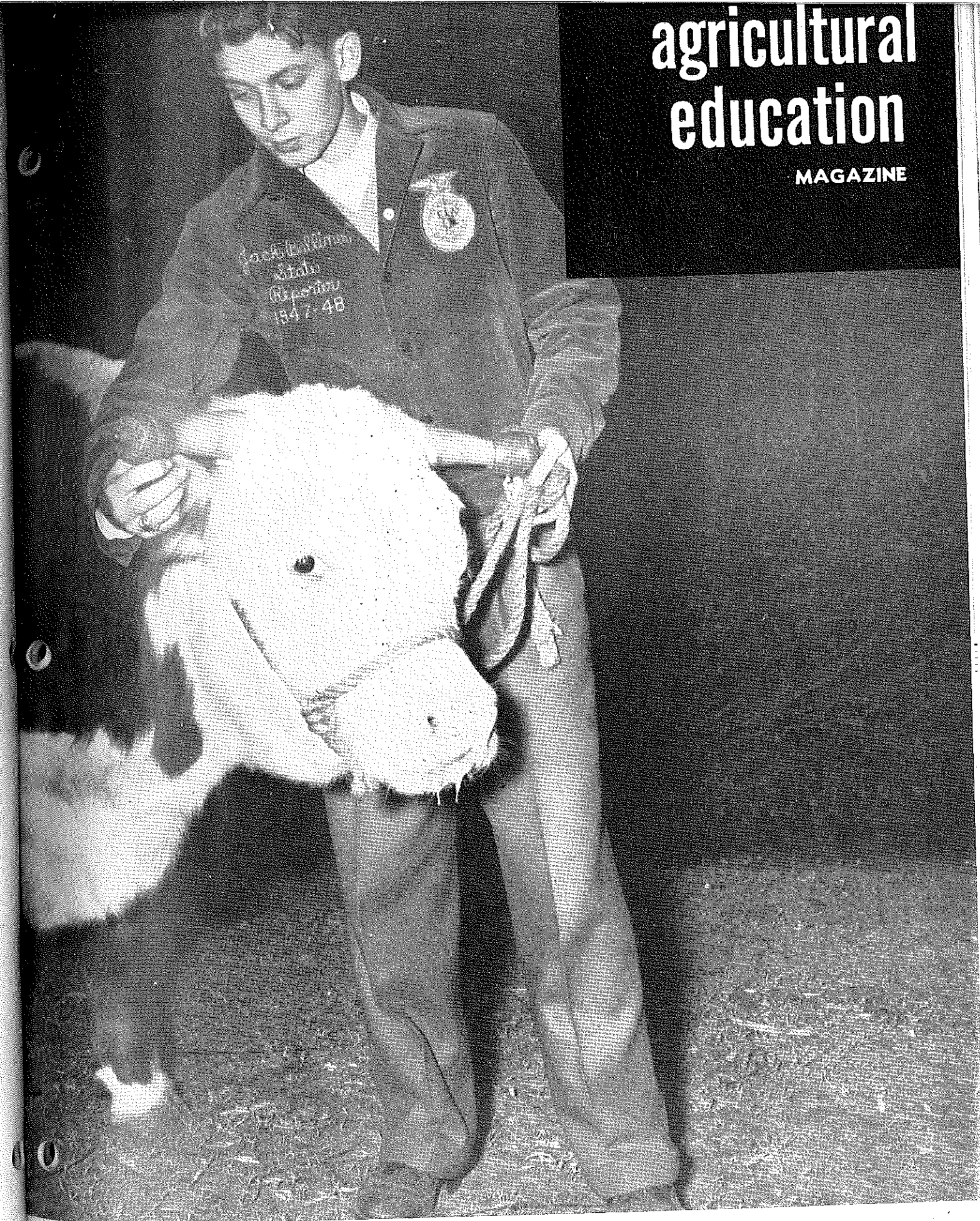


# agricultural education

MAGAZINE



Jack Bulliner, State Reporter for the Tennessee Association, is a member of the Henderson chapter, which has an outstanding farming program.  
—Photo Tennessee Association F. F. A.

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## CONTENTS

Editorials		
Concepts and Emerging Practices in Supervised Farming.....	G. P. Deyoe.....	223
Summer Conferences for Teachers of Vocational Agriculture.....	D. M. Clements.....	223
Developing a Boy Into Partnership and Management Through His Farming Program.....	D. W. Parsons.....	224
Developing Balanced Farming Programs With Students of Vocational Agriculture.....	A. C. Jones.....	225
The Long-Time Farming Program.....	LaVan Shoptaw.....	226
We Moved Our Classes to the Farm.....	James P. Bressler.....	228
Long-Time Farming Plans of Outstanding Upper Classmen.....	Ernest F. Bond.....	230
Land Utilization in Long-Time Planned Farming Program.....	Wm. N. Fisher.....	231
Veterans Training Produces Tangible Results.....	Chas. E. Kirchner.....	232
Vocational Services in Pennsylvania Collaborate in Conducting State Conferences.....	James C. Fink.....	233
Our Leadership..... (J. T. Wheeler and A. M. Field)		233
A Study of Cooperative Activities of Local Chapters of Future Farmers of America.....	John H. Leonard.....	234
What Next in Evaluation?.....	H. M. Hamlin.....	235
Meeting the Storage Problem in the Vocational Agriculture Shop.....	V. J. Morford.....	236
Fight Fires — Save Forests.....	Vincent P. Gaffney.....	238
Book Reviews.....	A. P. Davidson.....	238

## Editorial Comment

### Concepts and emerging practices in supervised farming



G. P. Deyoe

"WHAT IS THE difference between *Agriculture* and *farming*?" asked the teacher. "Well," responded the boy, "They are something alike, only in farming you really do it."

In these simple words, this boy effectively expressed the essence of a sound philosophy for vocational education in agriculture. Only as *doing* is provided as an integral part of instruction can students develop the abilities needed for success in farming and farm living. Only as the learner sees himself in action and notes the results of these actions in terms of his progress toward acceptable goals is he able to appraise his own growth. Only as the teacher observes the learner in practical situations in farming and appraises the learner's achievements in this setting is it possible to evaluate the effectiveness of instruction. Broad programs of supervised farming provide many situations for learning by doing and for evaluating outcomes. Thus, supervised farming bridges the gap between *agriculture* as a subject and *farming* as a vocation.

#### Change in Concept

Our concept of what constitutes acceptable programs of supervised farming has undergone a marked change in recent years. Alert teachers are guiding their students to select farming programs which provide functional relationships with all or most of the important phases of farming and several phases of farm living. Such programs go far beyond the conventional one or two "projects" which all too frequently characterized these programs in the early days of vocational agriculture. Today, with increasing frequency, each individual's program of supervised farming includes (1) *ownership projects* in which the student has full or part ownership in one or more important phases of farming conducted by him for experience and profit, (2) *improvement projects* in which the student works and plans with one or both parents in improving the efficiency of a farm enterprise or some other major phase of the farm business, or the real estate value of the farm, or the living conditions of the farm family, and (3) *supplementary farm jobs*, outside of those included as normal parts of a student's ownership and improvement projects, which are undertaken by him for additional experience or for improving the efficiency of the farm.

Certain practices are beginning to emerge which are associated with selecting and developing good programs of supervised farming. For the most part, these practices have grown out of the experiences of successful teachers. Data from the national study of 400 departments of vocational agriculture provide evidence for some of these practices.<sup>1</sup> While much remains to be done in refining these practices and in identifying others, a tentative statement of some of them seems justifiable at this time. These should be helpful to teachers for use as a list to check their own practices and procedures. The following list is presented as a tentative formulation of some of these practices.

1. Guidance is provided for prospective students so that enrollments in vocational agriculture consist of persons who are interested in farming and have facilities available for developing satisfactory programs of supervised farming.

(Continued on Page 237)

<sup>1</sup>Misc. 3233, *An Evaluation of 400 Local Programs of Vocational Education in Agriculture in the United States*, U. S. Office of Education.

### Summer conferences for teachers of vocational agriculture



D. M. Clements

THE STATES, within the next few weeks, will begin their annual state conferences of teachers of vocational agriculture. Teachers are interested in conferences but are not content to listen to talks or lectures day in and day out. They recognize that there are timely topics that are entirely new that interest them. They never become bored listening to an authority present a subject that is vital to the instructional program in the community. They like to have experiment station people who have conducted some important experiments present and interpret their findings. They enjoy hearing a man of Dr. Albrecht's ability correlate soil fertility and animal feeding with human nutrition, but they are not interested in listening to person after person presenting propaganda for what he represents.

In order to be assured of a successful conference, it is most essential that the organization for the conference and the facilities for conducting it are conducive to the approval of the teachers who attend and participate. Is there a place in the state, such as a F.F.A. camp or summer resort, where the men can be assembled that will assure them comfortable quarters, freedom from disturbance, an ample supply of well-prepared wholesome food at a reasonable cost and facilities for them to make their own recreation? Has the conference been planned so there will be relatively short intensive periods of work, with time that the men can call their own? Some will want to play, others will want to read or listen to the radio while small groups of others will want to have "tree root conferences" on matters of "shop" or off the record.

The place for the meeting should be provided with comfortable chairs, enough tables to provide "elbow room" for each man; places where small committees can meet without disturbance; good blackboards; facilities for presenting charts, slides and movies; and note or scratch paper enough to supply everyone. The program should come from the men. They know their needs and usually know who is in a position to supply them. A crowded program is not effective. Ample time for full discussion is most essential. Those participating on the program should be notified well in advance of the meeting. Teachers like to participate in their own meetings. They have a contribution to make. It is their conference and they should not be crowded out by too many outside interests that will wedge in if the door is cracked enough for them to get a "toe-hold."

Decisions must be made on important problems that require careful thought. A competent committee composed of a few outstanding men will gladly devote their time for the preparation of a report that needs to be discussed for final decision.

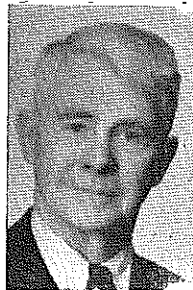
Every state conference should set up immediate and long range objectives for agricultural education in the state. If they have been set up at previous conferences they should be reviewed and evaluated. When decisions have been reached on objectives, the objectives should be incorporated into a program of work for the state that can be translated into a program of work for a community. Every effort should be made to have a balanced conference program on a balanced program of work that will incorporate every phase of agricultural education authorized by law. Some items, for various reasons, require more emphasis at times than others. It is very important to see that no one activity dominates a conference or a teacher's instructional program.—D. M. Clements, U.S. Office of Education.

## Farming Programs

C. L. ANGERER

### Developing the boy into partnership and management through his farming program

D. W. PARSONS, Teacher Education, West Virginia University, Morgantown



D. W. Parsons

THE boy's home farming program is the key-stone in his learning to be a farmer. Without a well balanced developing, and continuous long-time farming program which gives a full cross section of his type of farming, little progress will be made toward

his actually learning to be a farmer and to his establishment in farming.

Unless the boy uses the superior practices he works out in class in his own home farming, you will not change his attitudes toward improvement in farming methods. Classroom information does not become knowledge until actually carried out in use in his own farming. Likewise attitudes toward better farming methods are the results of the successful use of these practices in farming.

A good supervised farming program in which the boy has management and a financial interest is essential to complete and motivate his instruction in the vocational agriculture class. Many studies of the efficiency of instruction in vocational agriculture show that boys who during their high school career build up real ownership of livestock and who have a foundation herd or flock and who have accumulated capital and equipment, are the ones who become farmers. Also, those boys whom their parents have given management of their program and who have been progressively taken into a farm partnership are more than likely to become established as farmers.

#### Partnerships Completed

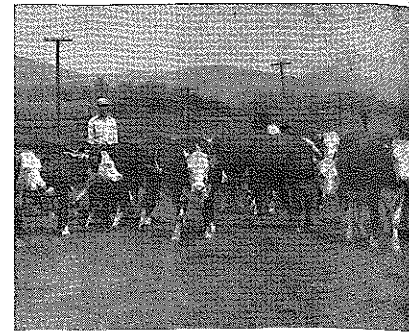
It is not too difficult for the teacher of vocational agriculture and the boy to persuade his parents to let him own his enterprises and to follow the recommended practices in carrying them out. However, for the boy to have an actual part in the management of the farming and a definite partnership in the farm business is an entirely different matter. It takes both time and much personal work on the part of the teacher with the boy's parents to get them to let him participate in the management of the farm and to have actual partnership, even though he may be the only boy and wanting to farm.

Let me illustrate by the case of the

boy who was made State Star Farmer this past year. Albert comes from a 1,074-acre beef cattle and sheep farm. While in high school he built up a nice flock of sheep and herd of beef cows which he owned and took care of himself. When he finished high school his dad gave him a one-fourth share in the whole farming operations but no management. When you talked to Albert it was, "Dad says, do this, do that." It took much personal work and follow-up by his teacher for two years more before the boy's dad really took him in as an actual partner in the operation of the farm. Now when you talk to them it is, "We are doing so and so. We plan to do this." Albert is now definitely established in farming and well satisfied with staying on the farm with dad. Previously he felt that he was being well paid for his work on the farm but that he really did not have any share or responsibility in its operation. He tackles his work now with real enthusiasm. The two are working together as partners and Albert has an entirely different attitude.

#### Family Situations Differ

The teacher of vocational agriculture will find each boy and his parents present a different problem. The teacher must gain the confidence and good will of all concerned and then work tactfully and long to bring about the desired results. Unless you get both the partner-



Gus Douglass past national president of the F.F.A. with part of his beef herd which is outgrowth of partnership with his father.

ship and management the boy usually leaves the home farm and goes elsewhere.

Another illustration will show how the boy's farming program enabled him to accumulate some dairy cows and get the necessary training so that he could become his dad's partner. In this case the boy was the only child and his parents were anxious for him to stay on the farm. His farming program while in school is shown herewith:

#### One-Third Partnership

When Dan finished high school he continued farming with dad on a one-third partnership with a definite part in the management and at the end of the second year became an equal partner with dad in the operation of the thirty cow dairy farm. In addition, Dan got married and set up housekeeping in an apartment which they made in one part of the large farm house.

In this situation the teacher had little difficulty in getting the parents to take Dan into full partnership in the farming business. Many instances might be given where dad let the boy own and carry out a good farming program while in high school but was unwilling to take the boy into any partnership after the boy finished school. These boys are now no longer farming with dad.

#### FOUR-YEAR FARMING PROGRAM OF A STATE STAR FARMER

FRESHMAN		SOPHOMORE	
PRODUCTION PROJECTS	SUPPLEMENTARY ACTIVITIES	PRODUCTION PROJECTS	SUPPLEMENTARY ACTIVITIES
Dairy Cow, 1	Improve home ground	Dairy cow, 1	Improve driveway
Corn, 2 acres	Feed laying flock	Dairy heifer, 1	Fertilize pasture
Potatoes, 1/8 acre		Dairy calf, 1	Improve farm shop
		Barley, 2 acres	Feed work stock
		Alfalfa, 2 acres	
		Corn, 3 acres	
		Potatoes, 1/8 acre	
		Baby chicks, 150	
JUNIOR		SENIOR	
Dairy cows, 2	Improve home grounds	Dairy cows, 3	Put front in barn
Dairy heifer, 1	Fertilize more pasture	Dairy heifers, 2	Lay drainage ditch
Dairy calf, 1	Repair machinery	Dairy calves, 2	Paint barn
Barley, 8 acres	Prunc grapes	Fat hogs, 2	Build forge
Alfalfa, 10 acres	Keep farm records	Barley, 4 acres	Put in a water system
Corn, 4 acres		Alfalfa, 10 acres	Care for dairy bull
Potatoes, 1/8 acre		Corn, 5 acres	Keep farm accounts
Baby chicks, 250		Potatoes, 1/8 acre	
Laying hens, 75		Baby chicks, 250	
		Laying hens, 100	

## Developing balanced farming programs with students of vocational agriculture

A. C. JONES, Teacher, Henderson, Tennessee\*



A. C. Jones

WITH MORE and more attention focused in the direction of "balanced farming," the challenge presented teachers of vocational agriculture in developing well-rounded farming programs on the part of individual students is correspondingly made more acute.

This is especially true in areas where the tendency has always been and still is toward the one crop system, as for example in certain areas of the South where practically all effort is devoted to cotton production. The situation is further aggravated by the tenancy system and a lack of adequate facilities and of financing.

#### Setting Up Goals

As is true in all phases of the work in vocational agriculture, there is no magic wand which may be waved to secure the desired results. One fact stands out—the teacher must set his own goals before he approaches the boys on the subject. He must be wide awake to the conditions in the community and be thoroughly familiar with such. Not only should this familiarity be incident to conditions as they exist at present, but should go much further and consider in the entirety the possibilities which the area offers for improvement both in fostering improved practice with reference to those enterprises already being used and for additional enterprises.

After the teacher has thoroughly saturated his thinking with honest convictions as to the needs in his community, nothing will further strengthen his confidence more than persistent contacts with influential people in the community. Leading farmers, wide awake business men, key bankers, other agricultural leaders and the parents of the boys to be taught should be consulted and their friendship cultivated. They can do much to verify the feasibility of the boy's plans and give him increased confidence so necessary to proceed into something different.

In the orientation process, both before and after school starts, freshmen should be thoroughly familiarized with the department and what it proposes to offer. Let it be thoroughly understood that a well-rounded student will participate to the full extent of his facilities in at least three phases of closely correlated work; namely (1) classroom work similar in nature to other school subjects, (2) the supervised farming pro-

\*According to the Tennessee Department of Education, Mr. Jones has exactly 100 boys enrolled in all-day classes and is supervising the instruction of 12 classes enrolled in the program of Institutional-on-Farm Training.

gram, and (3) the Future Farmers of America.

It has been known for a long time that if boys are permitted to do the things which they like to do, it is much easier to get them to adopt practices conceded to be best for them.

#### Motivation Through the F.F.A.

This is where the F.F.A. comes in. A strong Future Farmer organization can do more than any one thing to aid the teacher in developing strong individual farming programs. Boys in general like to excel. If they are thoroughly familiarized with the F.F.A. and understand that to so excel they must meet certain minimum standards they will soon assume the initiative in setting their own standards.

As the general interest in F.F.A. increases the boys themselves will set up in the annual program of work their own standards under the division headed Supervised Farming Program. Careful supervision by the teacher will result in reasonable standards for each degree of membership. Beginning with the Green Hand degree each successive degree should demand more extensive programs. If the F.F.A. is sufficiently active and as a few members progress to the higher degrees and otherwise meet the success in various enterprises, they can and should be encouraged to assume some of the initiative in helping younger boys in developing plans for the kind of program necessary to win them similar acclaim.

The chapter may even go much further in helping its members and through cooperative effort start aiding

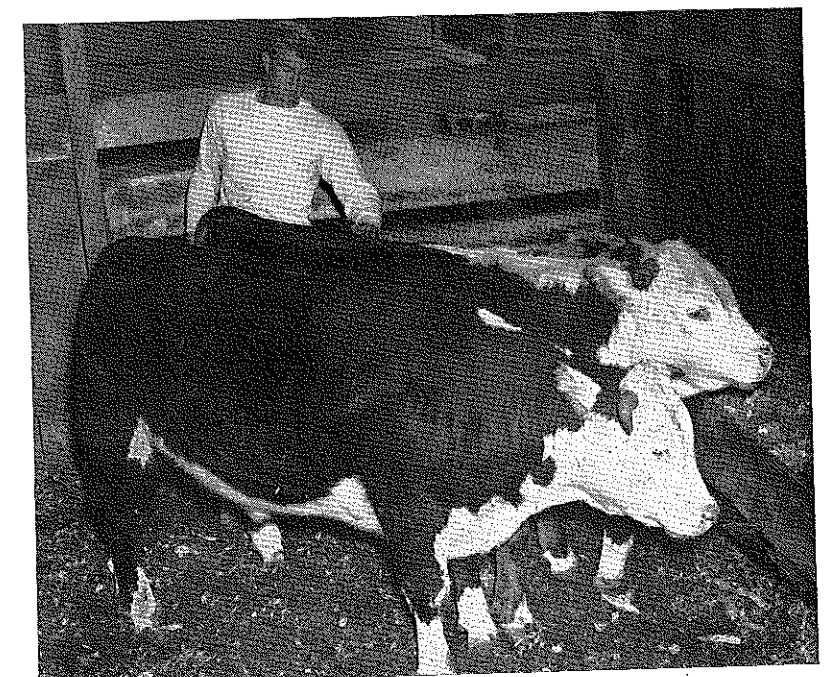
them by establishing breeding stock "chains" as in furnishing a gilt with the understanding that the boy return two gilts from the first or second litters for redistribution to other worthy members. It is also possible to aid members in constructing equipment, securing feed, seed, fertilizer and the like. If the chapter does not have the capital, it may usually be secured as a chapter loan from the local bank, from an individual or on an open account to be repaid as the participating members repay their loans to the chapter. Breeding service may be offered with chapter owned sires placed with dependable and accessible members.

Back in the classroom much time must be spent in teaching freshmen classes in the economic possibilities with new enterprises. A determination of probable profit, labor and income distribution and the extent to which they fit into the soil improvement program must be made. By and large, the planning of farming programs should center around the principles upon which the better farmers farm and provide for (1) cash income, (2) food for the family, (3) feed for the livestock, (4) soil improvement and conservation, and (5) home and farm improvement with sufficient time for civic, social and religious activity. Some of these principles will naturally be applied under improvement projects or farm practice jobs. The student should be induced to set up a program such as a successful farmer would practice except on a smaller scale.

#### Study of Data

Such studies should make extensive use of statistical data, estimates based upon local practice, reference material, success stories of farmers and data from record summaries of advanced students.

In all cases the boy, his parent or guardian and the teacher should be in complete understanding as to the intent (Continued on Page 237).



Five Ledbetter brothers have played a major role in the Henderson F. F. A. chapter for several years. Shown is Jack grooming two of his steers.



# The Long-time farming program

LA VAN SHOFTAW, Teacher Education, University of Arkansas, Fayetteville



La Van Shoftaw

**SUPERVISED** farming was provided for in the original vocational education act, in the assertion that the program in vocational agriculture "shall provide for directed or supervised practice." Without a doubt the expression "supervised or directed practice"

represents a feeling of need for a laboratory type of teaching in which such abilities as are suggested in the classroom can be "tried out" on the farm under the supervision of the agriculture teacher. It probably represents too, a conviction that in order for the work in vocational agriculture to be "vocational," it must of necessity be "acted out," under something approaching natural conditions. Rousseau once said, "Do as much as possible of your teaching by doing, and fall back on words only when doing is out of the question." Upon this foundation, vocational agriculture was built.

## What is a Project?

The term "project," while not original with workers in the field of vocational agriculture, has certainly been as widely used by them as by any other group. Someone has defined a project as "a wholehearted, purposeful activity, carried to completion in its natural setting." The term is used in many instances however when its use would be prohibitive, were this definition adhered to. The term has been used by workers in the field of vocational agriculture themselves as synonymous with "supervised practice" or "supervised farming," which use has the effect of confining the entire program of home farm activities to one or more separate activities rather than a program.

## Meaning of Supervised Farming

We should like to think of supervised farming as "a wholehearted, purposeful program of farm activities, carried to completion in its natural setting." What, then are the requirements of a supervised farming program if we use this as a definition?

In the first place the term "wholehearted" describes an "attitude" toward the activities of the farm and farm home. It suggests pleasure and satisfaction in doing whatever comprises the supervised farming program. It suggests that the participant is sincere in his belief that the effort has merit—that it is not being indulged in for the sake of a scholastic record or because it is a requirement of all students enrolled in vocational agriculture. Accordingly, it is hardly probable that one who does not have sympathy for farm life, for the work of the farm, and for problems which farm people have to face, will be able to develop a super-

vised farming program, in the light of the above definition.

In the second place we included the additional descriptive adjective "purposeful" in our definition. For any activity to be "purposeful" it would of necessity be indulged in with a purpose—an objective or a goal—which must be constantly in the view of the participant. Goals and objectives suggest a planning ahead—a picture, in the beginning, of what it is hoped a program may become. Goals and objectives then, presuppose planning, in the beginning, for continuous operation, over a period of years. Ideally, a supervised farming program in vocational agriculture would include plans for operation over many years. Many supervised farming programs, so called, do not measure up to our definition because they are not, in this sense, "purposeful" activities.

## Farming Program Must Include Physical Participation

In the third place, we have spoken of the supervised farming programs as "farm activities." An activity may be either mental or physical or both. However, in general, a farm activity is in part at least, physical. Thus a supervised farming program does include physical activity on the part of the boy whose program it is. While such an interpretation does not preclude the use of hired labor in connection with the development of the farming program, it does imply the actual participation of the boy in carrying it out. While such personal participation is generally considered a necessary characteristic of supervised farming, unfortunately there are some so-called supervised programs in which the owners do not actually participate. Such a program cannot fulfill the purpose which was in the minds of the founders of vocational agriculture.

For the fourth point in our definition we wish to call attention to the expression "carried to completion." This expression suggests necessity for the personal participation of the boy during the various stages or steps leading toward the completion of the program. In other words it would not be possible for a boy to carry his program to completion unless he was with it during its entire cycle. He could not, for example, work in a drug store or service station after school hours and throughout the summer vacation while his father planted and cultivated his crops or cared for his animals. It is difficult to see how such farm activities would be either purposeful or wholehearted, and certainly the "carrying to completion" would be accomplished by the dad and not by the boy.

Finally, the significance of the phrase "in its natural setting"—the final portion of our definition—should be weighed, in arriving at an evaluation of a supervised farming program. The implication is that the activities are to be carried out on the boy's home farm. Despite all the suggested values to come from school farms, school demonstration

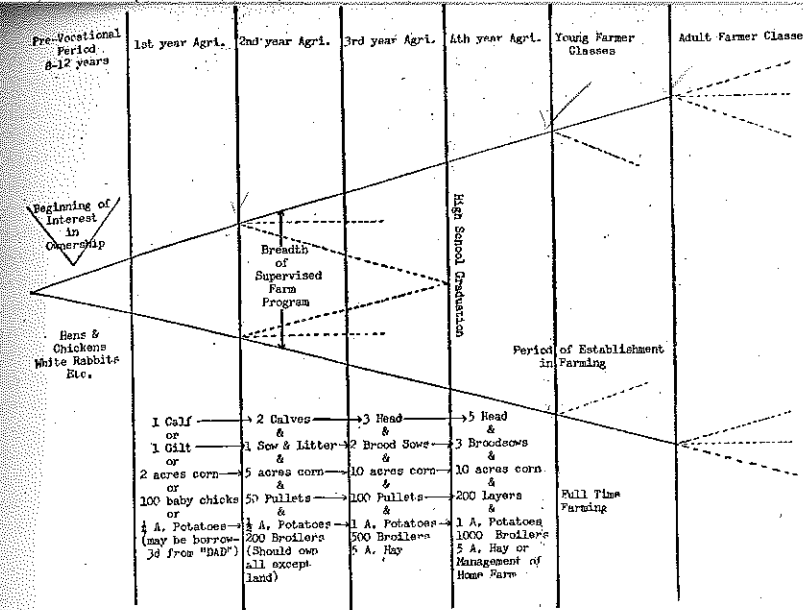
plots, class projects, and other activities, the fact remains that such enterprises could never grow into a mature farm operation through which a farm family might earn a living. They could never form the nucleus around which a boy could build his ultimate farming activities because, obviously such projects could not belong to individuals. It is true that group projects such as chapter-owned brood sows, bulls, seed cleaners, etc., may contribute toward the building of farming programs for the several boys making up the group. Indeed the foundation stock which eventually starts a boy into a farming program that will become his life work may well come from a class or group enterprise. But it is not conducted in its "natural setting" until it becomes the personal property of the boy, and is located on the farm on which he lives. Therefore, while such group projects as feeding out hogs on the school grounds upon the garbage from the lunch room oftentimes proves a profitable venture from the standpoint of the F.F.A. chapter, it cannot constitute, in the true sense of the term, a "supervised farming program."

## Long-Time Program is the Answer

What then does constitute a supervised farming program which will meet our requirements, as set forth in the above definition? While it is true that many types of programs may fulfill the "letter" of the law, the only program which meets the "spirit" of the law as well as the letter, is one that is continuous in nature. Under this type, plans are made early in the high school career, and a beginning made toward the development of a program which is to run throughout high school, through the transition years, and into establishment in farming. If we insist that in order for a course in agriculture to be "vocational," it must function directly in producing a livelihood, then the continuous or longtime program is the one which complies with the requirement.

What then are the characteristics of a long-time supervised farming program? We should like to suggest first that such a program must grow in (1) the number of production enterprises, and (2) in the scope of the enterprises used to make it up. That is to say, that while fifty baby chicks, a gilt, or a dairy heifer would perhaps make a satisfactory enterprise during the first year, for the second year, a hundred chicks, two gilts, or a sow and litter, would be necessary. This represents growth in scope of enterprises. Again, a gilt, plus an acre of feed might be satisfactory for a first year program, while for the second year there should be added a pork production enterprise, a second feed crop, and perhaps another cash crop, such as small grain or cotton. This represents growth in the number of enterprises making up the program. The accompanying chart illustrates these two necessary types of growth.

In the accompanying chart the diagonal lines represent the progress of a supervised farming program. The breadth of the program, as the high school years and those following materialize, is shown



by the spacing between the diagonal lines the desired direction of which is an ever increasing space—at least until maturity or establishment in farming is attained. It will be noted however, that at various points the lines may change their courses, either to become parallel, which position represents a cessation of growth but no loss of breadth, or even a turning inward, suggesting a narrowing of the program.

While it is possible for these changes in direction of the diagonal lines to occur at any point, there are certain positions at which they seem more likely to occur. The first of these is at the close of the first year or ninth grade. This seems to be a critical point in the farming activities of the high school boy. It is realized of course that this is the point at which the boy normally loses the characteristics of childhood and begins to assume those of maturity. As such, it is a critical point in his physical, emotional and social development. Therefore for his welfare, the change should be as gradual as possible. If his farming program can be launched during his first year, to carry throughout high school, it will lessen the shock of this transition. On the other hand, if some elements of continuity are not included from the start, there is a good chance the diagonal lines will become parallel or possibly even turn inward.

The second point at which many programs begin to dwindle away is at graduation from high school. Here again is too often a point to indecision. Even though a boy's farming program may have grown, both in number of enterprises and in breadth through the four years, the shock of finding himself out of school, ready for full time employment is sometimes sufficiently severe to cause him to break away from the planned program, and to seek employment away from the farm. In such cases his animals are "given to dad" or to a younger brother, and his farm assets in general soon approach zero. To steer a boy through the transition period from high school student to established farmer, is a major responsibility of the agriculture teacher.

The third and last point which we wish to mention is one where the stu-

dent may be lost to successful farming at the age of maturity. He may go over this hurdle into establishment and continued growth, into all that could be asked of a successful farmer. On the other hand he may, in "floundering" about from the age of 18 to 21, develop a discouraged or fatalistic attitude toward farming, dropping into the "rut" of a "plodding farmer" (represented by parallel lines). Finally, the phobia of discouragement may drive him entirely away from all interest in farming, so that he seeks different employment, in which case his training in agriculture becomes non-vocational, and he is "untrained" for the occupation he follows.

## Planning a Long-Time Program

If it is agreed that the long-time or continuous program is the one that meets the spirit and the letter of the law, then serious thought should be given to the proper procedure in developing such a program with farm boys. We should like here to suggest some factors which must be considered if such a program is to be formulated. It should be stated first however, that such a program for any boy would have to be started early in his training in vocational agriculture. To be sure, each boy must have a "project" or a semblance of a supervised farming program each year he is enrolled in vocational agriculture. But what we are saying is that his "long-time" program must be started early. Here we are faced with the fact that the ninth grade boy seldom knows what profession he will prepare for, to say nothing of the type of farming he will follow, if any.

## Orientation and Guidance Necessary

If the ninth grade boy does not know what type of farming he is to follow, it is the responsibility of the agriculture teacher to help him come to a decision. This must begin with an orientation of the boy as to possibilities in various farm enterprises, and then guidance into a selection. Some orientation and guidance are possible throughout the school year of classes, but they should begin out on the farm before school opens. One of the most vital and per-

haps most slighted summer activities of an agriculture teacher is that associated with guiding incoming ninth grade boys into the organization of farming programs which it is hoped they are to follow through and beyond high school.

## Parent-Son-Teacher Relationship

Such guidance in the selection of enterprises, by the boy, must be done in an atmosphere of interest and cooperation on the part of his parents. Vocational agriculture is a type of family education, in which the facts and skills taught, and the decisions made, are of necessity shared by the parents. A supervised farming program would of course, be carried out on the home farm, and although long-time plans might envision actual farm ownership by the boy, the early stages of the development of the program would have to be carried out on the home farm, upon land belonging to, or rented by, the boy's father. It is obvious therefore, that the parents must be in sympathy with the whole undertaking if there is to be a program which will carry through.

## Short vs. Long-Cycle Enterprises

Productive enterprises on the farm may be roughly divided into two groups, (1) those in which the cycle (time from launching to marketing) is one year or less, and (2) those in which the cycle is a matter of two or more years. Pork production, broiler production, and most cash crops are examples of the first group, while such enterprises as dairy and beef heifers, registered gilts, fruit production and pasture improvement, represent the long-cycle type of enterprise. A farming program built around long-cycle enterprises offers several advantages, two of which should be mentioned in connection with the present discussion.

In the first place, long-cycle enterprises differ less from the program of an established farmer than do those of short cycle. To be sure, the program of the efficient farmer is made up of both short and long cycle enterprises, but the "backbone" or stabilizing influence of the program is always the long cycle projects. A farmer may buy and feed out steers or hogs, as a short time enterprise, but with such projects he may be in business one year and out the next. His breeding herds and soil improvement projects are less flexible as to time of beginning and marketing, and are thus conducive to unstabilization. A supervised farming program, built then upon long-cycle enterprises has a better chance of carrying over into the establishment of its owner as a mature farmer.

The second advantage held by a program which is built around long-cycle projects is the absence of "stopping places" or "getting out places" at the end of each year. A boy may select a crop of cotton or corn for a project, take the best of care in planting, cultivating, harvesting and marketing it, and then decide, at the end of the year, that such work is harder than "jerking soda" or selling gasoline. If he so concludes, then liquidating his "farm assets" is as simple as shedding his work clothes. On the other hand, if he has instead, a

(Continued on Page 232)



# We moved our classes to the farm

## Story of the Henry G. Brock Vocational Farm

JAMES P. BRESSLER, Williamsport Technical Institute, Williamsport, Pennsylvania

MANY TEACHERS of agriculture and boards of education have pondered over the school farm question in developing departments of agriculture. In many cases school farms have been operated successfully, but all too often these projects have ended as a millstone around the neck of the teacher. The teacher was the only one in the outfit who could not escape the responsibility of the daily routine attention that such an undertaking required. Obviously such a course could lead only to failure.

Then there was the other argument, that why bother with a school farm when the boys have plenty of farming experience in their supervised farming programs. What end could a school farm serve that couldn't be served more advantageously on the student's home farm?

We too, pondered over these problems in Williamsport when we began our long range planning for a department of agriculture in 1945. Our decision to request a school farm was not so difficult to make as might be thought. We decided that in our case we could meet with sound argument the problems commonly posed by the physical aspect of a school farming enterprise. Our conclusion was that the farm would be practical if it were a complete and balanced program, and if financial backing were available to put it on a going basis.

Our board of education was fully aware of the problems involved. We had the perplexing question of how to make blackboard agriculture practical in an industrial vocational school in a city of 45,000 population. Many of our students were going to be boys from town seriously interested in an agricultural career but having little opportunity for project programs.

### Supplement To Home Experiences

The farm was not to deny those students who came from farms the all important opportunity for home projects, but rather to aid in making such projects better than they could be otherwise. We knew that many well-meaning young farmers could be given an opportunity to participate in improved practices in such a manner that they could fully recognize the advantages and insist on applying them on their home farms. Altogether too often it is father, back on the farm, who insists on running the boy's project contrary to the best interests of both boy and the school. We would have controlled experiences unhampered by superstition and carried out for the best educational benefits of the students.

Our plans called for the farm to become a local experiment center for the benefit of farmers and students alike. This was not in any way to become a form of competition with our own state college, but rather a means of bringing their recommendations closer to our school needs. As it turned out, our experiments are conducted by the college and we share in mutual benefits.

In spite of these extensive plans we were little prepared for the size of the opportunity that came along just at that time. Our school board was offered a well-known estate of 750 acres that was soon to become what is now known as the Henry G. Brock Vocational Farm, devoted to the training of high school boys and veterans in agriculture.

The farm was so named in honor of the late Henry G. Brock whose widow made available the huge estate in a philanthropic gesture toward agricultural education. The farms are really three in number and extend for about two miles along highway No. 14 between Muncy and Williamsport, Pennsylvania. About half of the 750 acres are suitable for cultivation, while the remainder is permanent pasture and forest. Being located along the west branch of the Susquahanna River, the soil is mostly of a rich sandy loam, very fertile and easily tilled. For conveniences in planning, the farms have been named Units I, II, and III.

### Sponsored by School District

The organization of the farm school is herewith presented to show the method whereby the theory of teaching is combined with the practical phase of the farm. The entire program is sponsored by the Williamsport school district through its division, the Williamsport Technical Institute, and is supervised by the writer. A most important part of this agricultural program, of course, is the farm.

The management of the farming operations is vested in the veterans instructor, Mr. Russell Brookhart. It is necessary to have full-time managers who assume control of livestock programs when the boys are not in school. For this purpose we have Gordon Hiller, a former F.F.A. president in charge of the

dairy department. He resides on Unit II with his program. Managing the poultry and swine enterprises is Mr. Paul Gatz, who also lives on the farms. These men do much of the routine work that is classified as too repetitional for much educational value. A total of five houses are located on the farms and are available for housing farm personnel, including the supervisor. The vocational agriculture boys and veterans are assigned to regular duties in all phases of farming that are included in a vocational agriculture course.

A brief review of our first year of operation finds us well on the road to bringing back the farms to full production. It should be mentioned that prior to school operation the farming program had been limited, especially during the war years, and some of the farms had been somewhat run down. Our task was to be similar to that which most of our students would have to face when they, too, would take an average farm and build it up to a type of enterprise in keeping with Future Farmer standards.

Instead of a cropping system only, we undertook a well-balanced farming program offering experience in all phases of crop and livestock management common to the region. During the spring we planted 50 acres of hybrid corn and 25 acres of oats. The huge island field was sown to buckwheat as a reclamation project. The previous fall we had sown 30 acres of Thorne wheat.

### Students Build Equipment

The boys in the poultry husbandry course built 8 range shelters and a portable feed house. They also prepared brooder space for 2,400 baby chicks. During the summer we raised more than 1,100 pullets, half of which were New Hampshire and half were Leghorns. An equal number of cockerels of each breed were sold as broilers. The Leghorns were flown from the hatchery at Lewistown to our farms in Technical Institute planes. This was an experiment to determine the advantages of this type of transportation.



Members of the farm staff inspecting a shipment of chicks flown to the farms in an Institute plane. Left to right: Russell Brookhart, Veterans Instructor; Gordon Hiller, Dairy Manager; and Dr. George H. Parkes, Director of the Williamsport Technical Institute.

In the farm shop course the veterans and high school boys built eight portable hog houses and a number of self-feeders for hogs. Foundation stock of both purebred Berkshire and purebred Yorkshire swine was bought. In order to raise a crop of market hogs, forty young pigs were bought and turned on pasture for the summer. These were fattened on our fall corn crop and were sold by the students as part of their training in marketing. All rations used in the course of this project were formulated in the animal husbandry classes.

Recently we purchased a purebred Berkshire boar of outstanding blood lines. In order to locate the type and breeding we wanted it was necessary to travel to many breeding farms. Our decision was to secure a particular boar from an Iowa breeder, and we were finally able to buy the animal at the Eastern National sale at Van Wert, Ohio, to which place we flew by plane for the transaction. We have at present two registered Berkshire sows, two registered Berkshire gilts, and three registered Yorkshire sows, all producing 1948 litters. From these litters we expect to secure the gilts that will be given to each graduate, both veteran and high school, upon completion of the course. This is in recognition of the work contributed toward the operation of the farm and to give them a start in their own farming program.

Many of the high school boys and all of the veterans who could do so conducted garden projects on the farm. This enables many students to have full ownership projects where they would otherwise have to do without.

### Experiments Conducted

Field crop experiments in hybrid corn, to determine optimum rates of planting and fertilization were conducted under the direction of Dr. Huber of the Agronomy Department at Penn State College. Experiments in adaptability of oat varieties were also run. During the summer and fall we harvested 900 bushels of wheat, 400 bushels of oats, 3,500 bushels of corn, and 8,000 lbs. of buckwheat. In addition, about 60 tons of hay, 400 tons of silage and 30 tons of straw were harvested.

The dairy program is also a major enterprise. The boys have almost completed the modernization of the dairy barn to house thirty head of Holstein and Guernsey cows. The original herd given to the school was put on test by the boys studying dairy husbandry with the result that a number of cows were sold because of low production records. Having weeded out the boarders, we began buying good purebred foundation stock. All the planning, designing and concreting for the new dairy barn was done by the vocational boys and veterans as related practical activities. Stanchions, stall, and water bowls were installed. The milkhouse was modernized with the installation of a cooler, water heater and wash tanks.

The inventory of farm machinery is being improved constantly and we now have a complete line which includes five tractors, combine, heavy truck, sawmill, cornpicker and all other machinery in keeping with the size of the farm busi-

ness. We are at present erecting a huge all-steel prefabricated machinery shed 100 feet in length to house this growing list of machinery. Recently we procured several huge army floats to span the arm of the river between Unit II and the island farm in case of high water.

The program for the coming year is to be expanded in every department, including the introduction of the new practical course in conservation of natural resources. Our classes will conduct conservation practices in order to improve the wildlife population, the forest resources and the recreational facilities of the farm. A new soil conservation program is already under way. The chief objective for the department this year is the integration of our farm activities with the home project programs so that the latter will aid more certainly the beginning of the real farm businesses for the boys. The farm will aid them in getting started with good foundation stock and project equipment.

To aid in the planning for operation of this huge educational plant, an advisory committee of some of the better farmers of the area has been set up. These, together with other interested persons and members of the board of education, meet with the supervisor twice a year to advise on plans proposed by the supervisor. The board thus has aided materially in planning a sound farming program.

### Classes Meet at Farm

Classes meet in a special farm classroom in what was formerly a hotel on the property. Separate rooms are provided for veterans and high school boys. Another classroom and a farm shop are maintained at the Technical Institute for the teaching of technical farm shop. Special farm shop skills such as welding, concreting and electricity are taught by specialists in these respective shops at the Institute. Five apartments and other housing has been provided on the farm for veterans.

The classes at Williamsport Technical Institute are conducted under the Williamsport plan, a system which makes our type of program possible. Boys of a particular grade are assigned to two weeks of straight academic train-

ing in the high school. Following this they are assigned to two weeks of uninterrupted shop training. This system works very successfully and eliminates one of the basic inconveniences of the conventional agricultural class in high school. Ordinarily where a boy changes classes every hour he must prepare his mind and his objectives in too many fields in a single day to be fully effective. An excessive amount of time is often required in preparing the mind of the learner and in keeping his attention. Where agriculture is taught for a short period every day, the student's mind is influenced both by the class he has attended previous to the ag period and by the class that is to follow. Under the Williamsport plan of training, we can arrange a much broader and more comprehensive schedule of activities. For two weeks a boy simply lives agriculture without a worry about any of his academic assignments. The attitude towards school and farming has improved considerably among the boys. Special activities periods are provided when the boys from the agricultural academic classes and farm groups can get together for F.F.A. meetings.

### Sound Management Required

Since the question of how a school farm can be made practical has been so widely and frequently discussed, an opinion on this matter in light of our experiences might at least prove interesting. If properly conducted, if well planned, and if financial aid is available to launch the program adequately, although the size of the project need be but a fraction of the one described here, such a venture can be quite successful. It is not a task for a teacher with insufficient farm experience. Such a program is constantly in the public eye, and the teacher does not have the license to make the mistakes that even an experienced farmer can get away with. It is not a job for one who is not willing to work long hours, even for a teacher of agriculture. The problems are many and large, but if one has the vision for accomplishment and the desire to work unselfishly and long for the benefit of those whom he teaches, the farm offers something of a real challenge.



Mr. Brookhart, Veterans teacher instructing a veteran in the proper adjustment of a plow.



# Long-time farming plans of outstanding upper classmen

ERNEST F. BOND, Teacher, Lost Creek, West Virginia

MUCH HAS BEEN said about long-time farming programs, and every year the results of the efforts of a few outstanding farm boys, their parents and their teachers of vocational agriculture are made known to the public, due to the fact that these farm boys are awarded either the State Farmer degree or the American Farmer degree by their own organization, the Future Farmers of America.

I have had the pleasure of working with some of these boys, who have developed outstanding farming programs, and though you may find these programs are not perfect, they do carry the "car marks" of a well balanced program. They show continuation, are conducive to the use of superior practices, show profits, and point toward permanent establishment in farming.

In each of the cases cited below, the boy began his supervised farming program by carrying two or three enterprises, consisting of a livestock enterprise, a feed crop, and a cash crop. The scope of each enterprise was in keeping with the financial status of the boy. Ownership was of prime importance; however, a long-time farming program was not developed, in any of these cases until the second year, inasmuch as this writer holds to the belief that the first year program should be, for the most part, exploratory. It is also his belief that no boy can build a farming program on a single enterprise.

Before going deeper into the farming programs in question, it would be well to describe the community and conditions under which these boys worked. The farms range in size from 85 acres to 200 acres. The contour is rolling with very little level crop land. The farms lie in the heart of the good farming area of central West Virginia and on the eastern slopes of the water shed of the West Fork River. The bluegrass pastures are rolling and well sodded. The chief grain crop in the area is corn, and livestock provides the major source of cash income. Clarksburg is 9 miles to the north and Weston 15 miles to the south—both good agricultural markets.

## Paul Randolph

The first boy, Paul Randolph, operated his own farming program on an 87 acre tract, while his father worked in a wholesale hardware store. He enrolled in vocational agriculture in 1941 and received the State Farmer degree in 1944. His 3rd and 4th year programs follow:

3RD YEAR 1943-1944		
Enterprise	Scope	Labor Income
Corn	1 Acre	\$ 47.00
Potatoes	0.5 "	40.35
Alfalfa	2 "	181.00
Fat hogs	2 "	36.50
Brood sow	1 "	43.00
Beef cow and calf	1 "	49.00
<b>Total</b>		<b>\$402.85</b>
Supplementary jobs	-5	
Improvement jobs	-3	
Conservation jobs	-2	
Farm Mechanics jobs	-4	

4TH YEAR 1944-1945		
Enterprise	Scope	Labor Income
Corn	1 Acre	\$ 72.30
Potatoes	0.5 "	68.50
Alfalfa	2 "	220.00
Clover	9 "	502.00
Laying hens	50	No records
Fat hogs	2	32.00
Beef cow and calf	1	No records
Breeding ewes	6	74.00
Dairy cow	1	No records
<b>Total</b>		<b>\$968.80</b>
Supplementary jobs	-7	
Improvement jobs	-4	
Conservation jobs	-3	
Farm Mechanics jobs	-2	

This program shows both continuation of increased scope but follows out the idea of diversification and continuation. Paul's supplementary farm practice included docking and castrating of lambs, pruning the home orchard, de-horning calves, culling poultry and other like jobs; simultaneously, improvements were made on meadows, pastures, and farm buildings. Game birds were fed, game seed-mixture was planted, and several pieces of farm machinery were repaired, painted and properly stored.

## Harry Helmick

A different home situation will be found in the case of Harry Helmick, our second boy. He and his father operated a 200 acre rented farm which was only in a fair state of fertility. After graduation Harry and his dad planned to work on a partnership basis, but these plans were interrupted by the war. Upon his return from the army, Harry has apparently taken up where he left off and again is working the farm.

Harry first enrolled as a student of vocational agriculture in 1942 and received his State Farmer degree in 1945.

3RD YEAR 1944-1945		
Enterprise	Scope	Labor Income
Corn	3 Acre	\$304.15
Potatoes	1 "	282.32
Oats for hay	5 "	No record
Clover hay	2 "	No record
Truck	1 "	68.00
Fat hogs	5 "	36.00
Brood sow	1 "	75.60
Breeding ewes	4 "	36.95
Mixed hay	3 "	201.00
<b>Total</b>		<b>\$1005.52</b>
Supplementary jobs	-7	
Improvement jobs	-4	
Conservation jobs	-2	
Farm Mechanics jobs	-4	

4TH YEAR 1945-1946		
Enterprise	Scope	Labor Income
Corn	5 Acre	\$200.50
Potatoes	1 "	131.80
Mixed hay	3 "	290.00
Truck	1 "	88.50
Fat hogs	4 "	63.00
Dairy cows	2	No record
Brood sow	2	316.70
Breeding ewes	21	501.15
Dairy heifers	2	146.36
Clover hay	3 "	238.00
<b>Total</b>		<b>\$1976.01</b>
Supplementary jobs	-8	
Improvement jobs	-8	
Conservation jobs	-3	
Farm Mechanics jobs	-3	

This program shows both continuation and diversification as well as an increased scope of enterprises of the profitable type. Then too there is little doubt that a partnership will follow very

similar lines but with a considerable increase in the scope of all enterprises.

## Burl Swisher

My third and final example of an outstanding supervised farming program is that of Burl Swisher. Burl enrolled in 1941, received his State Farmer degree in 1945 and his American Farmer degree in 1946. During his last year in vocational Agriculture he worked in partnership with his dad on part of his enterprise program but at present he is working on a 50-50 partnership basis on the whole farming program. Burl's program has continuously expanded in scope and has shown continuation of enterprises. Supplementary jobs are quite evident as you visit his farm. Improvements include strip cropping, pasture and meadow improvement, the use of good legume hay, improved and registered sires, home improvement, the installation of water and electricity, crop rotation and many others.

3RD YEAR 1943-1944		
Enterprise	Scope	Labor Income
Corn	2 Acre	\$115.50
Potatoes	0.5 "	No record
Truck	0.5 "	46.50
Alfalfa	3 "	84.00
Brood sow	1	29.90
Beef cows	4	114.80
Breeding ewes	30	403.00
<b>Total</b>		<b>\$826.70</b>
Supplementary jobs	-6	
Improvement jobs	-2	
Conservation jobs	-2	
Farm Mechanics jobs	-2	

4TH YEAR 1944-1945		
Enterprise	Scope	Labor Income
Corn	3 Acre	\$129.50
Potatoes	1 "	157.00
Alfalfa	3 "	225.00
Mixed hay	4 "	164.00
Truck	1 "	46.50
Beef cows	5	68.75
Brood sow	1	102.00
Breeding ewes	25	No record
Dairy cows	10	1400.00
<b>Total</b>		<b>\$2292.75</b>
Supplementary jobs	-6	
Improvement jobs	-4	
Conservation jobs	-3	
Farm Mechanics jobs	-3	

5TH YEAR 1945-1946 (Out of School)		
Enterprise	Scope	Labor Income
Corn	3 Acre	
Potatoes	1 "	
Mixed hay	8 "	
Alfalfa	3 "	
Truck	0.5 "	
Dairy cows	10	
Brood sow	1	
Breeding ewes	30	
Beef cows	5	
Beef heifers	4	
Supplementary jobs	-8	
Improvement jobs	-8	
Conservation jobs	-4	
Farm Mechanics jobs	-4	

In all the examples used, it is well to keep in mind that the writer had no intention of showing the ideal supervised farming program, but instead merely has tried to give examples of a few outstanding programs with which he is well acquainted. In every one of the four cases used there has been a different parental set-up; and, in each case the farms are to be classed as livestock farms which show diversified farming. The farms cited, however, are typical of the area and were operated by outstanding boys studying vocational agriculture in Lost Creek High School.

At Wayne, Nebraska, the F.F.A. chapter plans to take a picture of the member with the best supervised farming program. The picture of the boy including one of his projects will be enlarged, framed and hung in the classroom.

# Land utilization in long-time planned farming program

WILLIAM N. FISHER, Conservationist W. K. Kellogg Agricultural School in cooperation with the W. K. Kellogg Foundation, Battle Creek, Michigan

THE requirement for most of our field crops is a rich, fertile soil. Some will tolerate less fertile conditions, but other things being equal, the yield obtained is directly in proportion to the soil fertility. It is relatively easy to plan a crop or livestock program; the variety, breed, feeding, fertilizer, and management practices with a vocational student, a veteran, or an established farmer and to merely state the soil requirements. However, seldom if ever, do we find recommendations to grow crops on depleted soil and furthermore, soil conditions are not readily changed in a year, or during one rotation and often require a generation. If only 2 or 3 inches of top soil are left instead of 6 or 8 it seems most essential to recognize this condition and make farming programs accordingly. We can not start too early and be sure that we are not too late to recognize and conserve depleting soil resources.

In any farm program let us first make a basic inventory of the soil resources. We must determine the soil type and its characteristics, the amount of top soil present, and the slope hazard. Unless we consider these factors we are more likely to meet with discouraging failure than with success in our farm planning. The variety of a crop, kind of livestock, the likes and dislikes of the individual, and other factors that may enter, are all secondary to a good soil survey. The new or experienced teacher may well secure the assistance of specialists or technicians in his area as a means of developing the soil survey.

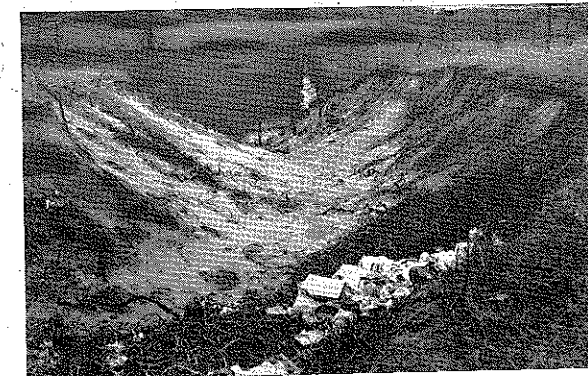
Rotations may be worked out in relation to the soil survey. This may necessitate the rearranging of fields to better utilize the soil capabilities and minimize the slope hazards. It is well to point out that we may consider our soil as a bank. We can not safely measure our worth by considering only the yield in bushels or tons the crops the soil produced, or by the number of dollars we draw from our bank account without considering how much we have left in our bank account or how much fertility is left in our soils. Just as our bank account must be replenished lest we overdraw it, so likewise, we can overdraw on our soil resources—the basic topsoil and the plant foods which must be replenished as they are removed by our cropping program or eroded from our fields.

## Grasses and Legumes Protect Soil

We must be careful that we do not underestimate the value of the grasses and legumes. Since early history the value of legumes was recognized. With the advent of mechanized tilling equipment it has been increasingly possible to have large acreages under cultivation and too often the land was left nude and exposed to erosion hazards. It is recognized that twenty times as much fertility may be eroded from bare fields as is removed by crops. Grasses really clothe the soil and protect it. Harvesting forage with suitable livestock has brought comparable returns with cultivated acreages. Our best soil is not too good for pastures.

In our land utilization program many acres are being reforested. This is a commendable practice not only for the reforestation program but individuals participating can more readily appreciate what has happened to our soil by the management it received in the past. The present woodlot on farms should not be neglected. Here we may have a woods that already has many years of growth but often is greatly in need of management and improvement. Possibly cuttings need to be made to utilize mature timber and to remove undesirable trees. Like a vegetable garden, the woods need weeding and thinning. A sugar bush, new natural growth, infiltration of water into the soil, checking of drying winds into the woods are all more valuable than the little grazing obtained by pasturing the woodlot.

Land utilization in a farming program planned on the long time basis has not been readily adapted to the project type farming program in the past. It has been difficult to measure the results on an annual basis or dollar value. But it does lead to the establishment of a permanent agriculture. Then too, our tenancy system whereby many young farmers become established in farming should be such a relationship that,



This gully was caused by excessive run-off from the water shed which was controlled as the first step in stabilizing the gully. Photo by U. S. Soil Conservation Service



The sides are sloped and sod stripped to permit vegetation to become established. —Photo by U. S. Soil Conservation Service.



After the vegetation becomes established the area becomes a pleasing sight and a haven for game and wild life. —Photo by U. S. Soil Conservation Service.

among the many other things, it does not lead to the exploitation of our soil resources.

## Long-Time Land Policy Needed

In a sense, what we here have called land utilization in long-time planned farming in reality is short-time planning. No nation has ever exploited its soil resources as rapidly as the United States in the absence of a land policy. A continuation of past trends for another mere twenty years may find that the food needs for our population then will be equal to that which our remaining soil can produce. Twenty years is a relatively short time in the history of any nation to consider land utilization for what we hope will be long-time farm programs. We are to be extremely grateful that our task is now recognized by so many and that a beginning has been made. However, plans are of no particular value until they are actually applied to the land.

The Leesburg, Florida, F.F.A. chapter is cooperating with the Junior Chamber of Commerce in establishing a \$200,000 forestry project. The chapter has planted 110 acres this year and plans are made to plant 100 acres of slash pine a year for the next 12 years.



## Farmer Classes

J. N. WEISS

MARK NICHOLS

### Veterans training program produces tangible results

CHARLES E. KIRCHMIER, Teacher, Smithfield, Virginia

The veterans enrolled in On-the-Farm Training in Isle of Wight County, Virginia are making progress in at least two phases of training. These two phases are, cooperative efforts, and the making of "every farm an experiment station."

The progress in cooperation is being made in two directions, tangible and intangible. The tangible progress began when the veterans expressed a desire for their own class organization. A constitution and a set of by-laws were drafted and adopted. A committee on cooperation was appointed. Immediately this committee went to work. Various feed, seed, and fertilizer companies were asked to send representatives to the meetings of the class. After careful consideration the group decided that the veterans would be ahead financially by purchasing through the two established cooperatives in the county. Shortly after this decision was made one of the veterans was elected president of one local cooperative and two of the veterans were elected to the advisory board of the other cooperative.

#### Cooperative Activities

The *esprit de corps* which the group is developing is evidence of the intangible values of the cooperative efforts. As one member of the class said, "We are learning to work together." Another expressed the thought, "All of us try to help each other." The veterans



Institutional On-Farm class of Isle of Wight, Virginia, on a visit to the Tidewater Experiment Station, Holland, Virginia. Professor E. T. Batten, director of this station is on the right.

are from all parts of the county and few knew each other until the class was formed. One member was reared in Florida and another had not had any experience in farming. At a supper meeting for the wives and sweethearts the veterans conducted their own program. The veterans and their wives say, "While we are working together let us also learn to play together."

The veterans feel that to be better farmers they must be better citizens. Thus through their cooperative efforts they are striving to make their home county a better place in which to live.

#### Experimental Activities

Three examples are cited as to progress in making "every farm an experiment station." 1. The Virginia Experiment Station and the Virginia Extension Division conducted tests to determine the effectiveness of manganese sulphate in correcting the effects on peanuts from over-liming. Three of the veterans tried manganese sulphate on their yellowing peanuts. The results were so significant that other class members will try the experiment this year. 2. When the use of sodium fluoride as a vermifuge was studied in class, one veteran volunteered to give it a trial. The results were so good the other members of the group are using sodium fluoride. 3. Since this country is the home of the famous "Smithfield ham" the use of management practices to de-

crease the cost of producing pork will be valuable. Harvey J. Babb, a veteran of Elberon, wanted to know his cost for producing a pound of pork. His "experiment" as reported to the class follows:

Experiment to determine the cost of producing pork on 24 hogs with an average weight of 197 pounds.	
Length of experiment.....	18 days
Time—December 17, 1947 to January 5, 1948.	
Number of hogs.....	24
Average weight.....	197 pounds
Type of feed, ground corn and 40 per cent supplement, 7.5 pounds of ground corn to one pound of 40 per cent supplement.	
Number pounds of corn.....	4,211
Number pounds of supplement.....	560
Cost per pound of feed.....	\$.0432
Total cost of feed.....	\$206.11
Weight of pigs at beginning of experiment.....	4,733 pounds
Weight at end of experiment.....	5,880 pounds
Net gain in weight.....	1,147 pounds
Gain in value.....	\$306.89
Net gain in value.....	\$100.78
Cost of producing one pound of pork on hogs weighing 200 lbs. \$16. This experiment would hold good on hogs weighing from 150-250 pounds, but the unit cost will increase for either heavier or lighter hogs. No labor cost has been included. Total labor would be approximately 6 hours.	

Mention should be made that the veterans like to visit with each other and these visits often are the basis for the development of helpful suggestions. To illustrate, one veteran had a serious erosion problem, and another veteran who was visiting him made a suggestion that will be quite helpful in solving the problem.

### Long time farming program

(Continued from Page 227)

breeding animal which has not yet yielded any marketable product, liquidation is less simple. Then too, the power of attachment to something "owned" may prevent a desire to "desert" the program, and thus result in a continuation into full-time farming.

It would be unfair to terminate this discussion of the long-time program in supervised farming without some further mention of the holding power of such a program. There is none of us so strong willed as never to experience times when we would yield to temptation which might pull us away from our ideals and well planned activities, and boys enrolled in vocational agriculture are no exception. There are periods of discouragement when a boy will wonder why he ever started in the business of farming. When in such a state of mind, a visit to the barn where his registered animal munches contentedly, the hay which its owner has placed there, may be the "tonic" necessary for complete recovery. We should strive to see to it that no student of vocational agriculture, in a mood of discouragement, ever has to ask himself, "what have I to show that I have a farming program?"

## Professional

S. S. SUTHERLAND

B. C. LAWSON

### Vocational services in Pennsylvania collaborate in conducting state conferences

JAMES C. FINK, County Adviser, New Castle, Pennsylvania

IN Pennsylvania the summer conference for teachers of vocational agriculture is held as an integral part of the annual conference of the Pennsylvania Vocational Association—better known as the P.V.A. The P.V.A. conference is now traditionally held in June at the summer resort of Eagles Mere, one of the famous natural beauty spots in Pennsylvania.

Plans for the annual conference are made during the time in December when the convention of the State Education Association is held at Harrisburg. The sectional meetings of the agriculture group are then developed by the teachers in conference with H. C. Fetterolf, state supervisor of agriculture education, and are designed to provide for maximum participation by teachers.

How helpful the summer conference is for teachers of vocational agriculture can perhaps be determined best from an examination of the program as carried out at the last conference held June 18, 19, and 20, 1947.

THURSDAY FORENOON, JUNE 19  
9:45—12:00

Agricultural Education

Place—Auditorium.  
Chairman—Lee Mohny, Instructor, Stoneboro.  
Secretary—Clifton King, Instructor, Dayton.  
Group Singing—Howard Newcomer, County Adviser, Lackawanna, Luzerne area.

Topics:  
Developing and Completing an Effective F.F.A. Chapter Program of Work.  
Charles Hess, Instructor, Mansfield.  
Improving Supervised Farming Programs:  
Through Effective Motivation, Walter Hess, Instructor, Slippery Rock.  
Through Effective Planning of Individual Projects, Ira Shearer, Instructor, Cornwall.  
Through Effective Supervision, Leo Guillaume, Instructor, Troy.

THURSDAY AFTERNOON  
2:00—4:00

General Session

Place—Casino Ballroom.  
Chairman—Paul L. Cressman, State Director of Vocational Education.  
Secretary—Henry S. Brunner, Secretary-Treasurer, Pennsylvania Vocational Association.  
Group Singing—Henry S. Brunner.

Topics:  
Reflections International, Quentin Reynolds, Manager Eastern States Farmers Cooperative.  
Looking Ahead, Francis B. Haas, Superintendent of Public Instruction.

FRIDAY FORENOON  
9:30—11:30

Agriculture Education

Place—Auditorium.  
Chairman—Ray Bright, Instructor, Millheim.  
Secretary—William Elwood, Instructor, Harbor Creek.  
Group Singing—Howard Newcomer, County Adviser, Lackawanna Luzerne Area, Scranton.

Topics:  
Using Charts, Pictures and Graphs in Teaching Vocational Agriculture, Ralph DeTurk, Instructor, Boyertown.  
V. S. Ensminger, Instructor, East Greenville.  
Storing Charts and Pictures for Effective Use, Howard Fox, Instructor, Eastbrook.  
Diagnosing and Controlling New Castle Disease, John Vanderwort, Cooperative GLF Exchange, Ithaca, N.Y.  
Selecting Suitable Shop Projects for Vocational Agriculture, D. C. Sprague, Professor Agriculture Engineering, State College.

FRIDAY AFTERNOON  
2:00—4:15

Agriculture Education

Place—Auditorium.  
Chairman—Ernest Venman, Instructor, Girard.  
Secretary—Adam Condo, Instructor, Bellefonte.  
Group Singing—Howard Newcomer.

Topics:  
Using Preserved Illustrative Materials in Teaching Agriculture, Raymond Lloyd, Instructor, Quakertown.  
Collecting and Preserving Poultry and Other Laboratory Materials, Glenn Bressler, Instructor in Poultry Husbandry, State College.  
Laboratory Exercises for Vocational Agriculture Teaching.  
Poultry—Prepared by Monroe-Carbon Area Teachers and presented by George Ott, Instructor, Bangor.  
Fruit—Prepared by Adams-Franklin Area Teachers and presented by Cecil Snyder, Instructor, Biglerville.  
Farm Crops—Prepared by Somerset-Fayette Area Teachers and presented by William Igoe, Instructor, Berlin.  
Dairy and Animal Husbandry—Prepared and presented by Crawford Area Teachers.

The summer conference of teachers of vocational agriculture for 1948 is to be held, June 16, 17 and 18. The program will again be teacher planned and carried out, and will include representation from instructors responsible for the Institutional On-Farm Training program.

## Our Leadership



John T. Wheeler

Georgia from Massachusetts where he established close and continuing personal and professional relations with the Dean of Agricultural Education workers, Rufus W. Stimpson.

Mr. Wheeler attended Pennsylvania State College and was a member of the famous football squad at that institution in 1912. He holds advanced degrees; M.S. from Wisconsin and Ph.D. from Cornell.

From the beginning Dr. Wheeler began the development of an effective program of apprenticeship practice in the teacher training program in Georgia. This has continued with increasing emphasis through more than two decades. At the present time three months of apprenticeship practice is required by the State Board of Education for certification for all types of teachers and for all types of teacher training institutions in the state.

Dr. Wheeler has contributed widely to the literature in agricultural education through his books, bulletins, and the professional press. He served on the Standard Committee of the A.V.A., and was Chairman of the Southern Regional Group who took the initial steps that culminated in the George-Deen Act.

He served the Board of Regents of the University System of Georgia in inaugurating the Abraham Baldwin Agricultural College, and in developing the Fort Valley College as a teacher training institution for Negroes.

He is now Vice-President of the Southern Regional Conferences of Vocational Agricultural Workers and is assisting with a three-year study of agricultural education in the Negro Land Grant Colleges.



A. M. Field

Few can approach the varied experiences of Dr. A. M. Field, who is head of the department of agricultural education at the University of Minnesota. He was reared on a farm in Wisconsin. Receiving a certificate from the State Teachers College, White-

water, Wisconsin, he taught in rural schools, and state graded schools. Later he served as city superintendent at

(Continued on Page 237)

## Studies and Investigations

E. B. KNIGHT

# A study of cooperative activities of local chapters of Future Farmers of America

JOHN H. LEONARD, Teacher, Van Wert, Ohio



John H. Leonard

FOR SEVERAL years the advisers of Future Farmer chapters have been troubled with the area in the program of work designated as "Cooperative Activities." Through a study of chapter programs of work, it is evident that this is the least developed area.

Perhaps many advisers have not known what cooperative activities to suggest for inclusion in the program of work and have not felt that they had sufficient time to experiment with different activities to determine the better ones.

In our present day society there is a growing need for boys to learn to cooperate. Through the use of desirable cooperative activities in F.F.A. programs of work the ability to cooperate may be taught.

This study was conducted to determine what cooperative activities the selected chapters, selected on the basis of chapter contest ratings in national and Ohio contests and by district supervisors, are participating in and some factors affecting such cooperative activities. Further, to use the opinion of the selected chapter advisers as a criterion to determine those activities of greatest training value in training members in cooperation.

There were 128 chapters selected for the study and 112 or 87.5 per cent returned completed questionnaires. Of 112 chapters, 45 were 1946 National Chapter Contest ranking chapters representing 32 states, 24 were 1946 Ohio Chapter Contest ranking chapters and 43 selected Ohio Chapters.

### Cooperative Influence

It is generally assumed that economic, social and organization influences within a community will have an effect upon the chapter's cooperative activities. Thirty-two per cent of the chapter advisers reported they did not have any special stimulating influences present in their communities and sixty-five per cent of the chapters reported they did not have any special influences retarding F.F.A. cooperative activities. The largest percentage of the retarding influences mentioned were economic, with a few social. It was of interest to find similar influences listed as stimulating and retarding effect upon the chapter's activities.

Eight cooperative areas were included

in the questionnaire, but only seven were used in the study as the information in the one area was so limited it was of questionable value to the study.

The cooperative areas studied were: Buying, selling, productive enterprise, other school organizations, non-school organizations, with other F.F.A. chapters and within the chapter, other than buying and selling.

The total number of cooperative activities listed in all the cooperative areas was 209. The number listed in each area was: Within the chapter other than buying and selling, 46; buying, 32; with other F.F.A. chapters, 31; productive enterprises, 28; selling, 27; other school organizations, 25; and non-school organizations, 20.

In order to show relationships of activities and areas and to arrive at rankings it was necessary to place a numerical value to the rating given to the activities by the chapter advisers. The numerical values placed on each cooperative training rating was as follows. High—3, Medium—2, Low—1. These were used for comparison purposes only.

The ranking of the various cooperative areas was determined by finding the average rating of all activities within an area. The chapter advisers ranking of the cooperative areas is given in Table I.

Table I. Weighted Ranking of the Cooperative Area for All Chapters

Rank of Area	Cooperative Areas	Average Weighted Rating
1	With other F.F.A. chapters.....	2.70
2	Productive enterprises.....	2.67
3	With other school organizations.....	2.64
4	With non-school organizations.....	2.63
5	Within the chapter other than buying and selling.....	2.59
6	Selling.....	2.56
7	Buying.....	2.53

Buying and selling had originally been considered the cooperative activities of highest value. The chapter advisers rank buying and selling the lowest in cooperative training value of all the cooperative areas studied. It was the opinion of several advisers that it is not necessary to organize cooperatives in order to develop the cooperative spirit. It may be inferred that it is more desirable to cooperate with existing agencies. Advisers also prefer activities that promote the common good of the chapter rather than those resulting in a saving of a few cents.

The average number of cooperative activities per chapter for all chapters was 37.5. However, the number of co-

operative activities being conducted does not seem to be related to the chapter's rating in a chapter contest, or does the number of cooperative activities increase in proportion to the increase in a chapter's membership.

When considering all cooperative activities conducted by chapters, those pertaining directly to the F.F.A. chapter carry a higher cooperative training value than those that pertain indirectly to the work of the chapter.

### Activities Within the Areas

The average number of cooperative activities for each area was: With other F.F.A. chapters, 9.18; within the chapter other than buying and selling, 7.66; with non-school organizations, 5.89; with other school organizations, 4.49; Buying, 4.93; selling, 2.76; and productive enterprises, 2.59.

The cooperative activities most commonly mentioned (approximately 93 per cent of all activities mentioned) by the cooperating chapters are shown in the study. The activities are listed according to their rank in the area, with the average weighted rating given for each activity and rank of activity irrespective of area.

Table II. Weighted Ranking of Cooperative Activities Conducted By All Chapters

Cooperative Activity	Av. Wt. Rating	Activity Rank
<b>With Other F.F.A. Chapters</b>		
County parliamentary procedure.....	2.91	2
County public speaking.....	2.90	3
District parliamentary procedure.....	2.88	5
Chapter project visit.....	2.86	9
District public speaking contest.....	2.81	17
State junior fair.....	2.76	26
Officers meetings.....	2.75	29
County livestock judging.....	2.75	30
Chapter program exchange.....	2.72	37
County junior fair.....	2.71	38
District F.F.A. council.....	2.71	39
Conferring degrees.....	2.69	42
County F.F.A. council.....	2.68	44
District livestock judging.....	2.60	54
Parties.....	2.36	84
Pest hunt.....	2.27	88
<b>Productive Enterprises</b>		
Incubator.....	2.87	6
Insurance.....	2.87	7
Soybeans.....	2.85	11
Sheep.....	2.84	12
Dairy.....	2.83	14
Field machinery.....	2.81	16
Credit association.....	2.77	23
Small grains.....	2.73	31
Swine.....	2.64	46
Poultry.....	2.61	52
Corn.....	2.59	60
Beef.....	2.50	74
Potatoes.....	2.41	81
Gardening.....	2.00	93
<b>With Other School Organizations</b>		
Combination banquet with Y.F.A.....	2.90	4
Combination banquet with F.H.A.....	2.86	10
Present assembly program.....	2.76	24
School fair.....	2.72	33
Party with E.H.A.....	2.57	62
High-school mixer.....	2.56	65
Campus landscaping.....	2.51	69
Party with other school organizations.....	2.42	77

Cooperative Activity	Av. Wt. Rating	Activity Rank
<b>With Non-School Organizations</b>		
Conservation service.....	2.78	22
Civic organizations.....	2.72	35
Farmer owner finance.....	2.72	36
Cow test association.....	2.70	41
Crop improvement association.....	2.68	43
Safety council.....	2.62	48
Breed association.....	2.62	50
Fire prevention association.....	2.61	51
Livestock improvement association.....	2.60	53
County extension service.....	2.59	59
Farmers institute.....	2.57	63
Grange.....	2.55	66
Farm Bureau.....	2.41	79

### Within the Chapter Other Than Buying and Selling

Parent and son banquet.....	2.93	1
Crop demonstration.....	2.87	8
Chapter trips.....	2.84	13
Fertilizer demonstration.....	2.80	19
Father and son banquet.....	2.79	20
Crop improvement subsidiary.....	2.78	21
Livestock improvement subsidiary.....	2.75	27
Livestock feeding demonstration.....	2.75	28
Swine judging school.....	2.73	32
Giving food and clothing to needy.....	2.72	34
Chapter dairy improvement.....	2.70	40
Weed killing demonstration.....	2.65	45
Parties and dances.....	2.45	76
Canning for needy.....	2.41	80
Father and son night.....	2.40	83

Buying	Av. Wt. Rating	Activity Rank
Breeding livestock.....	2.81	18
Fertilizer.....	2.64	47
Feeder livestock.....	2.62	49
Dusting materials.....	2.60	55
Garden seeds.....	2.23	58
Seed corn.....	2.58	61
Spray material.....	2.56	64
Minerals.....	2.53	68
Seed potatoes.....	2.50	71
Chicks.....	2.50	73
Feed.....	2.49	75
Small grain for seed.....	2.41	82
Inoculation materials.....	2.35	85
Members' supplies.....	2.27	89
Tools for farm shop.....	2.23	90

Selling	Av. Wt. Rating	Activity Rank
Breeding livestock.....	2.82	15
Pat livestock.....	2.76	25
Minerals.....	2.60	56
Poultry products.....	2.60	57
Feed.....	2.53	67
Certified seeds.....	2.50	70
Seed potatoes.....	2.50	72
Garden plants.....	2.42	78
Hybrid seeds.....	2.35	86
Garden seeds.....	2.00	92

### Recommendations

As a result of the study the following recommendations are made:

1. The study proves conclusively that the cooperative activities in which the superior chapters engage and which the advisers of such chapters give the highest rating, are not the activities which the National Program of Work and the majority of the State Programs of Work give the greatest emphasis. It is recommended that National and the various State advisers give increasing attention to present practice in conducting cooperative activities and the rating given to them by Superior chapter advisers. It is further recommended that National and State Programs of Work be revised accordingly.

2. That the cooperative activities of a chapter's program of work should be on the level of thinking and understanding of the chapter members.

3. That chapters use the cooperative activities of highest cooperative training value in their programs of work.

4. That the needs of chapter members should be the basis for the selection of cooperative buying and selling activities.

5. That ways and means be devised for securing more effective results from present activities.

For a more complete digest write, John Leonard, Van Wert—Marsh Foundation, Van Wert, Ohio.

## What next in evaluation?

H. M. HAMLIN, Teacher Education, University of Illinois, Urbana



H. M. Hamlin

THIS discussion regarding evaluation will be presented under three heads. These are: (1) Where we are now? (2) Why we have failed? and (3) What can we do about it?

### Where Are We Now?

Some confessions are in order. We need evaluation worse than ever. We still have little systematic evaluation that we can defend. We have gone in for quantity, not quality, in agricultural education.

The actual practices in evaluation have been little affected by anything we have done or said during the past seven years during which we have been talking about evaluation at our national meetings. Communities still evaluate their departments and teachers much as they formerly did. Teachers follow their old practices in evaluating their pupils. The national evaluation plan is not being used. My own project in program planning and evaluation, designed to supplement the national project, turned out to be mainly a project in program planning with especial attention to the use of advisory councils and with little attention to evaluation. We still lack the specific tools and the detailed techniques for evaluation useable under practical conditions. Perhaps the F.F.A. has recently made the greatest contribution to evaluation through democratically setting up objectives and evaluating in terms of them. However, the F.F.A. objectives are often not educational objectives and the evaluations are too commonly quantitative evaluations only.

### Why Have We Failed?

We have not teamed together all who have a stake in evaluation, i. e., students, teachers, parents, the administration, the community, and representatives of state and national interests. In a democracy all who are affected by a policy should have a share in making the policy. If evaluation is autocratic, how can education be democratic?

We have failed in teacher education. We have not got into the thought and behavior patterns of teachers a modern conception of evaluation, its importance and its procedures. We train our teachers in colleges, where evaluation procedures are among the worst since evaluation is autocratic; the professor is always right; and evaluation often does not take into account what is important.

There is a lack of incentives for teachers, schools, and communities to change their evaluation practices. Our teachers know that there is little relationship between what they accomplish and the salaries they get. Our schools are getting by because the people of the communities they serve know no other

schools and tend to think that their own schools are good. Farming communities are currently prosperous and complacent, believing their prosperity must be a reward for their great wisdom and virtue. Teacher trainers and supervisors, too, tend to be self-satisfied; they cannot supply the demand for the kinds of teachers and departments we have had.

We have failed to set aside adequate time for evaluation. Adequate evaluation requires much time for research in developing procedures; for providing courses, workshops, and conferences for teachers and others; for introducing new practices in pilot centers; and for developing the special tools and devices for "engineering" evaluation.

We have commonly failed to evaluate the long-time effects of agricultural education. Grades must be turned in; credits must be given; teachers must be hired or fired. One of the worst illustrations is in the evaluation of practice teaching. Our students at the University of Illinois, for instance, spend only six weeks in practice teaching. The grades we give them at the end of this period are superficial guesses. We do not know whether the student teachers have permanently benefited or permanently damaged their pupils. Yet at least 98 per cent of those who take practice teaching are sent into teaching with assurance in the form of grades and credits that they did satisfactory work in practice teaching.

Evaluation is too complex to deal with in the over-simplified ways we have used. It is complex because large numbers of possibly conflicting interests are involved (those of the groups I have mentioned who are concerned with evaluation), because time is required to discover the real outcomes, and because a variety of influences other than those of an agricultural department play upon each student.

### What Can We Do About It?

Have I made the task of evaluation seem to be an impossible one? If so, it is well to remind ourselves that it goes on all the time and always has gone on. We may not attain perfection in it, but we can possibly improve it. Here are some specific things we can do.

1. We can realize its importance. Agriculture education will usually be no better than the evaluations applied to it. We cannot improve agricultural education without improving evaluation (the evaluation that really counts, not merely the teacher's rating of a pupil or a supervisor's rating of a department).
2. We can start with ourselves in improving evaluation. Teacher trainers and supervisors can set examples for teachers. Teachers can set examples for their pupils and their communities.
3. We can improve evaluation in teacher education. Just now we at the University of Illinois are overhauling every agricultural education course with provisions for evaluation a major consideration.

\*Presented at Research Committee meeting, AVA Convention, Dec., 1947.

(Continued on Page 237)



# Farm Mechanics

R. W. CLINE

## Meeting the storage problem in the vocational agriculture shop

V. J. MORFORD, Department of Agriculture Engineering, Iowa State College, Ames



V. J. Morford

IN THE planning of a new building for teaching vocational agriculture or in the improvement of existing facilities, providing adequate storage for the farm mechanics area is one of the most difficult problems.

A central storage room has many advantages. It provides horizontal storage for lumber which, with the exception of a few kiln dried types, does not lend itself to vertical storage. If planned correctly the shop storage room gives space for common hardware items as well as for a limited amount of steel, plywood, roofing, machinery parts and similar supplies. It also provides a place for the roll-away tool racks and cabinets that add so much to the convenience of a well organized shop.

Vertical racks may be quite satisfactory for the storage of steel and pipe providing their slope is about 15 to 20 degrees from perpendicular. Bar and round steel under 3/8 of an inch in thickness or diameter must be kept in securely tied bundles to be stored in this way. Racks of this kind often shut out much needed light. Their usefulness is also limited by the height of the ceiling, twelve feet usually being the maximum length which can be accommodated. Overhead or ceiling racks for lumber and steel are unsightly, hard to fill and to remove supplies and may contribute to the number of shop accidents.

### Unused Space Under Benches

Realizing the seriousness of the storage problem a survey was made of the shop space to determine what areas of existing shops might be altered to increase the satisfactory storage space. The area under the bench seemed to be the least used and often the most unsightly. Benches built with four or more legs with horizontal braces interfere with proper cleanliness and orderliness in the shop. So to use adequately the space under the bench required a change in the design of the bench.

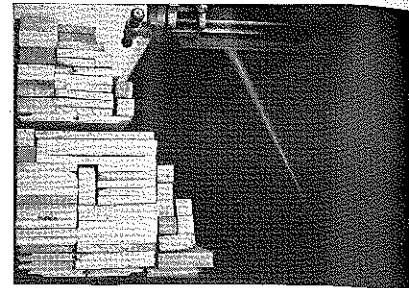
Since most benches in the vocational agriculture shop should be two feet or less in width and arranged around the outside of the room, it was found that these benches could best be supported on the wall of the building.

The accompanying plan gives the details of the construction of the bench

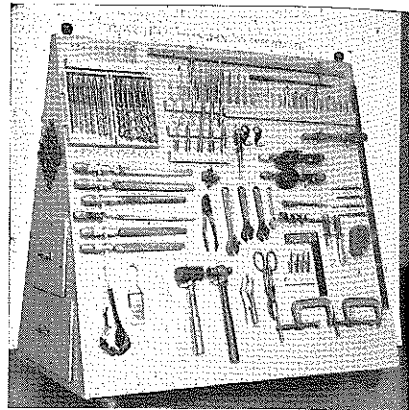
frame and the roll-away supply rack. The frame of the bench and the roll-away rack are entirely of welded construction. It is very evident that minor changes in design may be made to meet the needs of the shop. It should be noted that each frame member of the bench is attached to the wall at only one point. It should be securely anchored with a 1/2" or 5/8" bolt. An end is welded in the end of the angle or channel iron that supports the top. This is then bolted securely to the wall. The greater part of the weight on the bench is transferred to the floor through the diagonal brace. A short length of angle iron spreads this weight where it meets the corner formed by the floor and wall.

The roll-away rack is made so that it fits snugly under the bench. Since the horizontal frame is welded on top of the 3" channel iron base there is ample toe room for the worker at the bench with the rack in place under the bench. The rack may be enclosed for the storage of miscellaneous shop materials. It may be locked to the bench if there is reason to safeguard further its contents.

The top of the carpentry bench was made from pieces of hard maple 2" x 2 1/2" held together with several 7/16" draw bolts counter sunk on either side and then plugged over the nuts. The completed working top was two and one-half inches thick and fourteen inches wide. Another quite satisfactory top was made from a piece of oak



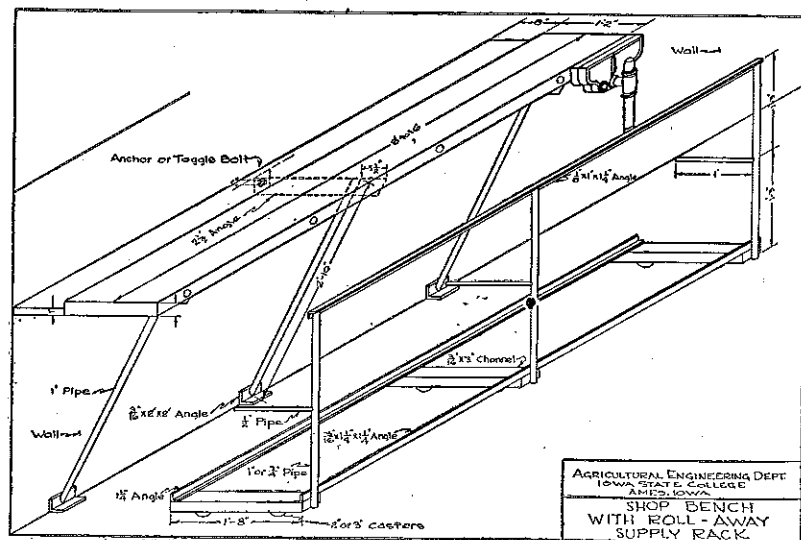
This ten foot roll-away rack will hold about 250 board feet of lumber.



Castor tool racks are pulled into shop during work periods. This rack serves the carpentry area. It is 28 inches wide; the sides are of 3/4" x 4' x 4' plywood. The rack is mounted on 3 inch casters. Note tool checks on end of roll-away.

built up of glued pieces until it was two inches thick and fourteen inches wide. The back part of the top was made from a one by eight. The over all width of the top was twenty-two inches. The tops of the metal working benches were built up to 22 or 24 inches with closely fit two inch pieces. The top was then covered with sheet metal at least 1/8 inch thick.

The triangular type of bench support contributes a great deal to the ease with which the shop may be cleaned. The roll-away rack may be quickly pulled out into the shop for cleaning along the wall.



Charles Shirley, an instructor and graduate student in the Agricultural Engineering Department, collaborated in the design and construction of the shop bench and roll-away rack. Mr. Shirley, who completed his M. S. Degree at West Virginia University, was an instructor of vocational agriculture in that state before entering the Service.

## Concepts and emerging practices

(Continued from Page 223)

- Conferences of students, parents, and teacher are held before or at the beginning of the school year to explain the purpose of supervised farming and the relation of these programs to the improvement and management of the home farm and to the development of the boy.
- Students are guided to make surveys of enterprises and secure other information on their home farms for use in selecting programs of supervised farming.
- Early in the school year, class instruction is provided which leads to the selection of programs of supervised farming by each student.
- Agreements between parents, student, and teacher are developed for each program of supervised farming, in many cases in writing and signed by all parties concerned.
- Students are guided to set challenging goals for themselves in developing their programs and to use appropriate measures of efficiency for measuring progress toward these goals.
- During the first year, students are guided to select long-time programs of supervised farming.
- Throughout each year, class instruction is organized to aid students to develop abilities for approved practices and make plans for applying them to their programs of supervised farming.
- Students are guided to adopt some approved practices in addition to those already used on the home farm.
- Visits by the teacher are made to home farms throughout the year, with most of these visits planned to provide instruction to the students in carrying out and evaluating their programs of supervised farming.
- At least some of the home-farm visits are scheduled in advance with the students, with a growing tendency toward this practice for all or most visits.
- Instruction is provided on the values of records and on methods of keeping and summarizing them and using the results.

While the above practices may seem elementary to some persons, they provide a challenge to each teacher who seeks to improve the programs of supervised farming of the students in his department. Actually, few teachers are doing all of them well, and most teachers are probably doing only a few of them. As time goes on, we should extend and refine this list of "approved practices" for the selection and development of programs of supervised farming.—George P. Deyoe, Univ. of Illinois.

The fair board of Adams county Nebraska, has appropriated \$1,000 for purchasing purebred gilts which are loaned to F.F.A. members.

The F.F.A. chapter at Santa Rosa California, has contributed \$115 to the building fund for a local hospital.

## Our leadership

(Continued from Page 233)

Cambridge, Wisconsin, and as demonstration teacher of the University High School at the University of Wisconsin. Because of a deep desire to continue his work in rural education he entered the Wisconsin College of Agriculture, receiving his Bachelor of Science degree in 1912. After serving as an instructor in high-school agriculture at Northfield, Minnesota from 1912 to 1916, he returned to the University of Wisconsin where he was awarded the Masters Degree in 1918. At this time he was appointed to the staff in agricultural education at the University of Minnesota. In 1935 he was made head of the department.

He received his doctorate from Cornell University in 1926.

Dr. Field is known for his many contributions to educational journals. He was editor of the Methods section of the *Agricultural Education Magazine* from 1930 to 1943. Since 1926 he has been editor of the *Visitor*, and he is also author and editor of numerous current texts and references used in agriculture.

He is credited with being the originator of the integrated course of study idea for students in high school agriculture and has been untiring in his zeal for the broadened scope of the supervised farming program with students of vocational agriculture.

He is listed in *Who's Who in America*, and in other lists of leaders in various branches of education.

## What next in evaluation

(Continued from Page 235)

- We propose to evaluate our product, like an industrial concern, at every stage of its development, using adequate and modern methods.
- We can get communities interested in better evaluation and help them to improve the process. Advisory councils have been found useful in interesting communities in having better programs, in insisting on better evaluation, in securing rewards for those teachers who produce; i. e., in providing some of the motivation for better evaluation which we now lack. We can make available to communities evaluation procedures they will want to use and the services of evaluation specialists they will welcome. We must recognize that evaluation is largely a community function and that teachers must adjust to whatever standards communities use in evaluation.
- We can provide genuinely democratic evaluation. Under a line-and-staff organization of agricultural education, pleasing the boss becomes the principal consideration of teachers and pupils, superseding most other considerations in evaluation. All sharing in agriculture education should share in determining its purposes and its outcomes.
- We can provide needed time for research, teaching, and demonstrations to establish better evaluation. This means time for all concerned: laymen, pupils, teachers, administrators, supervisors, teacher trainers.
- We can develop more adequate

## Balanced farming programs

(Continued on Page 225)

of the program and the plans to be executed.

As a further boon to developing balanced programs by introducing new enterprises all boys should be informed well in advance of livestock and product shows and encouraged to plan to participate in such. The teacher may well commit himself to stand by in such events to the extent that he crawls in the straw with the boys at such shows, and "roughs it" with them. He may come out the following morning looking like a real hay seed, but he will be duly compensated in his own satisfaction in the fact that such events are invaluable promotional and educational events. If they are successful, they will return to the local community with a good story to inspire not only themselves to more fervent activity but other boys as well. If they lose, they will with proper guidance accept the challenge to do better next time.

Much material aid may be expected from the host of friends which the teacher and the boys should, as previously stated, have already cultivated. As the program proceeds it should reflect itself as a definite feature in the overall improvement program in the community. Special effort should be made to instigate a program which will demand public attention. The public must be kept informed. Regular well-prepared news articles in which general, as well as individual, summaries are presented are effective in attracting public attention and at the same time encourages the students. If such publicity is given and responsible people realize that the once so-called "project" is no longer just a routine minimum requirement for a passing agriculture grade, but that it actually means "business" in trying to make long lasting improvements and establish boys as successful farmers such people will soon be coming to the teacher volunteering physical and financial aid.

Building strong, balanced programs justifies much thought, effort, and time, for only by developing such programs can farm boys in vocational agriculture "grow" into successful farming which is the number one objective of vocational agriculture.

- objectives in terms of which to evaluate. The present lists of objectives, such as the national list, provide only suggestive objectives. The real objectives of agricultural education are those specific objectives which are accepted by individuals, groups, and communities.
- We shall never have a better chance to start work on evaluation than we have now in the situation which has developed because of the program for farm veterans. We need to evaluate the current veterans' program in order to determine how much of it we wish to retain as a permanent program for adult farmers, particularly for our younger adult farmers.

Thirty-eight of the F.F.A. chapters in Michigan have 50 or more active members.



# Fight fires — save forests

VINCENT P. GAFFNEY, Teacher, Newtown, Connecticut

WHEN GRASS or brush fires have threatened Newtown homes or wood lots, the calls for help have been met by the fire suppression crew of the Newtown chapter of the Future Farmers of America. It is, as far as is known, the first such unit established in the state of Connecticut and has been used as a model for other fire suppression units.

Its organization was due largely to the initiative of Robert Wilkes, at that time a student of vocational agriculture at the Hawley school. In his 4-H activities Robert became an ardent supporter of forestry prevention, and interested the Newtown F.F.A. chapter in the organization of a fire suppression crew. With the assistance of the Forest Rangers and Patrolmen, the first crew was trained early in the spring of 1941 and saw action that same season.

The local fire suppression crew is composed of ten boys, and Vincent P. Gaffney, who acts in the dual role of fire warden and adviser to the F.F.A. chapter. Each crew member has his specific duties. Fires are frequently first reported to the telephonic operator, who reports them to the warden. He in turn, calls the crew, who make a quick change to old clothes, always held in readiness for these emergencies, and old shoes to tread the hot embers. While the motivating ideal is forest preservation, like most worthwhile jobs, outside fire suppression is only one-tenth inspiration, and fully nine-tenths hard, dirty, and tiring work, often requiring long hours and always plenty of patience and attention to what seem like minor details. Clothing gets hard service.

Besides control of damage to growing crops and trees, there are homes, barns, poultry houses, livestock that could be menaced except for the prompt action of the fire fighters. Each year there are enough experienced men left from the previous crew to get things rolling and a new crew organized.

The breakdown of the ten positions and duties on the crew follows:

(1) Captain: Circulates among the crew members and makes certain that

each one is doing his assigned duties (2) First pump man: deadens the flame (3) Second pump man: follows and assists first (4 and 5) Watercarriers: supply water to the pumpmen (6) Broom men: sweep fire and partially burned material into the burned area (7) Fire rake man: scrapes a line along the edge of the fire (8) Shovel man: scatters dirt on burning embers (9) Pinch hitter: fills in any position wherever the captain decides extra help is needed (10) Patrolman: watches for fire breaking out fresh, calls for help if he cannot handle the outbreaks alone. The warden summons the crew, provides transportation and exercises general oversight of the operation.

The boys become fire conscious after working out at a few fires. They learn to fight fire by fighting it. The necessity for safety with fire is impressed with a certainty and much more permanently than by any amount of classroom instruction. In addition, it is a service to the community and helps conserve our natural resource—the forest.

## Seventy-Five Calls

Since its organization in 1941 the F.F.A. crew has responded to about seventy-five calls, and has handled more than half of the fires without assistance. A most stubborn fire occurred last fall. Even though the fire got to burning underground and continued to break out for seven days, constant watching and prompt action by the crew confined the damage to three acres of land.

Probably the local forest fire doing the most damage was the one which occurred in March, 1946. It destroyed a store and a large quantity of hard-to-get material ready to be used in constructing a new house. Usually there are ten to twelve fires a year, the greatest danger period being late March and early April.

The State of Connecticut furnishes the Indian pump and other equipment used by the crew. In serious emergencies, the state pumper is called in. At the present time, trained crew members are paid sixty cents an hour and untrained helpers fifty cents.



The F. F. A. chapter at Newtown, Connecticut, is pioneering in fire suppression activities in the state.

# BOOK REVIEWS

**POPULAR MECHANICS FARM MANUAL**—an Encyclopedia of Illustrated Handy Kinks For Farm and Home, 284 pp., illustrated. Prepared by the Editors of Popular Mechanics, published by Popular Mechanics, 200 East Ontario, St., Chicago 11, Illinois, list price \$3.00. The book consists of a collection of illustrated articles written in a "how-to-do-it" style, and is divided into six chapters as follows:

- (1) Farm Machinery and Implements;
- (2) Farm Workshop, Equipment and Repairs;
- (3) Poultry and Livestock;
- (4) Vegetable Storage and Processing;
- (5) The Farm Home, Improvement and Maintenance;
- (6) Farm Hints and Kinks. Explicit directions, pictures and diagrams accompany the helpful money-making and labor saving articles included in the text. The book should prove helpful to teachers of vocational agriculture, teacher trainers in the field of agricultural education, and to farm operators. Practical Arts instructors will find this volume of value in their teaching work with both rural and urban youth. A. P. D.

\* \* \* \*

**THE RESPONSE OF CROPS AND SOILS TO FERTILIZERS AND MANURES**, by W. B. Andrews, pp. 459, illustrated, published by W. B. Andrews, State College, Mississippi, 1947, list price \$4.50.

The author has organized a review of much of the literature on the response of crops and soils to fertilizers and manures, and presents his findings in a logical and teachable manner. Much of the material included is new. The discussion represents the author's interpretation of the data, and carries the significance of complex chemical equations without their inclusion. The book is written on a level that will enable the average reader to understand the principles and recommendations set forth, and at the same time it carries a wealth of information of special interest to those who are technically trained. The sources of the data presented have been cited at the end of each chapter. This text should be of value to teachers of vocational agriculture, county agents, and others interested in the response of crops and soils to fertilizers and manures.—A.P.D.

Beginning with this issue the subscription rate of the Agricultural Education Magazine will be \$1.50 for renewals and new subscriptions. The charge has been authorized by the Editing-Managing Board in order to meet increased printing costs. W. H. Martin, Business Manager.

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