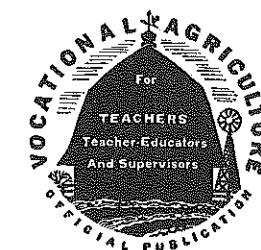


THE substantial prosperity of a country is always in the ratio of its agricultural industry and wealth—Jesse Buel.



The Agricultural Education Magazine

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Editorial Comment

Constructive "Busy-Work"

FEW teachers are blessed with classes which proceed at a uniform speed even though the lesson is brief or the job at hand relatively simple. Certain students work in high gear, others in second, and some in low. In fact, in many classes, a boy or two seem to travel in reverse as far as assignment completion is concerned. Such being the case, the teacher of vocational agriculture is frequently faced with the problem of keeping the higher-gear students profitably occupied until the slower moving ones finish the task undertaken.



E. B. Knight

Experienced agriculture instructors know full well that idle moments are bound to occur whenever lessons planned to suit the gait of the average student are finished by the faster workers. These instructors not only recognize the inherent dangers of idle pupils but get ready for the inevitable by preparing to cope with the situation. They realize the absurdity of expecting active boys to just sit and do nothing until the period ends or the rest of the group catches up. Accordingly, they provide some means of keeping these rapid individuals occupied by depending upon what, for want of a better name, is usually termed "busy-work."

Justifiable criticism has been made of pointless "busy work" which consumes time but does not benefit either the worker or anybody else. However, skillful teachers of vocational agriculture need not concern themselves with this criticism for it is easily possible to utilize constructive types of activity which will serve admirably to keep early-finishing students profitably occupied. A number of the devices that have been effectively employed in high-school agriculture classes are outlined below.

Agricultural Arithmetic—Working problems typical of the farm: such as taxes, interest, marketing, construction, crib, silo, and bin capacity, feed requirements, land measure, and crop yields.

Class reports—Summarizing articles from magazines and bulletins, text books, and newspapers that will supplement class assignments.

Flexible assignments—Providing extra questions or tasks which are adequately recognized upon satisfactory completion.

Checking library—Arranging books and bulletins in proper order.

Publicity—Preparing brief news articles pertaining to the activities of the department.

F.F.A. programs—Working up materials for use in various F.F.A. activities.

Scrap books—Securing items and keeping scrap books covering F.F.A. affairs, personal projects, etc.

Research—Compiling statistical and other data obtained from surveys and reports.

Repairs—Fixing apparatus, tools, furniture, equipment, and implements.

Skills—Practicing skills in which the student is interested or needs greater proficiency.

Charts and maps—Preparing illustrative materials for use in the departmental educational program.

Demonstrations—Emphasizing improved practices, particular skills, and procedures.

Occupational information—Investigating the possibilities and requirements of alternative occupations and contrasting them with the individual's own qualifications.

Spell downs—Spelling agricultural words, defining terms, and identifying breeds (for entire classes which finish early).

All of the foregoing "busy-work" activities have been used repeatedly by competent teachers. Variations of each device will occur to certain readers, many of whom no doubt have found other forms of equal value. In any event, the true test of any kind of "busy-work" lies in its effect upon the performing student, i.e., has the task undertaken given him additional training?

An Appeal for Research Articles from the Teacher Front

FIVE years ago the writer directed a communication to state supervisors and agriculture teacher-trainers making inquiry concerning the extent and the nature of research carried on by the classroom teachers within their states. The names and addresses of teachers and the subjects of investigations with which they were identified were requested.

The principal purpose in making the request was to locate and secure desirable copy material for the "Studies and Investigations" section of *The Agricultural Education Magazine*. The results were very gratifying.

Many of us were surprised to learn thru the 1938 inquiry that agriculture teachers were actually devoting an appreciable portion of their time and energy to what might well be termed sound, respectable, scientifically conducted researches. Today there are definite indications of an even greater interest in research activities out on the teacher front. In order to keep a flow of practical research reports coming to the magazine from teachers of agriculture, as well as from the special research workers, a new and up-to-date list of teacher-conducted investigations is needed. *Specifically this is an appeal for research article contributions* and particularly for articles originating with class-room teachers. Even tho, for the sake of time and economy, we are using the columns of the magazine to carry the appeal to you instead of the usual personal letter, the need is just as urgent as ever.

If every supervisor or teacher-trainer would encourage just one teacher within his state to prepare and submit a good feature research article for the magazine, we would have enough copy to keep the investigations section going for at least two years, and probably then some. Who knows but that long before then we may be conducting our investigations in the "conquered countries." Let's have your research article now, while it is still new and timely.

Why not make it a "must" on your list for this year to produce at least one good teacher-conducted article from your state? Incidentally, keep up the work of sending in just as many or more reports of special research studies from your state or region. Contributions may be submitted directly to the editor, Dr. O. C. Aderhold, Athens, Georgia, or you may follow the more customary practice of sending them first to the research editor.—C. S. A.

Shall We Continue to Have Watch Dogs?

IF YOU were a member of the Future Farmers of America, how would you like to be elected as Farm Watch Dog? In many chapters if you were particularly large or small of stature compared to your fellow members your chances for being elected to the office would be very good. The election of a Farm Watch Dog is the big joke or fun period in electing F.F.A. officers. That is true because of the very title of the office. No one cares to be called a dog even tho a dog may be one of man's best friends. What do parents think when the boy reports the election results and says that he has been selected as the Farm Watch Dog?

There is no question concerning the advisability of having a boy to perform the duties that are associated with the Watch Dog office. Most organizations have an officer that attends the door, introduces guests, and assists in maintaining correct order. In many cases it is necessary for the adviser to appeal to those duties and somewhat apologize for the name of the office in order to get boys to take their obligation seriously in electing a worthy boy to the position. Why do chapters maintain such a name? There is no reason why it cannot be changed; the constitution of the National Association does not mention the office of Watch Dog. If the local constitution or by-laws provides for such an office it would be good practice for the boys to have the experience of making a change in it. Surely a change in office title could be desirable. R. E. B.

Professional

S. S. SUTHERLAND

Mobilizing Vocational Agriculture

S. C. HULSLANDER

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THE nation's total war program has created many new and complex problems. To win this war, all individual and group efforts must be directed toward solving these problems.

War creates unusual demands for the basic necessities—food and clothing. American farmers must produce to meet the increased demands for these necessities. They must meet these demands now, with less labor and equipment than formerly. In addition, they must conserve farm resources for continued future demands. They must endeavor in every way possible to distribute their products to consumers directly and efficiently. They must do everything possible to develop a high degree of morale on the part of those who remain on the farm during the period of the war and to insure the security of this group. They must accept their proportionate share of general wartime responsibilities.

Those responsible for the program of vocational education in agriculture are in a strategic position to help farmers and farm boys. This program is specifically organized for the purpose of training in agriculture persons who have entered upon or who are preparing to enter upon the work of the farm. Present and prospective farmers must be helped now to accomplish the tasks that confront them.

Program Should Be Flexible

If instruction in vocational agriculture is to function fully and effectively, it must be so organized as to be flexible enough to meet, quickly and adequately, new and changing problems and conditions.

Such instruction must give cognizance and emphasis to the present wartime farm problems and at the same time include those basic principles of vocational agriculture which build for long-time farming programs.

Much of the program which has been in operation for the past 26 years is applicable to today's wartime needs. Those activities which have constituted instruction in vocational agriculture in the past need not be scrapped for new and different activities. Rather, the present situation calls for an adaptation or re-emphasis of many of those activities. It should be recognized that there may be desirable practices and activities which have been included in the program of



S. C. Hulslander

until tomorrow, in favor of the more expedient ones of today. The "learning-by-doing" type of instruction, which is the basis of vocational agriculture, attains greater importance than ever before, in view of today's wartime farm problems. This instruction, quick and effective for enrollees, makes an immediate and direct contribution to farm war work because enrollees produce and participate in farm war work while they learn.

Objectives of Vocational Agriculture

The question which naturally arises in the minds of many teachers is, "What changes, and to what degree shall I make changes in my program?" It is recognized that each local school program will have its own problems and will have to devise its own means for solving these problems. As a guide for making adaptations, changes, re-emphasis, or integration in the program it is desirable to recall to mind the major objectives of vocational agriculture as developed in monograph No. 21, U. S. Office of Education. They are: (1) to make a beginning and advance in farming, (2) to produce farm commodities efficiently, (3) to market farm products advantageously, (4) to conserve soils and other natural resources, (5) to manage a farm business, and (6) to maintain a favorable environment. These objectives must be interpreted in terms of major war needs. The war needs to be emphasized in the vocational agriculture program at the present time are: (1) increased production of farm products, (2) efficient farm operation, (3) efficient distribution and utilization of farm products, (4) conservation of soil and other natural resources and working materials, and (5) maintenance of morale and security of those engaged in farming.

Instructional Activities

One of the major problems of the teacher in planning a wartime program of vocational agriculture is to determine what instructional activities can be appropriately carried out in relation to each of these war needs. To aid the teacher in planning for such a program, the United States Office of Education has prepared a release entitled *Adapting Vocational Agriculture to Wartime Needs*. In this publication, each objective of vocational agriculture has been analyzed in terms of the relationship to each of the war needs. The contributory objectives necessary for the successful attainment of each major vocational agriculture objective in meeting each of the major war needs have been determined. For example, the objective "to make a begin-

definite relationship to "increased production of farm products." To attain this objective it is necessary to: (1) increase the size of the farm business, (2) formulate and attain specific advance goals at definite periods of time.

The next step is to determine the available organized facilities with which to carry out these objectives and to plan for the content of each instructional activity.

Organized facilities will ordinarily include:

- I. Day-school groups.
 - A. All-day instruction—classroom, laboratory and field trips.
 - B. Future Farmers or New Farmers of America.
 - C. Farm mechanics.
 - D. Supervised farming.
- II. Part-time or Evening-school group.
 - A. Regular instruction—classroom, laboratory and field trips.
 - B. Individual farming programs.
- III. Rural war-production training for rural and non-rural out-of-school youth.

War Needs Should Determine Program

The instructional content for each group should be determined by keeping in mind: (1) the war needs to be met, (2) contributory vocational agriculture objectives to be followed, and (3) appropriate instructional activities, procedures, etc., for each group in terms of the objective and the war needs. For example, when developing the objective "to manage a farm business" into instructional activities to meet the war need, "efficient farm operation," the following contributory objectives apply: (1) how to determine the kind and combination of enterprises for efficient farming, (2) how to equip a farm adequately and economically, (3) how to rent certain farm equipment, (4) how to get maximum efficiency from machinery, equipment, and livestock, (5) how to manage farm labor effectively, and (6) how to adjust farm organization plans as needed.

In the day-school group, emphasis in farm management might be directed to such problems as: (1) the kind and combination of farm enterprises best suited for the community, (2) the economical providing of adequate equipment and machinery for the average farm in the community, (3) ways of meeting the farm labor problem, (4) co-operative effort as a means of maintaining farm production in wartime.

Suggested activities for the F.F.A. or N.F.A. are: (1) supplying emergency farm labor thru group action, (2) co-operating with the Victory Farm Volunteer Program.

In farm shops emphasis should be given to the proper care and maintenance of farm machinery and equipment.

Appropriate instruction in part-time or evening classes would include: (1) desirable kind and combination of enterprises for the community, (2) co-operative purchasing and use of farm equip-

R. W. GREGORY

Agricultural Education for Negroes

ALONZO M. MYSTER, Teacher Education
Virginia State College, Ettrick

IT IS very difficult to give an over-all picture of any type of education for the Negro race as a whole. There are 17 states providing separate schools; the types of agriculture prevailing in these 17 states and adequacy of educational facilities for Negroes vary considerably from state to state. There are, however, some facts relating to agricultural education among Negroes which are applicable to the whole area where separate schools are provided.

History

The history of agricultural education in Negro schools is the most logical point at which to begin this discussion. In general, vocational agriculture at the secondary level had its beginning with the enactment of the first Federal vocational education legislation. There are, however, some exceptions to this statement. It is my understanding that in some secondary boarding schools, agricultural instruction accompanied by mandatory project work was offered many years before the enactment of the first Federal vocational education legislation.

The enactment of the Smith-Hughes law marked the beginning of a new era for education in Negro secondary schools. It made possible for rural Negro in-school youth, Negro out-of-school youth, and Negro adult farmers the type of training which they needed. The wholehearted acceptance of agricultural education by Negro farmers and farm youth is indeed a commentary of the social wisdom and conscientious efforts of Negro leaders and

farm business to save labor, (4) adjusting the farm business to meet wartime needs, (5) determining farm labor needs of the community, (6) plans for the exchange of labor, (7) instruction and practice in the operation, care, repair, and maintenance of farm machinery and equipment.

The Rural War Production Training Program course No. 5, *The Repair, Operation, and Construction of Farm Machinery and Equipment*, offers an opportunity to train farm workers and owners in methods of securing maximum efficiency from farm machinery and equipment.

Each objective of vocational agriculture in its relation to each of the war needs has been developed in a manner similar to the preceding example in the U. S. Office of Education publication, *Adapting Vocational Agriculture to Wartime Needs*.

Instructional activities should be planned in terms of local wartime and long-time farm needs. Due consideration must always be given to the physical facilities and resources of the local community when determining the content of the program. Those engaged in vocational agriculture are charged with the responsibility for making it a functioning program in the lives of farmers and farm boys. Let's use the things which we have at hand, to meet today's problems and build tomorrow's future. Let's mobilize the resources of vocational agriculture

White school administrators who saw the inadequacy of high-school curriculums designed to prepare all Negro youth for the professions.

The first teachers in departments of vocational agriculture for Negroes were persons who possessed broad farm experience and very little technical agriculture or professional training. Many were teachers of liberal arts subjects. However, each year requirements for certification became more rigid. Improvements along this line have now reached the place where no one may be certified who does not possess a bachelor's degree, varying amounts and quality of farm experience, and specified minimum training in technical and professional subjects.

All of the teachers were not, however, as inadequately trained as the statements made in this connection would suggest. Some teachers were graduates of technical agriculture from Hampton and Tuskegee Institutes. Others were graduates of White institutions in the North, East and Mid-West. During recent years phenomenal improvement has been made in the professional qualifications of teachers of vocational agriculture in Negro schools. The establishment of teacher-training departments in the Negro land-grant colleges contributed significantly to this improvement.

Professional Improvement of Teachers

The professional improvement of Negro teachers of vocational agriculture may also be attributed to pressure from above. The Negro teacher-trainers, the school officials (state and local), and the Negro farmers themselves insisted upon well-trained teachers. If there existed no other motive than the higher average salary of teachers of vocational agriculture as compared with liberal arts teachers, there would still have been a strong incentive for professional improvement.

The professional improvement of Negro teachers of agriculture has been, for a long time, far ahead of the minimum standards for certification. Many Negro teachers of agriculture as well as teachers of other subjects in secondary schools have looked upon their work not as just another job but as an opportunity and a responsibility to render service to their race in particular and to society in general. I would estimate that over 75 percent of the Negro teachers in the past, and at present, have entered upon their jobs possessed with a missionary spirit.

The seriousness with which the Negro teachers of agriculture take their work is evidenced by their demands for professional improvement. These demands have necessitated the organization of graduate work in agricultural education at several land-grant colleges for Negroes.

Purposes of Program

Now let us turn our attention to objectives toward which teachers of vocational agriculture have striven and which they are currently striving to attain. At first the basic idea was to "make two blades of grass grow where one formerly

has long been obvious. The need for developing ability in all of the areas of rural and farm life is recognized. Cooperation, leadership, home ownership, home improvement, home beautification, soil conservation, efficient buying and selling, wise use of credit, and co-operation with and utilization of the services of the various Federal agencies serving farm people are examples of the recently emerged areas of emphasis.

Negro teachers of vocational agriculture have conducted all-day, day-unit, part-time and evening classes. Whenever the demand for instruction in agriculture exceeded the supply of teachers and funds, the day-unit classes represented the best compromise between having no agricultural instruction in many communities desiring it, on the one hand, and having a full-time teacher in a few schools on the other. However, with the consolidation of Negro schools and the introduction of pupil transportation in Negro communities, the number of day-unit classes has decreased during the last decade and the number of all-day schools has increased.

Part-Time Instruction

Part-time instruction for out-of-school youth has been given special attention. Each year shows increasing emphasis upon this aspect of the program. It is my opinion that where part-time classes have been held, the teachers have done a better job of providing the type of instruction needed for efficient living in all of the major areas of life than they have with any other group. For instance, they have taught not only agriculture as such but also many of the skills which are necessary for meeting immediate problems of youth. Reading, arithmetic, English, writing money orders and bank drafts, commercial law, health education, and parliamentary procedure are some examples of the subject matter fields outside of technical agriculture in which Negro teachers of agriculture have offered instruction to out-of-school young men.

Adult Program

Evening class work for adult farmers has been unusually successful. From the standpoint of numbers of classes organized and the number of persons participating, it seems that evening class work has been even more successful than part-time instruction. The number of evening classes and the number of persons in each class have often been very important criteria for evaluating the quality of a teacher's work. More important, however, teachers recognized the importance of organizing adult classes. In some states, moreover, teachers conducted evening classes in spite of lack of interest on the part of certain school officials. The growing efficiency of the Negro as a farmer and as a citizen has been augmented by the vocational agriculture program. Property has been acquired, wise use has been made of credit, and worth-while leisure time and community improvement projects have been initiated and entrenched in the South. Negro farmers are beginning to balance their farming programs in accordance with sound principles of farm management. They have become "conservation conscious" in many areas, and they have developed garden, canning

Methods

G. P. DEYO

Securing Good Results in Producing Pork

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Ralph E. Bender

SIX Future Farmers of the Canal Winchester (Ohio) Chapter have made a worthwhile contribution to the war effort by producing 13 ton litters of pork in 1942. The official standards for ton litter production in Ohio demand at least 2,000 pounds of pork in 180 days or less from the litter of one sow farrowed between February 1 and April 10. The 131 hogs in the 13 litters weighed 28,810 pounds and made a labor income of approximately \$2,700 for six boys or more than \$200 per litter. This is a record of efficient and profitable production.

With such a record one may be inclined to say, "This is the way the Future Farmers produce." Common sense indicates that it is unfair to make such a conclusion on such few cases. Farmer Brown would want to know the results of the other boys. The acid test for the efficiency of production is used when we look at all the facts and secure the total average results. In the analysis of any enterprise it is much better to determine how efficient it was, rather than to prove that it was efficient by selecting only a few of the records. Accepting this principle and applying it to the Canal Winchester Department of Vocational Agriculture, the investigator found that the 26 boys produced 71,080 pounds of pork from the 45 sows and gilts that were a part of their farming program. These hogs made a labor income of \$5,968.30. The average

production, which is distinctly above the county and state averages, indicates that there were 7.9 pigs per litter raised which averaged 1,579 pounds at market time and made a labor income of \$132.63 per litter.

Like all records of production there are hidden in these averages a few cases of inefficiency. Two boys made a sacrifice in labor income by selling at weaning, there were several small litters, and two sows did not raise a pig. These are a part of the total result and it is typical of that which occurs in farming. In spite of these inefficiencies, the total result seems to be

commendable and worthy of an analysis in terms of how the results were obtained.

How the Results Were Obtained

The boys are fully aware of the importance of getting good results in their farming programs and the effect of the results in terms of contributing to the war, in improving the home-farm business, and in becoming personally established in farming. From the study of local swine project analyses and other sources, the boys realize the necessity of growing large litters and getting a large number of pounds of pork per sow in order to do an efficient job. They are acquainted with the efficiency factors and how they operate. A knowledge of efficiency factors aids the boys in arriving at individual goals of production. Such goals as: 10



Observing two ton litters in the making at Canal Winchester

pigs farrowed that weigh an average of 3½ pounds each at farrowing, weaned at eight weeks weighing 45 pounds per head, and weighing 220 pounds each at six months of age, can be arrived at by the boy. The exact goal which he should adopt depends upon his situation and the kind of a job he wants to do and should do in order to make progress from year to year.

Importance of Good Teaching

There is no secret in getting good results. It is known that good results are due to good practices. A check on the practices used in the Canal Winchester department indicates that practically all of the boys are using purebred sows, selected on the basis of their ability to farrow large, heavy litters. These sows are flushed and bred to purebred boars, but not always of the same breed. In fact, four of the six boys who produced ton litters did so with cross-bred hogs. The



Visual Aids in Classroom Instruction

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at weaning, which is usually at eight weeks of age. Balanced rations are fed thruout the period and the pigs are on full-feed from two weeks to marketing. Not all of the boys are able to provide clean ground each year and when they cannot they treat the pigs for worms at 10 weeks of age. Such things as reducing the feed at farrowing, being with the sow at farrowing, clipping needle teeth, and ear marking are likewise practiced by most of the boys.

Practically all good practices are the result of correct decisions. Boys need to be helped to make the right decisions concerning their program. There is nothing more important from the standpoint of developing interests, ideals, understandings, and abilities in the boy than for the teacher to use such problems as "What should John feed his gilt during the gestation period?" in the class program of instruction. The solution of such individual problems will aid each boy to arrive at his plan. Individual problems are selected for class solution at Canal Winchester because all situations are somewhat different and the boys aren't growing hogs as a group; they are producing them individually. It is evident that teaching for each correct decision needs to be done at a time that will enable the boy to put his decision into practice. Another fundamental fact is that just because a boy is aided one year in solving his pork production problems does not mean that he doesn't need help the following year. Each year presents a different situation. A good feeding program last year may not be good this year because of the price of available feeds. Then, too, it cannot be assumed that everything taught was retained; neither can it be assumed that the boys had all of the experiences in one year—all of which indicates the advisability of assisting the boys in the classroom year after year.

Home Supervision

All problems cannot be solved in the classroom. The boys need to be supervised on their home farms. The time and amount of supervision will depend, among other things, upon the nature of the problem and the previous experience of the boy. The writer makes it a practice to visit the boys at times when he will be able to aid them in selecting stock, making plans for housing and forage, preparing for farrowing, caring at farrowing, caring from farrowing to weaning, and caring from weaning to marketing. Boys are helped to develop such skills as preparing the farrowing house, ear-marking, clipping needle teeth, building a creep, castrating, ringing, and worming.

The Canal Winchester boys have taken advantage of the school's farm shop facilities to build appliances to be used in connection with their farming programs. This is as it should be. During the 1942-43 school year the boys interested in swine built 34 farrowing houses, nine feeders, 17 troughs, six hurdles, and three pig brooders. There is no doubt that this kind and amount of equipment will save the lives of many pigs, it will save labor, and it will result in the efficient production of pork.

The Future Farmer Chapter Aids

The local chapter of the Future Farmers of America has encouraged its mem-

LAST week I talked with a teacher of vocational agriculture who had just been lucky enough to buy a good used 16 mm. camera, a light meter and other accessories; priorities, scarcities, etc., notwithstanding. The thing that impressed me was that he kept talking about the job he expected his camera to do for his students. He was planning a step-up in his Victory Garden campaign. He wanted to show plants, insects, and plant diseases in color as they really looked to those who were having trouble with these problems. His camera had a job to do.

This situation is quite different from the fellow who buys his camera as a gadget with which he can play around or with which he can experiment on some tricky shots to show to his photographic friends. An ever increasing number of teachers of agriculture are really putting their cameras, projectors, and other visual aids to work.

In his recent book, *In the Sweat of Thy Face*, Thomas H. Quigley, past president of the A.V.A., shows how vocational education has made a real contribution to the philosophy of American education. He could have added that teachers of vocational subjects also have added to the philosophy of method, because from the beginning, by means of supervised practice, demonstrations, and improved teaching, they have added a higher degree of reality to classroom instruction.

Methods for Using Visual Aids Effectively

Most teachers of agriculture use pictures, models, charts, real objects, and

number of activities have been followed to stimulate efficient pork production.

1. Ton litter medals are purchased by the Chapter and awarded to eligible members at the annual Parent-Son-Daughter Banquet. Dr. W. F. Stewart, Ohio State University, has been secured during the last two years to make the presentations.

2. Project tours and visits have been conducted in order to give the boys an opportunity to see what the other fellow is doing, and pictures are taken and posted on the bulletin board.

3. A purebred swine sale has been sponsored in co-operation with neighboring chapters. This affords the boys an opportunity to sell excess breeding stock at a good price.

4. Several years ago a gilt chain was sponsored in order to encourage a greater use of purebred stock. It has been discontinued because plenty of good breeding stock is available.

5. Future Farmers have been exchanging or selling their purebred gilts and boars to other Future Farmers at market value. Last fall seven F.F.A. members of the local group took advantage of this opportunity.

Make An Evaluation of Production Efficiency During the Year

It seems to be a common thought that an evaluation of production efficiency is

other visual aids to some extent. Professional literature has emphasized visualizing instruction rather generously. Film libraries have grown in number and usefulness. All this is good but there is vast room for improvement in the techniques of using visual aids in the classroom. I have seen teachers show a USDA film strip and have the boys take turns reading aloud the captions and descriptive material for each frame from the screen as the pictures came on. This may have some slight value as a reading lesson but it certainly is not making the best use of valuable classroom time for agriculture. Vocabulary study and discussion of technical terms have a very definite place in class discussion. A study of new terms secured from a preview of the film or film strip is good practice but pictures should be shown as aids in solving specific problems. If films do not result in relevant discussions or aid in problem solving, they should be classed as entertainment or time killers and treated as such.

MUCH time can be wasted in the construction and use of models unless precautions are taken to avoid it. On one occasion I talked with a boy who was putting the finishing touches on a small model laying house upon which he had spent several hours of laboratory time. In our discussion of his splendid little model he did not know how many hens it would accommodate, how much it would cost to build, or how to account for its dimensions and shape. He had been

(Continued on page 53)

a project. This is true from the standpoint of total result. We know that the total result is due to an accumulative set of conditions or practices followed during the year. It would seem that evaluations of the progress of a sow and litter project at several points before the close of the production period would be desirable. For example, an analysis of the practices followed and results obtained at farrowing, at weaning, and at four months of age will probably improve the chances of a boy in reaching a ton litter goal. A technique along this line is used at Canal Winchester. It consists of the use of progress charts that show the record of practices and results of each boy. The boys find it interesting to observe the charts, which are on the bulletin board, in order to compare their results with the results of other boys. These charts are a good aid in teaching. The number and kind of items on any comparison chart should be determined by the needs and interests of the local departments.

In general, it can be said that efficient production is enhanced when boys strive for attainable goals and when they are assisted in working out ways and means to reach those goals. It is the duty of the teacher of vocational agriculture to plan and conduct a program that will make production an interesting and fruitful experience and that will develop the boy from the standpoint of understanding and ability so that higher goals may be

Supervised Practice

C. L. ANGERER

Some Methods for Motivating and Evaluating Improvement Projects in Poultry

GRAYDON BLANK, Teacher, Alma, Michigan

IMPROVEMENT projects should play a very important part in our vocational agriculture program because thru this type of project we are able to extend our teaching and programs of supervised farming to almost every enterprise on a farm. As teachers of vocational agriculture, we speak of improvement projects being carried out by students in our classes but when we are questioned in detail about them, we often have very little evidence to show that any definite improvement is being made on the boys' home farms.

To me, at least, the improvement project always seemed rather vague and indefinite. How could I motivate such a project so that the boy would realize the need for improvement and take steps to bring about a change? Of what should an improvement project consist? How could the student set his goals and judge his progress? How could we evaluate the accomplishments? To sum it all up, how could we make it the boy's project instead of the teacher's project?

Successful Projects Provide a Challenge

Practically every farm in our community has on it at least some hens. We have a number of successful poultry raisers and a number of very successful productive poultry projects among the boys who have graduated from vocational agriculture, yet many of the farm flocks are "typical" farm poultry flocks.

Our class in first-year agriculture visited these successful productive poultry projects, and by way of motivation I would refer to the success these older boys were having whenever an opportunity presented itself.

We studied the various enterprises on the home farms of the boys in class and compared their yields and production records with those of the state and with some of the better farmers in the community. We also discussed the success of several of the older boys who had laying hens, pointing out how they were getting a high production at a time when prices were highest. We decided to take a little impromptu survey right in our own class regarding the number of hens in the home flock and the number of eggs produced. Much to the surprise of all of us, we found that on the previous day, some 1,200 hens on the home farms of the students had laid about 60 eggs. Here it was November and one of our class-room charts showed that this was the month when egg prices are highest and we know that some of our older boys had flocks that were laying 50 percent and better. We also discovered in our little survey that, in almost every case, the boys in our class were responsible for the care of

Goals Are Set and Problems Studied

Here then was our place to start. The boys themselves suggested that we find out how they could improve the production of the home flocks. Some asked questions about feed, others about what a good laying hen looked like, others wanted to know about the laying house, and others asked about using lights.

Here began several weeks of the most interesting teaching I have ever done. I directed the boy's thinking to the main factors that would influence the production of eggs. For our purpose, we decided on the following grouping: (1) the bird, (2) the feed, (3) the house, and (4) the care of the bird (including here the control of diseases and parasites). Each of these factors formed a main lesson topic. Interest ran high because these included problems that were close at hand. During the several weeks that followed, we had birds at school to study culling and also made a trip to a member's farm actually to cull a flock. We examined various feeds; found out the protein requirements of the hen; assisted each boy to plan a ration including home-grown grains and purchased protein supplement for his flock; designed and built in the farm shop a number of electric water heaters, alarm-clock light-switch devices, and alfalfa feeders; studied ventilation and disease and parasites; purchased and distributed (thru the F.F.A.) nicotine sulfate to control lice; and began keeping a daily record of egg production on each flock.

Good Practices Are Determined

Next, the boys wanted some sort of a list of the "good" practices we had studied. As their teacher, I suggested that we determine what practices they considered to be important for producing the most eggs and that we make a chart listing these practices. Then in the proper space opposite each name we would write in the date that person carried out or began to carry out a certain practice. The idea appealed to them and we made the chart to post in our agricultural room. This not only helped them to judge their progress, but it helped me to check on the progress they were making. Twelve boys started the project. One boy had to drop this activity because of changes which were necessary on the home farm. The remaining boys are still continuing this activity. Each month we determined the average production per hen and compared this to the goals the boys set for themselves and to standards suggested in leading poultry magazines.

Here is a list of some of the good practices the boys agreed upon:

2. Cull during the winter.
3. Cull in the spring.
4. Feed a laying mash containing 18 to 20 percent protein.
5. Feed scratch grain.
6. Feed oyster shells.
7. Feed alfalfa chaff.
8. Mix laying mash from farm grains and purchased protein supplement.
9. Use electric lights regularly.
10. Provide one nest for every six or eight birds.
11. Provide at least nine inches of roost space per bird.
12. Provide four square feet of floor space per bird.
13. Control lice with nicotine sulfate.
14. Control mites with waste oil.
15. Remove sick birds immediately.
16. Use electric water heater.
17. Check and improve ventilation.

Results Provide Basis for Evaluation

Our results have been very gratifying. We have received excellent co-operation from the boys' parents; and, in almost every case, the production of the flocks went up to 50 percent or more in the first month. We have also noticed plans being made to secure chicks earlier in the spring and to brood them in a much more efficient manner.

Aside from the satisfactory results obtained, this activity answered some questions for me regarding an improvement project. In summary, I would emphasize the following:

1. The project should be the boy's and not the teacher's.
2. It should arise thru the discovery on the part of the boys of the need for improvement.
3. It can serve as a basis for interesting study.
4. The boys can be directed to select the practices which will result in improving the enterprise.
5. Each boy should be encouraged to set the goals for his farm.
6. Some visible means should be developed to help both the boy and the instructor to check the progress being made.
7. Interest runs higher when several boys are carrying out the same type of project.
8. Time should always be provided to check progress being made and to allow for changes in plans.

These plans may not work as well in every case, but they have convinced me of the need for improvement projects and of the need for a visible means to check the results and progress each boy makes with his project.

"You'll find that education is about the only thing lying around loose in this world, and that it's about the only thing that a fellow can have as much of as he's willing to haul away. Everything else is screwed down and the screw driver is

Making a Start in Farming

JAMES L. ROBINSON, Senior Extension Economist
Farm Credit Administration

EDWARD LANGNER, a first-year student of vocational agriculture at Gower, Missouri, is growing two litters of pigs as his part in Food for Freedom in 1943. A loan of \$135 from the St. Joseph Production Credit Association in the fall of 1942 enabled him to buy a sow and six pigs, a gilt and some feed. The sale of four gilt pigs and two fattened barrows, and arrangements with his father for pasture on blue grass for the sows, and alfalfa for the fattening hogs, will make it possible for him to carry his loan and to obtain feed to finish the 17 pigs which the sow and gilt farrowed this spring.

Keeps Records

Edward is "keeping track of the pasture and feed" which his father furnishes and will repay this along with the loan to buy the hogs. The cost of the feed, yet to be obtained, can also be met out of the sale of the fattened hogs at the prices that are assured for this fall. Edward is learning swine management, for 17 out of 19 pigs were saved in the two litters, and he told how the alfalfa and blue grass were substituting for the protein supplements which were so hard to find. And almost unknown to himself, he is starting into the farming business. The beginning of his sophomore year promises to find him the owner of two brood sows and some cash profit on his first year's farming program. Probably, by the time he graduates from high school he will have a considerable livestock inventory as a nest egg to use in undertaking the operation of a farm or to pay college expenses.

Program Directed by a Good Teacher

This program is the standard procedure by which Michael Quigley, the teacher of vocational agriculture who has remained at Gower for 18 years, follows in directing his students' farming programs. The assets they command in the form of good livestock when they graduate from high school is made the leverage for their next step in earning a living. Mr. Quigley has found that his boys have been much more successful in carrying out this plan since he worked out with the Production Credit Association a program for financing boys who need credit. The extent to which the boys are using the group financing plan of the Production Credit Association is shown by the fact that 18 out of 21 in the class this spring have loans on their 1943 livestock projects. Just to see how this works out, let's follow a former student thru his four-year farming program and the two following years.

Co-operative Financing

Jack Nelson entered the vocational class at Gower in 1937 at 15 years of age. Unlike many boys, he already owned six bred ewes. He borrowed \$30 from the association and bought a sow. The litter was fed out and sold in the fall of 1938 and the loan repaid. The returns from the hogs, with the receipts from his lambs and wool netted him \$78 for his

sow to his inventory.

During the summer of 1938 he had borrowed \$40 more and purchased a Southdown ram. He also sold his sow and bought a Chester White gilt that fall and again fattened out the spring litter. The second year's program netted Jack \$100 and added the ram to his breeding stock.

Eight or 10 more ewes were bought in the summer of 1939. Two Angus heifers were purchased with a loan of \$75. One litter of pigs were grown out from the sow and one from a gilt saved from the previous year's litter. Jack bought 200 baby chicks in the spring, but later when farm work absorbed his time, he turned these over to his mother. During the year his sow died. He had \$100 net for the year, had added to the number of his ewes and owned two heifers, but the loan was carried over.

After culling the ewes, young Nelson had eight or 10 which were carried thru his senior year in 1940-41. His sow farrowed two litters. He borrowed \$120 and bought two more Angus heifers and a steer to feed out. This steer failed to fatten and resulted in a loss. One of the first heifers dropped a calf. Sales of pigs, lambs, wool, the bum steer, and the calf brought him enough to pay off the two notes and have \$5.00 left.

When he started to the Agricultural College at Columbia in the fall of 1941, he sold off all his hogs, the non-breeding heifer, and part of his sheep. He kept three of the heifers, three or four ewes and the ram. During the year these were cared for with his father's stock.

In the spring of 1942, Jack attempted to join the Army Reserve Corps, but when the physical examination showed he needed an operation, he was disqualified. He spent the summer helping his father run the farm (180 acres owned and 470 rented). After the crops were harvested, he had his operation in November and then remained thru this year with his father. During the year he sold lambs and wool and then traded the ewes to his father for more Angus cattle.

Getting Into Farming

Young Nelson now owns four Angus cows and calves (three are heifer calves), two yearling heifers which are to be bred, two steers and a barren heifer (all 2-year olds) which are being fed for sale this fall, and his old Southdown ram. In case he is called for military service, his cattle will again be left with his father's herd. If he finds himself classified 1-C in the fall, he plans to buy more cattle in order to increase his holdings faster, and he thinks he will again borrow some money which he has not done since he went to college. On the basis of present market values, Jack estimates his livestock to be worth somewhere between \$1,000 and \$1,200. This is a pretty good start toward farming for a young man just past his 21st birthday.

There are several other young farmers somewhat older than Jack who graduated earlier from the Gower High School under Mr. Quigley and are already operating farms for themselves. Their programs

use of credit to buy productive livestock, (2) arrangements with their fathers (except for one who lived with a non-relative) for pasture and part of feed, (3) repayment of loan from sales of marketable livestock and wool, and (4) accumulation of breeding stock. The limitation on this stage of the program is the extent to which the farm can accommodate additional livestock, but this can often go a good part of the way toward the numbers the young man will need to start in farming for himself. With these owned, the credit can be obtained for buying machinery, equipment and workstock. At least, that is the way it works out at Gower.

Community Hatchery

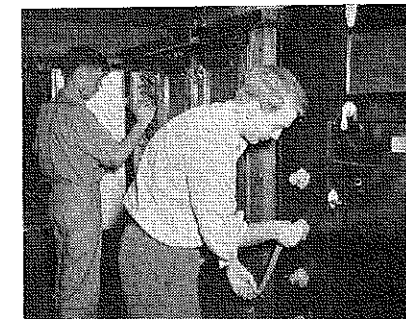
Prosperous

MORRIS FARROW, Teacher
Linden, Texas

A custom hatchery with a capacity of more than 8,000 eggs is operated by the Linden, Texas, Chapter of Future Farmers.

The purpose of the hatchery originally was to supply the needs of the community, but demands this year have exceeded the capacity; however, the hatchery is being operated for a longer season than normal in order to take care of local needs.

A charge of 2½¢ per egg is made for hatching, which is divided equally between the chapter and the members.



F.F.A. boys operate brooder

This undertaking began in the fall of 1939 with the purchase of a 2,940 egg Jamesway incubator at a cost of approximately \$200. The machine was installed in the agriculture department and during the first season the chapter hatched more than 6,000 chicks from 7,500 eggs bought and placed in the machine. From the sale of these chicks the chapter paid for their incubator and purchased a three-deck battery brooder to take care of surplus chicks from the hatchery.

The following year a used 5,400 egg capacity Cugley machine was purchased at approximately \$300. The two machines were moved to where one of the members has complete charge of their care and operation. Since that time the machines have been operated as a custom hatchery, but every precautionary measure possible is observed in order to help in the improvement of poultry in the Linden community. Also, the boys feel that since raising more baby chicks will insure the production of more eggs and the quickest production of meat, their efforts are helping materially to

Farmer Classes

E. R. ALEXANDER

W. H. MARTIN

Improving Practices Thru Farmer Classes

S. S. SUTHERLAND, Teacher Education
California

CAN teachers of vocational agriculture increase food production and improve the farming practices in a community thru farmer classes? The answer seems to be that it can be done, and is being done in many communities thruout the entire country. Doubtless there may be found more striking evidence than that in the two cases cited in support of this thesis, but these two situations are presented as typical of what many progressive teachers are doing.



S. S. Sutherland

Examples of High Production

Enrolled in the Young Farmer (part-time) class in the Orland Union High School, California, are three young dairymen: William Schroer (whose partner and older brother John is now in the Army) operates on a rented 40-acre farm, and has a dairy of 25 high grade Jersey cows with a herd average for 1942 of 445 pounds of butterfat. Lewis Lavey operates a 20-acre dairy farm and his 17 Guernseys produced an average of 416 pounds of fat last year. Jasper Lichsteiner, on a 60-acre farm, has 35 cows that maintained a 390 pound average. If agriculture had an equivalent award to that of the Army and Navy "E" for efficiency, some sort of a flag would be flying over each of these three farms, for these three dairy herds top by more than 150 pounds the state average production per cow, and outproduce by some 20 percent even the select group of herds on dairy herd improvement test.

Program Is Community Wide

These three young men are not alone in their fight to maintain the farm front in this community and in helping to produce the dairy products that this nation needs. Forty-three young farmers of this community were enrolled in part-time and evening classes in this school in 1941-42, and while many of them are now consumers of dairy products in our armed forces, twenty-four of them are still farming. They are also enrolled in young farmer classes in Farm Machinery and Milk Production maintained by the department during the current year.

Seventy-five percent of the farmers in this community of small diversified, irrigated farms produce and sell butterfat, and the casual visitor sees farm after farm where beautiful Jersey and Guernsey cows graze on irrigated permanent

many gates or piled high on trucks on their way to town.

The visitor who stops at the high school and asks to meet W. W. Coke, head of the vocational agriculture department, will see much more than this, and get an insight as to why this has come about. Five minutes later he will be in Mr. Coke's car and for the next two hours will meet and talk not only with Bill Schroer, Lewis Lavey, and Jasper Lichsteiner, but also with Roy Canadas, with his 30 cows, 100 sheep, and 1,200 turkeys; Norval Martin on his 20-cow dairy farm; Bill Linton on his 30-acre dairy farm with his 25-cow dairy; Harold Bills with his 18 cows, and as many others as time will allow.

He will learn as he talks with these farmers that there is a striking similarity in their farming methods. They know the production of their cows; they keep production records and farm accounts; their cows are mostly high-grade Jerseys and Guernseys; their land is mainly in permanent ladino and alfalfa pasture; they are expanding their herds; they are concerned about getting bulls capable of increasing the production of their replacement stock (not an easy job when a herd averages 400 pounds or better).

He learns, too, that most of these farmers are still going to school, as they ask Mr. Coke about the next meeting of the Farm Machinery class, or when the young farmers will be getting together again. He gets the impression, also, that their farming operations are profitable, and confirms this opinion when Mr. Coke volunteers the information that 75

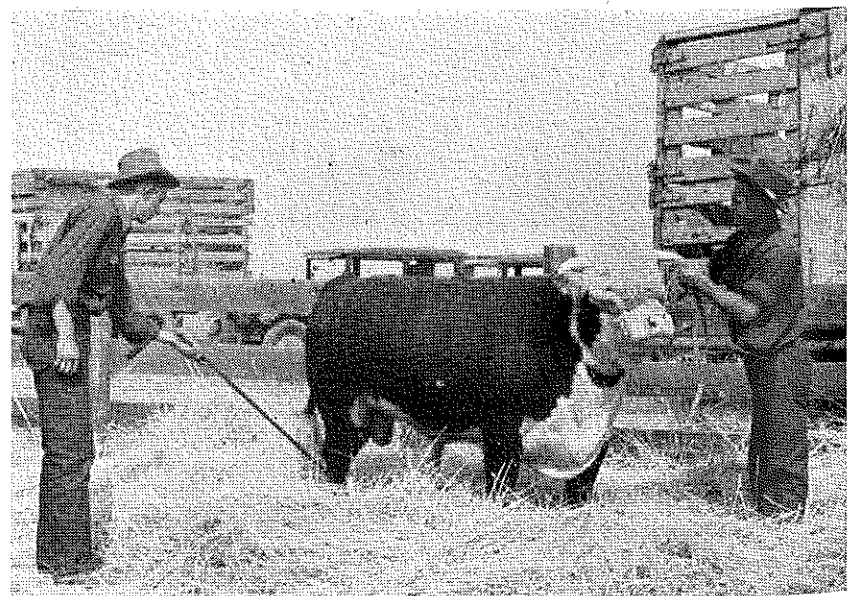
farmers and farmers' wives have been enrolled in his agricultural evening classes in Farm Accounting and that he had recently checked the records of a number of the younger group and found that their average labor income for 1942 was better than \$3,500.

Educational Program

What he may or may not learn, is the reason why these farmers have high-grade stock, used approved practices and produce more food on these farms. The reasons are of considerable interest to those of us who feel that improved agricultural practices and increased food production can and do result from a long-time, comprehensive program of vocational education in agriculture.

The typical farmer visited on this jaunt thru the community has been enrolled in vocational agriculture classes with Mr. Coke for seven years. He has been an all-day student in high school; a member of the Young Farmer group attending part-time classes; he has probably attended one or more agricultural evening classes such as the one in Farm Accounting mentioned above; and is now doubtless enrolled in either the Rural War Production Training class in Farm Machinery Repair, or in the class in Increasing Milk Production, or perhaps in both.

Several of them wear State Farmer charms on their watch chains when they dress up in their Sunday best, and a few, the American Farmer key. Most of them are the product of a long-time educational program which has for its objective the improvement of the dairy enterprise in this community, and of an integrated program of vocational training in which they progressed naturally from the high-school level to that of out-of-school



Floyd Bidwell, former Future Farmer of the Fall River high school at McArthur, California, leading one of his 22 purebred Hereford cattle that are contributing to the 40 percent

youth, and eventually to enrollment in classes for adults.

This all started in 1936. The depression years had hit the Orland community hard, with its small farms; and the combination of low prices and general low production, had been particularly severe on the dairyman. Mr. Coke, now approaching retirement age, had come to this school with a background of experience as a farmer as well as a teacher. He, to use his own expression, "had raised and provided an education for his own family, and now was ready to turn his attention to educating others."

He had formed, from his own experience, a deep conviction that something needed to be done to make dairying on these small farms a paying proposition, and decided that the first step was to get higher producing animals. He knew that in the Ferndale area in Humboldt County in the northwestern corner of the state was a dairy community where farmers for years had carried on a systematic program of testing, culling, selecting and breeding Jersey and Guernsey cattle for high production; where dairymen regarded 400-pound herd averages as normal rather than exceptional, and did not get unduly excited over 450-pound average production.

Starts With Boys

He got a small group of his students in his high-school classes interested in buying some foundation stock from these herds, and together they made a trip to this section and brought back with them 33 heifer calves. They agreed on certain standards for selecting these calves. They insisted on knowing the production records of the dams, and limited their purchases to calves from dams with records of 375 pounds and over and from purebred sires. The 33 calves they purchased were distributed among several boys.

The next year another trip was made to this district, and more calves were purchased to form the foundation for Future Farmer projects which should eventually grow into producing dairy herds; and each succeeding year since that time more "Ferndale" calves were introduced into the dairy herds of the community. Since 1936 more than 400 head of high grade Guernsey and Jersey heifers have been brought into the Orland district thru the efforts of Mr. Coke.

At first the reaction of older dairymen to these animals was frankly skeptical; gradually it changed to show a spark of interest, as these calves matured into producing cows and first-calf heifers began producing 450 pounds of butterfat per year. This was a language they could understand. Today calves from "Ferndale" cows are the elite of the dairy population of the community.

Bill Schroer's story is typical of that of many of the young dairy farmers of the community. Bill and his older brother, John, purchased 12 of the original 33 calves when they were both all-day students; later they purchased six more; as each brother graduated from high school he enrolled in Mr. Coke's part-time class, which he calls his "Young Farmer" group. When John went into the army, Bill took over the entire farm and the management of the herd. This year finds Bill's name on the rolls of the Rural War Production Training classes, and still profiting from the teachings, and the

teacher.

A new hay chopper on his farm saves 25 percent of the hay from being wasted; a double-unit milking machine makes it possible for him to do the milking alone; his own truck takes the cream to market; his herd sire has a record back of him of 650 pounds per year; permanent pasture is supplemented by grain fed on the basis of each cow's production; accurate production and financial records tell him what he has accomplished and where he is going.

What has happened to Bill and John has taken place to a greater or lesser degree in the lives of the other Bills, Roys, Jaspers, Lewises, and Harolds in this community.

Should anyone question whether vocational education in agriculture for out-of-school-youth and adults, supplementing a strong program of all-day instruction in a community, he will find the answer here. It can and does. The bringing of 490 high-producing cows into this community, each producing from 65 to 165 more pounds of butterfat per year than the average dairy cow; the offspring of these high producers adding more pounds of fat to the community production; these things alone represent a tremendous improvement in farming practices and in productive capacity. The management practices which these trained farmers use successfully are imitated and adopted by their neighbors.

J. I. Thompson, formerly on the staff of the Animal Husbandry Division of the College of Agriculture of the University of California, now Livestock Specialist for the Bureau of Agricultural Education in this State, who has known this community over a period of a quarter of a century, states as his opinion that "vocational agriculture, during the period 1934-42 has done more to change and improve livestock practices in swine production as well as in dairying, than the combined efforts of all the agricultural agencies working in that community prior to this period."

Let's take a look at another community. Perhaps conditions were such in Orland Community that changes and improvements were comparatively easy. At almost the same time that Mr. Coke at Orland began importing dairy calves, a new vocational agriculture teacher by the name of Jess Bequette was employed by the Fall River Joint Union High School at McArthur, away up in Modoc County in northeastern California.

Beef Cattle Ranches

This is a community of large beef cattle ranches, one of the top beef cattle areas of the State. The ranchers in this area had always made money. True, they had some lean years, but the grass always grew and there was always cattle to market, and the ranchers, on the whole, were pretty well satisfied with their methods and were rather slow to change.

The new agriculture teacher came to this school from a beef cattle area in another state, and soon recognized that while in California the type and quality of the comparatively few purebred beef cattle herds had no superiors anywhere, there was a terrific gap between the quality of the purebred herds and that of the average range stock. He was con-

sidered the situation which needed improvement, and set about to do something about it.

Within a year he had convinced several ranchers that they could improve their calf crops by bringing into their herds some purebred Hereford bulls, and they commissioned him to buy a carload to be distributed among them. Fortunately for the success of his plan, the calves obtained from this carload proved to be far superior to those sired by the bulls ordinarily used, and the first skirmish was won.

Building Beef Cattle Projects

Next he found that the average boy in his classes, brought up with range beef cattle, and familiar from the time he could "fork" a horse, with all the practices and activities of the cattle ranch, simply was not interested in project work with range beef. There followed a series of conferences in which teacher, dad, and the boy discussed the possibility of the son's starting a small purebred herd from which would be produced bulls to be used in the larger range herd.

The idea took hold almost at once, and foundation stock from the best purebred beef cattle herds in the West began coming into the community to form a basis for project enterprises. Distances, poor roads, and winter blizzards prevented the teacher from doing much thru organized classes for adults and young farmers, but didn't prevent him from working with these men individually. Gradually these ranchers were sold on the practice of culling their herds and saving the most promising heifers for replacement stock. They began to see the value of using certified seed for pasture and grain crops, and to buy and use improved seed. To date these co-operative purchases have totaled more than 135 tons.

All-Day Boys Grow Into Farmers

Today, as a result of this six-year program, practically every livestock man in the community uses purebred bulls of superior quality. Last fall the U. S. Forest Service made the statement that the vocational agriculture department had increased the quality of cattle on their ranges in this area by at least 40 percent over that of six years ago. The local feeder cattle show sponsored in this community each year by the local F.F.A. Chapter has been described by livestock specialists and buyers as equal, in the quality of stock exhibited, to any national or regional show in the United States. Even tho this program is only six years old, already there are a dozen young ranchers, established with purebred breeding herds, ranching in partnership with their parents, young men, who six years ago were "fed up" with ranching, and wanted to leave the community. Foundation stock has come from Utah, Montana, Oregon, Nevada, Canada, as well as from purebred herds in California, and over 350 purebred bulls have been purchased from the outstanding beef cattle herds in the country, and brought into this community thru the work of this teacher.

A visit to this community and to the ranches of these young farmers is an inspiration. Any worker in vocational education in agriculture who may have doubts, even for a moment, whether it be possible for a teacher to improve agricul-

Farm Mechanics

L. B. POLLOM

Organizing a Course in the Operation, Care, and Repair of Farm Machinery on a War-time Basis in a One-Man Agricultural Department

HOWARD F. CHAPPELL, Regional Supervisor
California

THIS article describes how Ernest Tarone, vocational agriculture instructor at Escalon Union High School, Escalon, California, has organized and sold his community on the need for farm machinery repair courses. Mr. Tarone is on his ninth rural war production farm machinery repair course at present. This is his first year at Escalon.

Here is his story of organization, which has proven so successful, as he told it:

Description of Community

Escalon is a small community having a high school with an enrollment of approximately 200. It is a typical livestock and fruit area, very similar to other farming areas in California.

Since agriculture here is diversified and since a great deal of it is carried on thru the use of mechanical devices of one type or another, we decided to offer out-of-school work in farm mechanics. This proved to meet a real need and to date we have held or are holding nine separate classes in this work.

Preliminary Preparation for Organization of Courses

We were very fortunate in getting an early start and in receiving exceptional support from the farmers in the community. This is the first year that this type of work has been carried at Escalon Union High School. Consequently, it presented a new idea to the community.

The first step was to acquaint the farmers in the community with the types of courses available. This was done about the middle of last summer. In the fall of the year a questionnaire was sent out thru the students of the school, listing the courses and asking for a vote on which ones would be most desirable. Out of the five suggested in the questionnaire, the majority favored, first, farm mechanics and, second, dairying. We have not as yet had a chance to offer any work in the latter field.

I believe one of the most successful means of contacting the farmers is that of using the Future Farmer chapter in the community if such a chapter is available. Sponsoring the OSYA work was included in our Future Farmer chapter program of work, and the boys outdid themselves in acquainting the farmers with the program.

In the beginning we held an organization meeting and at that time had on display on the shop floor various pieces of farm equipment being constructed or

reason for this was to sell the farmers on the idea that these courses were practical and that farm machinery could actually be repaired and built. The farmers in this community, and I presume in other communities, are interested in getting tools and equipment with which to repair and build equipment. They want classes in which the *doing* is emphasized and classroom work minimized. However, it has been my experience that once they have started doing things, a great deal of instruction will be absorbed by them. All of them express a fear of organized class instruction.

Securing Students

In the first class we had an initial enrollment of 15. Once the farmers were sold on the practicability of the course, they became the best recruiting agents that we had. We now have an enrollment of more than 60 in our courses. Enough of them are interested in continuing the courses so that when the enrollment drops they make it their business to build it up again. After the farmer is shown that he can profit materially by it, he will be the greatest booster of the work.

We also used in both Escalon and Farmington the farm machinery dealers in recruiting students. Since they are the only dealers in each town, they sooner or later contacted every farmer in the community.

Appropriate posters also have been used in securing enrollment for these classes.

I might add that another excellent method of organizing and recruiting the members for the courses is to hire competent and respected members of the community to teach the courses and to pay them enough to make it worth while.

Organizing Classes

In the beginning our adult farmers were all in one class, the young and the old students included in the same group. It became apparent, however, that the classes would run a great deal more smoothly if all the younger fellows were in a class by themselves. We, therefore, split our groups and recruited more older and more younger fellows to fill each class, and since then I believe both the work and the instruction have been more successful. The younger fellows are more receptive to group instruction; the older ones prefer getting at the problems of a

At Work

As to the conduct of classes the primary object, it seems to me, is to have the tools and equipment out where the students can get them without embarrassment such as would be entailed in having to check them out and check them back in. We have yet to lose a single tool or to suffer any breakage outside of normal wear in our classes, and we have none of our equipment under lock and key. I am sure the men appreciate that and take an interest in the equipment and the tools and see that they are returned in good condition.

Of fundamental importance is having a supply of nails, nuts, bolts, etc. on hand so that the student does not have to stop work on a project because of the lack of a quarter-by-four bolt, a one-inch screw, or a handful of nails.

The Future Farmer chapter here, which buys all of its supplies co-operatively, offered to let the farmers in on their supplies. The farmers then buy them from the Future Farmer stock, resulting in nothing more than an additional turnover of F.F.A. building supplies. For this purpose either the teacher or a student may be on hand to sell such supplies as are needed. Each farmer is supplied with an appropriate card for checking out the materials he uses.

Summary

1. Preliminary publicity, so necessary in the organization of this work, may be done thru the F.F.A. chapter, implement dealers, individual contact, and thru the adults themselves. Newspapers are of little value at first when people know nothing about the program. However, once the course is in operation articles accompanied by pictures of the students at work are excellent. The instructor, who is a blacksmith or mechanic, is also a good recruiter of students since he contacts those persons who have work to do. Not being able to handle the work himself, his suggestion that the high-school shop be utilized is often taken.

2. As to conduct of the classes, our experience has been that the maximum amount of work can be accomplished with least friction by: (a) dividing older and younger adult students into separate groups, (b) having supplies available, (c) having tools where they are readily accessible to the students, (d) using individual instruction with older students, centering around an individual problem, (e) giving more group instruction to younger students (17 to 25 years of age), and (f) allowing students to work out their own schedules for using such tools as welders, forges, drills, etc.

3. Local leadership has been demonstrated by the Future Farmer chapter in helping to recruit students, by implement dealers and class instructors in directing the classes, and by the teacher in securing as instructors men in whose ability to do and teach mechanical skills

Supervision for Special Teachers

WESLEY P. SMITH, Regional Supervisor
California

REGARDLESS of the number of Rural War Production Training classes being conducted by a school, supervision of the special teachers is not only desirable, but necessary for the ultimate success of the local program. Whether a school is conducting 20 courses or one, the special teachers individually need the same amount of supervision. Each class is a unit unto itself, regardless of the number which may be in operation.

Agricultural Teachers Responsibility

Supervision of regularly trained agricultural instructors has always been an accepted and approved procedure. Two factors which further show the need for supervision of special teachers are:

1. The majority of special instructors have absolutely no background of teaching procedures or training in educational methods.

2. Adult classes are the most difficult of any to conduct.

Supervision may be defined as the direction and critical evaluation of teachers and their methods, objectives, and results. This, in itself, becomes a real job when we realize that the average agricultural instructor has had little or no experience in supervisory work.

It must be recognized that the bulk of the supervision of special teachers, in spite of many handicaps, must be the function of the local agricultural instructor. With from 300 to 1,500 Rural War Production Training classes in each state, it becomes apparent that little supervision can be offered from the state or regional level. This situation is not as bad as it might appear. The supervisor is usually well acquainted with his special teacher. He chose him in the first place and has almost daily contact with him during the operation of the class. There is little doubt but that the agricultural instructor is the most logical and effective supervisor. He should realize, however, that such is his job, and that he can look for little help elsewhere.

Rather obviously, the pass-key to supervisory success, and the success of the resulting adult class, is the selection of the proper special teacher. There are too few instances where a choice may be made among prospective teachers, but when there is a choice, the matter of how well the prospect will take directions and make readjustments should be a consideration of prime importance.

Supervision Should Start Early

Supervision should start well before the first session of the class. The neophyte instructor should be convinced of the importance of his new work and told of a few of the trials and tribulations entailed in any adult education program. Confusion in the plans or objectives of the supervisor will necessarily be magnified when the instructor attempts to assume them.

When complete plans have been made for the first class meeting and a tentative schedule for future meetings outlined, the program is ready for operation. This is not the time, however, to place the in-

supervisor has the definite responsibility of easing the teacher into his new environment, being ever ready to step in and hew off some of the sharp corners which are bound to appear. After each of the first few meetings there should be a consultation between the supervisor and the instructor. Methods and procedures can then be talked about with a complete understanding which was not possible before the class began. Such items as attendance records, follow-up work, etc. are now in order for explanation.

When the class is on a firm footing, only an occasional visit is necessary, providing attendance is being maintained and the general routine is not disturbed.

AN excellent supervisory procedure is to talk with class members from time to time. Their satisfaction is an excellent measure of the success of the teacher.

When a number of classes with various teachers are being conducted, the task of supervision becomes more involved. Co-ordination of such a program is very necessary. The offering of classes at separate times is conducive to good supervision whenever such a schedule can be arranged.

An indication of the importance of such local supervision is made evident by the limitations placed on agricultural instructors in the number of such classes which they may teach. The success or failure of Rural War Production Training classes does not rest with the special teacher, but with the supervisor.

Visual Aids in Classroom Instruction

(Continued from page 47)

given some tools and the material and told how to put it together. In other words he had spent several hours in "busy work" but had learned almost nothing about poultry house construction.

Checking Effectiveness of Visual Aids

Testing is just as important in using visual aids as it is in any other phase of teaching. A checklist of items gained from the film will show how completely its contents were acquired. A five-minute written paragraph on a problem involving what was shown will reveal weak spots as well as items learned from the film. The same principles of testing apply with visual aids as with any other form of teaching materials. Unless visual aids can justify their use by actual test they may become expensive, inefficient, and wasteful.

Every teacher of vocational agriculture should have formal instruction in the use and care of visual aids during his pre-service training. Lacking this, any alert teacher can profit immensely by some systematic self-instruction in these very effective teaching aids. When properly used visual aids can add interest, stimulate learning, and amply justify

Producing Meat for the War Effort

E. A. ROQUEMORE, Teacher
Sherman, Texas

ENOUGH meat to feed more than 100 soldiers has been produced by the Sherman Chapter of Future Farmers since Pearl Harbor. The boys were able to set such a record because they concentrated on getting the greatest production in the least amount of time.

Hogs

Since pork production has such a rapid turnover, 32 of the boys began a co-operative hog feeding project shortly after Pearl Harbor. To date, 183 hogs have been marketed averaging slightly over 219 pounds, and totaling 40,090 pounds.

Too, these boys have 66 hogs on feed now that will average approximately 150 pounds, besides two registered boars, four sows with 25 pigs and four additional sows that are to farrow within the next few days. While the hogs have consumed more than 77 tons of feed, the boys have received \$5,211.70 from sales.

Broilers

Since broilers offer a means of quick production of meat, a broiler plant 56 feet long, with four compartments and a feed room, was constructed by the boys, to which they have recently added a killing-dressing room.

This plant has enabled the chapter to produce 4,800 broilers averaging 2.2 pounds and has encouraged the production of 17,760 pounds of broilers by the individual members of the chapter.

Beef

While the chapter has concentrated on hogs and broilers as a means of quickly increasing the production of meat, individual members have fed out 24 steers while the chapter finished 18 head, bringing the total beef production by the Sherman boys to 32,240 pounds.

The boys have gained confidence in their organization and their work, and even in themselves individually. I have happily reached the conclusion that an organization wherein boys are given an opportunity for self-development is one of the best ways to develop initiative and leadership in the leaders of tomorrow.

Book Review

Freedom from Want: A World Goal by Elizabeth Hoyt. A pamphlet published by Public Affairs Committee, Inc., 30 Rockefeller Plaza, New York City, price 10c. The basic theme of the publication is that two-thirds of the people of the world are in want and want is no longer necessary. Miss Hoyt using the yardsticks of malnutrition, death rate, and illiteracy, has prepared a world map of want that will be of interest to all persons and especially the agriculturalist who is charged with the production of food. The means for controlling want are now in man's hands; they should be used, and the help must be administered with respect for, and in co-operation with, the

Studies and Investigations

C. S. ANDERSON

One Year of Program-Planning and Evaluating

H. M. HAMLIN, Teacher Education
Urbana, Illinois



H. M. Hamlin

READERS of the *Agricultural Education Magazine* may recall that in August, 1941, I indicated that we were undertaking a project in program-planning and evaluation in Illinois, using the procedures I had recommended in my debate in the magazine with Dr. Ray Fife of Ohio State University¹. A 23-page report of the first year's work, Sept. 1, 1941—Sept. 1, 1942, is now available to those who may wish to write for it. This article is a brief summary of our experiences to date.

Six Schools in the Study

Six schools in various parts of the state participated during the first year. One school has withdrawn after losing two instructors to selective service. Two other schools were added at the beginning of the second year.

The project is to run for five years. During the first year, each school has taken the following steps:

1. A general advisory council, usually of nine persons, has been set up and its members have learned how to function rather effectively.

The members of these councils range from 19 to 59 years of age with a median age of about 45. They have had from four to 16 years of schooling; the median amount of schooling is 12 years. There is a school-board member on every council. One or two town men with agricultural interests are included in each group. Only one woman has served. Eighty-one percent of the council members are farm-bureau members, a somewhat disproportionate number since only about 40 percent of the farmers of the state are farm-bureau members.

A wide array of topics has been discussed by the councils and many excellent suggestions have been made by council members.

Councils Organized

In every case, excellent men have been secured for these councils and the members have been faithful in attending meetings. These meetings have been held six to 12 times a year. No attitudes have developed among the council members which offer any threat to the future progress of the work or which promise to interfere in any way with the teacher

or the board of education. One of the reasons, probably, is that the councils were set up and their members were selected by the boards of education following recommendations by the teacher and his principal.

2. Community boundaries have been defined.

Each teacher now knows the farmers with whom he is supposed to work. The number varies from 200 to 1,800. The median number of farmers in a community is 564.

3. The services rendered by the department to the community have been examined and extended.

The first result was to discover that relatively few people were being served. Two of the schools had no adult classes, so that their services were largely confined to 40 or 50 farms from which high-school boys were enrolled. In every case, the first move was to start an adult program or to expand the program under way. In the second year of the project, there are more than 40 adult classes in the five original communities which still have teachers, altho there were only three adult classes in these communities in 1940-41.

4. The communities have been studied to determine their special needs.

The most striking outcome of these studies has been the discovery of the very great differences in these communities. Each community needs a program tailor-made for it. The greatest differences were with respect to the condition and treatment of the soil, the amounts of livestock produced and the efficiency of livestock producers, the percentage of tenant farmers, the extent of membership in farmers organizations, the difficulty of getting a start in farming, and the attitudes of farmers toward farming.

Four sources of community data were used: (a) estimates by council members of the community situation, (b) community surveys, (c) farm records, and (d) census reports. Some of the findings are interesting.

Practices Need to Be Changed

In one community in which there is considerable dairying, it was discovered that if all farmers were paid at the same rate per cow as the members of the local dairy herd improvement association the returns to the community for one year would increase by \$697,000.

A survey of 92 farms in one community revealed the average production of pork per sow to be 1,084 lbs. In this community the council has decided that \$170,000 a year could be added to the income of the community if standard

crally followed. In one community it was found that 30 percent of the pigs farrowed were lost; in another community 40 percent were lost. In one community only a few miles outside the borders of the county in which the McLean County system of swine sanitation originated, only 29 percent of the hog growers kept their pigs on clean ground for four months or more.

In a community with about 80 percent tenancy, only 44 percent of the tenants had written leases.

One community has 104,000 acres of pasture land, most of which needs improvement.

In one community the following average yields were found: corn, 25 bushels; oats, 15 bushels; wheat, 15 bushels; soybeans, 12 bushels.

Few of the farmers in one community inoculate legume seeds or treat seeds of any kind.

Setting Up Objectives

Fifteen percent of the hog growers in one community use purebred boars. There is no purebred stallion in the community. The estimated average production of butterfat per cow is 88 lbs. and the estimated average production of eggs per hen is 90.

5. Objectives of the community program of agricultural education were set up.

One procedure was for the council, the teacher, and the principal to survey possible objectives rather systematically with "Educational Objectives in Vocational Agriculture" as a guide.² Another procedure was to set up limited objectives, one by one, as special community needs became apparent. The two approaches supplemented each other nicely. It seems important that the group view the total possibilities of the program but it is also important that it find some few challenging and feasible undertakings upon which it can at once embark.

6. A start was made toward the close of the year in planning for the evaluation of outcomes.

It is planned that all possible methods of evaluation will be used. Some communities will emphasize one group of evaluation devices. Among the devices to be used will be:

- Repeated community surveys.
- Individual farm records which show progress in farming efficiency.
- Specially constructed pencil-and-paper tests.
- Appraisals of pupils, parents, and others in touch with the work.
- Appraisals by professional workers from outside the communities.
- Better relationships were worked out between the school program of agricultural education and related programs operating in these communities.

This was accomplished by having on the advisory councils persons in touch

with these other efforts, and thru systematic conferences with persons in related fields. The results indicate that a school may have a very prominent part in correlating all educational activities within its community, whether these activities are conducted in or out of the school, or by public or private agencies.

8. Since war was declared soon after the project started, one of the first concerns in each community was to adjust to the war situation.

These adjustments were made much more easily and more quickly than in most schools because machinery for studying the situation and for recommending changes was already in existence. The teacher did not have to move out alone in making changes; he had the support of a strong, representative group in making them.

Some Results

Each community has found plenty of things to do which need seriously to be done. There have already been important accomplishments. A large increase in adult classes has already been noted. Most of the communities have become much more interested in farm records. Associations have been developed for sow testing and cow testing. The keeping of general farm records has been encouraged thru evening classes with follow-up of individual farmers. Soil testing and seed clearing services have been inaugurated. In one community comprising only a township, 240 tons of scrap metal were salvaged during the year in drives organized with the help of the council and conducted thru the agriculture department. This is possibly a national record.

Each school assisted as needed in training and providing farm labor. The councils assisted in influencing adjustments in the school day, week, and year to conform to the needs of farmers. The development of adult classes in other subjects, particularly in home economics, was influenced by the rapid spread of adult work in agriculture. One school provided terracing and contour-farming demonstrations. In one community about 200 additional individual hog houses have been provided and the school's swine sanitation program is given much of the credit. The county AAA office reports that the four townships served by one of these schools have been outstanding in the county in their increases in pork and milk production in response to war demands. In an effort to serve the community more widely, a special drive was made in one community to bring into the high school eighth-grade graduates from sections not hitherto reached; about twice as many freshmen boys as usual are this year enrolled in agriculture. Meetings with parents were increased and improved. Supervised practice programs were strengthened.

Most of the accomplishments listed have been in improving procedures and facilities. As indicated previously, there was little effort during this first year to evaluate outcomes. In other words, during the first year the project has principally been one in program planning. We shall get better programs after one careful evaluation has been carried out; we shall get better evaluations after more experience in program-planning and particularly in setting up good objectives which can be used as a basis for evalua-

Using Research Methods to Construct Instructional Aids for Teachers of Vocational Agriculture

S. S. CROMER, Professor of Agricultural Education, Purdue University



S. S. Cromer

THE growing popularity of visual aids for use in all teaching-learning situations has undoubtedly resulted in the production of much material that may not be well enough adapted to the valid objectives pertaining to the particular educational problem.

The pattern for the selection of visual aids in the field of vocational education is, of course, more easily discovered and determined than it is in the non-vocational field. However, it does not follow that the task is so simple that "swivel chair" methods may result in the development of the best devices.

Need for Visual Aids

In the field of vocational education in agriculture validated instructional aids are in great need. Much of the technical literature is not readily available for immediate use by the instructor. Furthermore, laboratory and illustrative materials are neither satisfactory nor sufficient in nature to make efficiency in learning-outcomes possible. Of course, not only proficiency but also efficiency is desirable in vocational education.

By-Products of Study

There have been some important by-products of the project. The communities came to feel as they had not felt before that the agricultural departments are theirs to be used in accomplishing purposes which they value. Teachers and others came to think of community-wide programs, rather than programs for a few high-school boys and their parents. The teachers became more interested in their communities and in remaining in them until the programs outlined can be carried out. They grew in initiative and confidence as they received increasing support of their efforts from the councils and the communities. Council members grew in appreciation of the school. Principals came to understand the work in agriculture.

The general plan of the study was found to be sound. Difficulties were experienced only in departures from the plan. None of the anticipated dangers has as yet developed. It is clear however that five years are none too many in which to develop the procedures which have been planned. It is clear that we are not going to have an ideal arrangement for program-planning and evaluation when we get thru, but it is also clear that we already have something better than anyone else has proposed.

These communities want good agricultural education. They do not need much

The observation that entertaining pictures not properly correlated to the learning objectives fail to facilitate good learning is quite common. To attempt to remedy this by co-ordinating and correlating the learning objectives with the choice of visual aids and contextual instructional materials has not seemed to be an insurmountable task. At least, the attempt was embodied in the research that was entered upon by the writer^{*} several years ago and just recently completed, published, and made available to teachers for use in their regular classes and in their War Production Training Classes.

The purpose of this research was to create and use validated procedures for the construction of a film strip and of a syllabus or bulletin of correlated contextual instructional material to be used in one of the enterprises of farming. The normative survey method was employed. This involved the use of questionnaires, personal interviews, job analysis, and the analysis of letter responses from authoritative respondents to evolve satisfactory criteria and valid learning objectives, and the use of objective data analysis of authoritative literature, which was finally validated thru the judgment of agricultural technologists.

*This research was carried on under the direction of the writer in collaboration with Dr. G. H. Cutler, Professor of Agronomy, Purdue University, and with Mr. W. J. Weber, Vocational Agriculture Teacher.

(Continued on page 58)

need some help. During the year, a representative from the University of Illinois visited each community four times. The difficulty of travel in wartime is cutting down the number of visits which can be made and the number of council meetings which can be held, but councils are going ahead on their own initiative and teachers are conferring with council members individually on their farms to a greater extent.

Some have pointed out that an approach such as this emphasizes too much the development of isolated community programs without reference to national and world needs. Our experience indicates that those in charge of these local programs are very eager to bring them into harmony with general social needs. There have been no displays of provincialism. Considerable time has been spent in determining how these community programs of agricultural education may be used to advance the general welfare.

The arrangement has proved to be an excellent device for teacher-training. An alert council does much to keep teachers alive and growing. A visiting teacher-trainer has some very definite things to do when he calls on a teacher participating in the project. The responses to his suggestions have been most gratifying.

Altho only one of the five years set for the project has expired, practices developed in these centers are spreading to

¹See issues of *Agricultural Education Magazine* for May 1941, July 1941, August 1941, December 1941.

Future Farmers of America

A. W. TENNEY

Vero Beach Future Farmers Collect 100 Tons of Scrap

S. P. STARBIRD, Instructor, Vero Beach, Florida

MEMBERS of the Vero Beach chapter Future Farmers of America have just completed a very successful scrap collection drive, during which they collected 100 tons of metal and rubber.

Last fall chapter members offered to sponsor the scrap collection campaign for the schools in Indian River county. The boys obtained the use of several trucks for hauling the scrap. Most of the collecting was done after school hours and on Saturdays. On certain days boys were excused from study hall to locate and haul scrap. Large pieces of metal were cut with an acetylene cutter to sizes which could be handled by the boys.

Cast iron was separated from the steel and sold separately. Vero Beach and Stuart chapters shipped co-operatively a freight car load of cast iron.

A total of 100 tons of metal and rubber was collected and sold. Many usable parts, nuts, and bolts were salvaged.

Chapter members were paid on an hourly basis for their work. After all expenses were paid, the chapter treasury had a balance of \$300 from this drive. One hundred and fifty dollars of the money is being used to purchase war bonds. The remainder is being used to purchase needed equipment and finance production projects.



Future Farmers and their scrap pile

Agricultural Education for Negroes

(Continued from page 45)

and food storage programs which tend to provide an adequate diet the year round. Many Negro communities are thrifty and prosperous—as contrasted with the community where there are only a few Negro farmers so characterized. In most cases where there are prosperous Negro farmers, there also exists a well-established program in adult education in agriculture. Case histories show that improvements have often been suggested and directed by teachers of agriculture.

Supervised Farming Programs

Supervised farming programs have

ership of purebred or good "grade" stock is not uncommon among the all-day, part-time and evening group members. In the deep South the co-operation of the landlords has often made possible the successful conduct of supervised farming programs. Adult farmers carry on soil building and soil conservation programs as parts of their supervised farm practice. Once composed of a number of unrelated projects, present-day supervised farming programs consist of a balanced group of productive enterprises, improvement projects and supplementary practices of such scope that many boys possess at graduation considerable savings in cash plus sizable stock and equipment inventories.

In areas where boys have not been able to secure facilities for carrying on satisfactory farm practice, teachers have

farms at prevailing wages. In some sections placement for farm experience renders many opportunities for supervised farm practice.

Establishment in farming has been given special attention. Usually the teacher carries on a follow-up program for boys after they are established in farming. Their successes and weaknesses on the job as laborers, tenants, or owners, often serve as the basis for the improvement of pre-service training.

Vocational agriculture is administered and supervised in the South in a manner comparable to the way it is administered in other sections of the country. A White state supervisor is directly in charge of the Negro work. He is usually assisted by an itinerant teacher-trainer whose duties are largely the professional improvement of teachers.

During the last five years many joint programs of agriculture and home economics have been established in Negro schools. The theme, in most cases, has been "improvement of conditions of the farm and in the farm home."

Co-operative canning projects are being rapidly established. In Georgia, for example, one-half of the Negro departments have organized community-owned canneries to which Negro farmers bring their produce for canning.

Co-operation With Other Agencies

The Negro teachers of vocational agriculture are co-operating wholeheartedly with other agencies. They have rendered outstanding service to the REA by helping bring rural electrification co-operatives to Negro communities. Likewise, they have worked very closely with the FCA. Many adult farmers and in-school youth have been able to secure production credit loans thru the efforts of the teachers of vocational agriculture. Other agencies with which the teachers have co-operated include the FSA, the SCS, the AAA, the NYA and the CCC.

Numerous examples of co-operation with other agencies are readily available. In 1939, for instance, conferences of vocational agriculture teachers and representatives of the FSA were held in different sections. Methods of applying for and obtaining a loan from a production credit bank were discussed.

In South Carolina vocational agriculture teachers held farm planning schools at which FSA clients were given training in farm management and production practices. These teachers also helped the FSA supervisors to secure desirable Negro clients.

In North Carolina the teachers of vocational agriculture conducted classes at the CCC camps and then assumed the responsibility for placement in agriculture or related types of work.

In South Carolina four resident schools were conducted for the purpose of giving qualified and deserving rural youth training in subjects which should increase the civic and vocational usefulness of future

F.F.A. Makes Money on Seed

J. W. IRWIN, Teacher, Tatum, Texas

GOOD seed can help win the war. Its use is the one way we can add to the nation's dwindling larder without further exhausting our already limited supply of farm labor. Tatum Future Farmers grew and sold certified seed corn amounting to \$1,749 last year.

The Tatum Future Farmers are members of the Piney Woods Certified Seed Growers Association, and 12 of them are growing 168 acres of certified seed corn this year.

The Tatum boys joined the Association in 1938, but encountered some difficulty in disposing of their seed corn at

that time because the Texas Golden Prolific corn which they were growing was a new variety. The yield was so good, however, the boys kept growing this variety for production. Since that time others have learned about this variety and the local members could supply only about half their orders the past year.

Plans are well underway for the construction of a storage bin within the chapter warehouse, which can be used for fumigating with hydrocyanic acid gas, another measure the boys are using to conserve food and feed and help win the war.



In the picture are J. W. Irwin, teacher of vocational agriculture and 12 Future Farmers of Tatum with registered Texas Golden Prolific seed corn from which they are producing 168 acres of certified seed corn

in 1939 that they were held again in 1940. These schools represented the joint efforts of the NYA and teachers of vocational agriculture in Negro schools.

Negro teachers of vocational agriculture have also co-operated wholeheartedly with the war effort and with the defense training programs. Most Negro teachers in the South have conducted or supervised defense training classes. They have also been active in assisting with the rationing program.

N. F. A.

I should not close this discussion without telling you something about the N.F.A. It is a national organization of Negro boys which is comparable to the F.F.A. It was organized in Virginia by Mr. G. W. Owens, the itinerant teacher-trainer at Virginia State College, and was originally known as the New Farmers of Virginia. In 1936 there were 574 chapters consisting of 20,000 members. In 1939 there were 916 chapters, consisting of 25,000 members.

The N.F.A. holds a national meeting each year. In addition to regular routine business, the delegates engage in public speaking contests, livestock and crop judging contests, band concerts and

the members engage in the activities which are carried on at the national meetings. In addition they carry on a variety of community improvement projects including, in some cases, other programs of rural social service.

It is obvious that work in vocational agriculture among Negroes has made very encouraging progress. However, the urgent need for improvements in all aspects is still present. Since too few rural Negro schools have curriculums which will prepare Negro youth for efficient service in the vocation of farming, rural-minded individuals of both races are giving serious attention to an expansion of the vocational agriculture program.

The progress made in vocational agriculture for Negroes, up to the present time, has been the result of the co-operation and active participation of both races in the South. The land-grant colleges of states which do not provide separate schools have also made significant contributions in that they have made it possible for workers in Negro teacher-training institutions to improve their professional qualifications. Past achievements and contemporary philosophy of vocational education in agriculture indicate clearly even greater progress in the future than has occurred during the last

Improving Practices

(Continued from page 51)

tural practices thru contacts with adults as well as high-school students should spend a day with Jess, "looking at bulls."

He would see and talk with young farmers like Floyd Bidwell with his 22 head of purebred Herefords, whose bull sales for 1942 totaled nearly \$2,000; John McArthur with his 48 head of purebred Herefords, who with his father operates one of California's largest grade beef herds; Bert Shaffer's Angus herd of eight outstanding purebred cows, and a fine herd bull; Morris Doty and Bethel Brown with a purebred milking Short-horn herd of 38 and 17 heads respectively; Richard Norris with the nucleus of a fine purebred Hereford unit in his nine high-class cows and heifers; young ranchers who got their start as Future Farmers, and who still are students looking to their agriculture instructor for help with their problems.

The agriculture teacher writes, "Today four of my former students stopped at the school to borrow livestock equipment and to discuss some of their problems. Three farmers also dropped in to discuss some of their difficulties. That is quite an ordinary day's occurrence. These contacts with farmers and graduates are a valuable asset to our program not only for the direct help we are able to give them, but for the emphasis it gives to actual problems."

These two communities present both contrast and similarities as to agricultural conditions and methods used by the teachers involved. The teacher in the dairy community, with its smaller farms and more compact nature, relied primarily on organized instruction and adult classes plus supervision to obtain results. The latter, with scattered ranches, a small population, and travel difficulties, relied primarily on supervisory and individual contacts and a minimum of organized instruction. Both got results, and both built their adult training programs on two factors; (1) definite objectives as to what improvements were needed and what had to be done to accomplish these and (2) sound all-day training programs of class instruction and supervised farming, which did not end when the Future Farmer became a farmer. Farmer classes can improve practices.

Book Review

Fundamentals of Soil Science, C. Ernest Millar, Lloyd M. Turk, 462 pp., illustrated, published by John Wiley & Sons, Inc., list price \$3.75. An excellent text on the college level that should prove of value to vocational agriculture instructors and others desiring information on soils and their culture. General principles of soil science are emphasized and explained in simple terms, omitting, so far as possible, technical discussions, particularly of debatable points. Details of practice have been omitted except where their inclusion is necessary for clarity. The plan of organization whereby each of the 19 chapters states an objective and gives key questions will aid both the vocational agriculture instructor and his students in making profitable use of this veritable storehouse of soil information.

