants, Animals of the Desert, Ancient People of the Desert World, Desert People of America, and Twentieth-Century Desert Survival. The author, Alonzo W. Pond, is one of the world's leading authorities on deserts.

Denver B. Hutson
Teacher Trainer
University of Arkansas

MODERN FARM POWER by William J. Promersberger and Frank E. Bishop. Prentice-Hall, Incorporated, Englewood Cliffs, New Jersey, 280 pp., 1962. Price \$6.60.

This book provides understanding of the principles of internal combustion engines and electric motor construction and operation. It is written as a text, reference and guide for high school classes in farm power. Included at the end of each chapter are suggested laboratory and shop projects, questions and references pertaining to the subject matter covered in the chapter.

Chapters are devoted to the history of engines, operating principles, to the exposition of vital parts of farm machinery, and the operation and maintenance of electric motors. Also included are facts pertaining to the importance of power in farming and safe practices in using mechanized equipment as well as managerial problems dealing with tractor and machine selection, maintenance of farm machinery and the housing and storing of farm machinery.

William Promersberger is chairman of the Agricultural Engineering Department at North Dakota State University. Frank Bishop is a former instructor in Vocational Agriculture at Harvey High School, Harvey, North Dakota.

Guy E. Timmons
Michigan State University

NEW DIMENSIONS IN PUBLIC SCHOOL EDUCATION IN AGRICULTURE, Interstate Printers and Publishers, Danville, Illinois, price \$1.50.

This publication is a report of a conference, sponsored by the University of Illinois, Department of Agricultural Education, held at Urbana, June, 1962.

Editor J. R. Warmbrod has compiled the conference presentations of sixteen nationally known vo-ag leaders.

The 120 page report is divided into four parts. Part I presents the area of counseling and preparation for agricultural occupations. Part II discusses agricultural education at the post-high school level. Part III discusses research and development and Part IV deals with policy and policy making.

NEW DIMENSIONS is not a how to do it book. Reading and thinking about this report will give teachers and supervisors of vocational agriculture a new concept of modern problems which our critics are demanding that we solve.

William Householder
Michigan State University

THE TEACHING OF RURAL STUDIES by S. McB. Carson and R. W. Colton. Published by Edward Arnold Ltd., London 278 pp. illustrated. Available from St. Martin's Press, New York.

The foreword states that, "No book unaided can teach us how to sow carrots, and the authors have not tried to write one. . . . Their concern is with the conditions and class climate that prompt a chap to want to sow carrots properly, and to enjoy doing it. . . . This book is, therefore, one on education and the use of rural studies (agricultural projects)* as a teaching tool."

Some of the outstanding chapters that have direct application to agricultural education are: Aims and Principles (of agriculture projects); The Teacher, (attributes and qualifications required for success); Methods—General Principles; and The Syllabus—Scheme of Work—Record Book.

The entire book is oriented toward the implementation of educational principles through the use of a school farm as a teaching aid.

*Parenthesis mine.

Earl S. Webb
A. and M. College of Texas



N.V.A.T.A. News

Wenroy Smith
President, NVATA

Wenroy Smith, NVATA President, James Hamilton, Past President and James Wall attended a recent meeting of the executive committee of The Agricultural Division of AVA held in Washington, D. C. A large share of the time during the two and a half day meeting was devoted to developing materials that can be used on national, state and local levels to present the proper image of Vocational Agricultural education to the general public. Plans were also developed for securing support for needed legislation at the national level.

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The theme for the 1963 American Institute of Cooperation to be held in Lincoln, Nebraska, August 4-7 is—"Power in Partnership." Many teachers of vocational agriculture and FFA members will be attending the Institute. A special meeting and program is being planned for the ag teachers in attendance.

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The regular summer meeting of the NVATA Executive Committee was held in Lincoln, Nebraska, July 1-3. Minutes of the meeting will be sent to association presidents and secretaries and to head teacher educators and head state supervisors. Others may secure a copy of the minutes by sending their request to James Wall, NVATA Executive Secretary, Box 4489, Lincoln, Nebraska.

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Plans are taking shape for the AVA Convention to be held in Atlantic City, December 7-13, 1963. This will be the only time in the next five years that it will be held in the northeastern part of the country. Since many of the NVATA meetings are scheduled for Saturday and Sunday, members from that section will want to avail themselves of the opportunity of attending.

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Many people assume that terms "farming" and "agriculture" are synonymous. Many years ago such an assumption may have been true. It is important that parents and students understand that vocational agriculture not only offers training in farming skills, but also may open the gate to a profitable and interesting career in an occupation related to agriculture. □



The Baldwin FFA Chapter in Wailuku, Maui, Hawaii carried on a novel chapter money making project by making and selling Bonsai (Dwarf Trees) to teachers and people in the community. Most of the plants were donated by parents of one of the members, Dr. and Mrs. K. Izumi. Mrs. Izumi also helped the members make the Bonsai.

Here the members, (left to right) Lawrence Gamurot, Earl Izumi and Chapter President Perry Fernandez admire some of the finished products.



Shown above is Preston Cowvins, New Farmer member at Lincoln High School in Gainesville, Florida, presenting a sample of Maple Honey to School Superintendent E. D. Manning, Jr. of the Alachua County Schools. The Vocational Agriculture Students made their first extraction of the 1962-63 school year. Looking on is Marion Bishop, on right, Supervisor of Vocational Education in the county and L. V. Davis, Teacher of Agriculture on left.



This picture illustrates one phase of Virginia's farm forestry instructional program. J. E. Hively is shown giving instruction in estimating volume of standing timber. Mr. Hively is teacher of vocational agriculture at Broadway High School. (Photo by Archer Yeatts, Jr.)

Stories in Pictures



Garry Wallas, President, Arkansas Association of FFA speaking at Annual FFA Recognition Banquet. Garry was the winner of a \$1,000 scholarship award.



This exhibit was on display in five different agricultural fairs, including the Florida State Fair, and University of Florida College of Agriculture Fair, for a total display time of six weeks.