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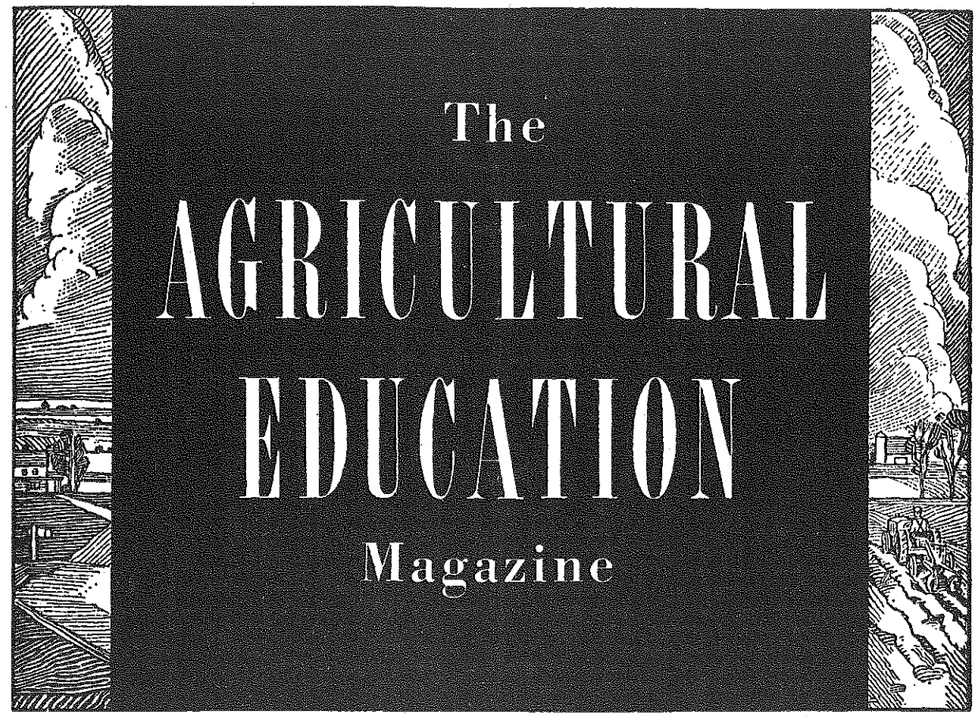

"EDUCATION is not telling a man what he knows not, but it is making a man what he was not."
—John Ruskin

The Agricultural Education Magazine

A monthly magazine for teachers of agriculture. Managed by an editorial board chosen by the Agricultural Section of the American Vocational Association and published at cost by the Meredith Publishing Company at Des Moines, Iowa.

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CONTENTS

Editorial Comment

Dawn of the Return of Unlimited Opportunities in Agricultural Education

V. G. Martin

FOR sometime there has been a growing sentiment for less and less Federal control of the farming of this nation. This outcry of public resentment has reached such volume that there now comes from Washington strong intimation that restrictions on farm production may be removed next year. All good reasoning would seem to point to this as the only sound conclusion that can be reached. Altho sound reasoning has been largely ignored in the past, factors have now come into the picture which add strength to the heretofore sound reasoning, and which, plus the prospect that it may not be politically expedient to continue controlled production, would seem to indicate that it is now reasonable to expect that the restrictions on farm production will be removed. Sensing this outcome from the present trends should awaken in those engaged in agricultural education a joyous enthusiasm as to the opportunity and responsibilities that lie ahead.

Controlled Production and Controlled Education

Since 1933, when the control of farm production began under the force of Federal law, education has been seriously hampered. Thoro and intelligent study by an individual farmer of his situation often times pointed to the need for progress in directions prohibited by Federal law. Under such conditions, what incentive has the farmer had to learn or the teacher to teach? Logically, many young men would have liked to enter farming as a life vocation but when the opportunity for placement was investigated it was usually found that such a young man could not find land that was not already being used to the maximum under Federal regulations or that any place he might secure could not be operated beyond the scope and limit of its previous operator. The fact that such a young man might have been far more capable and better trained than the previous operator was no valid consideration in his behalf toward securing a farm appropriate in size and kind to his ability and training. Thus, agricultural education in its most worth-while ultimate values became pretty largely only idle and futile pastime.

Under Federally controlled farming, teachers of agriculture have been able to serve only as propagandists. Education of this sort is not far different from that under the Fascist regimes where education is made only propaganda for the purpose of promoting the *isms* of the Fascists dictators. By Federal law only certain practices in farming could be considered legitimate. Achievement with respect to these practices has been brought about under the influence of heavy penalty and alluring incentive payments. Such influences are in opposition to a true concept of democratic education.

New Day

If the current trends that we seem to see in the dawn on the horizon really break into full daylight, they will mean to those engaged in agricultural education the return of opportunity to do real education with the barriers out of the way of intelligent reasoning. Farmers can once more plan successfully in proportion to the intelligence that they acquire. Young men with ambition and training may find opportunity for exercise of such ambition and application of such training where the opportunity seems most promising. Once more the shiftless and untrained persons, in the absence of Federal gratuities to such persons, will find themselves victims of their own effortless existence. Those who apply themselves with intelligence to farming will not have to labor under the burden of caring for

When this day of unlimited and unrestricted opportunity in farming does return, every individual farmer and teacher will be in position to make full use of his intelligence. Those who teach are responsible for the proper development of such intelligence and must not fail to devote their very best efforts to this end. It is time now that we should be looking to the return of this brighter day, exercising effort toward bringing about the return of this day, and becoming well prepared to deal with the problems and responsibilities that will devolve upon us when again farming can follow the directions dictated by most intelligent thinking.—V. G. M.

Agricultural Education Forges Ahead

G. P. Deyoe

VOCATIONAL agriculture has prospered since its inception in spite of many difficulties and handicaps. When this program was inaugurated it represented a new type of education and, like any new program, was subjected to much questioning. It had to prove its values on the basis of actual achievements and could not rely upon a traditional background. In order to appreciate just how well vocational agriculture has served, it is necessary to review or recall some of the times and conditions thru which it passed. Much can be said about each one of these past factors, but a brief enumeration of them should suffice.

Some Strong Features of the Vocational Agriculture Programs of the Past

1. Vocational education did not have wholehearted approval by a large number of general educators, many of whom were brought up on the idea that mental discipline was one of the main educational outcomes, and that it mattered little what courses a student studied.

2. Unfortunately, farm income per capita developed a downward trend a few years after the Smith-Hughes act was passed. World War I was a prosperous time for all farm producers, but a crisis began to develop shortly thereafter and teachers had a hard time in showing profits from programs inaugurated.

3. Farmers themselves were not always wholeheartedly in favor of agricultural education for many years after the beginning of vocational education. Too many farmers believed that agriculture should not be taught in schools. In fact some did not believe in much education of any kind. In spite of this, however, our program continued to grow and expand.

4. Teachers in high schools did not have the idea of studying the homes and lives of their students. When agricultural instructors began to do this, many questions were asked. Some doubts arose as to the advisability of going to a man's farm and inquiring about personal business matters. In spite of some misunderstandings, tremendous progress was made and instructors were soon accepted wholeheartedly.

5. During most of the first 20 years of our program, the National Government spent considerable time and energy in dealing with farm problems by piecemeal fashion. World War I created great readjustments among farm enterprises, developed special opportunities for some and harm to others. To alleviate the distressed enterprises, outside aid was applied. Some teachers attempted to capitalize upon those enterprises which had special advantages for the time being. This, however, caused some repercussions later, due to the behavior of buying power cycles. Yet in spite of short time efforts to build farming programs around these rapidly fluctuating enterprises, agricultural education was so valuable that these and similar shortcomings were overlooked.

6. All of the older instructors can recall the difficulties we

S. S. SUTHERLAND **Professional** R. W. GREGORY

Why Do We Have a Food Problem?

W. I. MYERS, Head, Department of Agricultural Economics, Cornell University

W. I. Myers

UP TO DATE in the present war, food production has been the stepchild of our war administration. Its actions on the food front have apparently been based on the assumption that production of all foods could be increased simultaneously to meet any needs that might arise without special consideration and planning for agriculture such as was given to other vital parts of the nation's war economy. We planned carefully for our armed forces and for munitions, ships, and planes but we took an abundant food supply for granted.

The supply of skilled farm labor was allowed to decline to a dangerous point, due partly to selective service and partly to price controls which had the effect of freezing agriculture at a serious disadvantage in competing with war industries for labor. At the same time the supply of new labor-saving machinery was curtailed drastically. Vague and grandiose promises of food were made by Government officials without serious consideration of our ability to make good on them. As a result of slowness in developing effective rationing made inevitable by price control, we ate up the largest food production in history as rapidly as possible instead of building reserves for less favorable years that are sure to come. Government restrictions and payments were continued to limit production of important crops long after the need for maximum production became clear.

Food Situation Bad

These errors were not intentional; they were due to failure to include a man familiar with food problems in the nation's top war council.

The only reason that serious difficulties did not arise sooner is the great good fortune of a succession of record-breaking harvests. These great achievements were made possible by extremely favorable weather and were realized because farm families made up for the shortage of hired labor by long hours of hard work. In many cases they put in the equivalent of two 40-hour weeks every seven days.

In recent months several constructive steps have been taken to remove these handicaps to full production of food but even yet there are no convincing signs of the realism which the present situation requires. Provision has been made for the deferment of essential skilled farm workers and plans have been developed for the recruitment and training of additional farm labor. An increase in the output of new farm machinery has been authorized altho it is probably inadequate and for the most part will not be available until 1944.

A man of nationally recognized ability and experience was selected as War Food Administrator. However, his authority was limited by subordinating the essential requirements of food production to the exigencies of wage disputes. Since he was given responsibility without authority, resignation was the inevitable outcome.

Efforts are being made to increase supplies of fertilizers, packages, and other essential supplies. However, agriculture is a biological industry. Food production is determined by the life processes of plants and animals which cannot be hastened. A delay of a month in a plane or a tank program means a month lost. A delay of a month in a food program may mean a year lost. Hence, total food production cannot be increased quickly except by the chance of favorable weather; nor can violent shifts be made at once in the relative production of different crops and animals required to meet war needs.

Causes of the Present Food Situation

The immediate causes of the present food situation are generally known. This war, like World War I, has resulted in a very large increase in the demand for food from United States farms. Civilian demand for meat and other choice foods has risen substantially above pre-war levels. The per capita consumption of meat in our rapidly growing armed forces is about double the civilian rate. The food requirements of our allies are increasing steadily. The combination of these three increased demands has overtaken even recent phenomenal production and resulted in shortages which have been magnified beyond their real importance by uneven distribution of supplies arising from price control.

The basic reasons for our present food problem are more important and are not commonly understood. For more than 25 years prior to the present war, United States food production did not keep pace with population. From 1914 to 1939 population increased about one-third or 33 million persons while food production rose at a slower rate. For the four-year period, 1935–38, just prior to the present war, per capita production of all food was eight percent lower than during the corresponding period just prior to World War I. This downward trend in per capita food production was obscured by the depression of the thirties and by the fact that it merely reduced our food exports.

During the thirties per capita food production in the United States was lowest in any century. In no single year during this decade did per capita food production get up to the 1926–30 level, the average for the entire period being five percent below. The public was told we had enormous food surpluses but the real trouble was inability of consumers to buy rather than over-production. We were struggling with a price problem, not a surplus food problem in terms of calories and nutrients that exceeded our needs. When employment increased, consumption rose and the so-called food surpluses disappeared quickly.

The people of these United States constitute the world's best market; they eat what food they want and then we export the remainder, if any. Hence, as per capita food production dropped, food exports declined, food imports rose and for 16 years prior to the present war our annual food imports exceeded our food exports.

During World War I food exports increased from about six or eight percent of production in the pre-war years to 13 percent in 1915 and 17 percent in 1919. About half of this increase came from higher production and the other half from changes in civilian consumption. The present war has brought another increase in food exports but from a lower level. With 33 million more people to feed here at home, our total food exports from 1935 to 1939 varied from two to five percent of production. In 1942 lease-lend shipments of food amounted to only six percent of our production, while our total food production was 16 percent above the normal prewar production. In the present war we increased food production but with ceiling prices and high wages we have eaten most of it up ourselves.

Overemphasis on Price Control

The present demoralized food situation with widespread shortages and black markets is in part the result of overemphasis on Government price control as the principal means of controlling inflation. In March, 1943, United States factory employment was 72 percent above the average of 1935–39. With more workers, higher wage rates and longer hours of work, total factory payrolls were more than three times the average of the same base period. Since supplies of other consumer goods and services have decreased because of the war, this increased buying power has caused a sharp rise in the civilian demand for meat and other choice foods. In 1942 civilians ate substantially ess than in 1935–39 of the cheaper foods such as potatoes, sweet potatoes, and dry beans and considerably more of the highly-priced foods such as meat, poultry, eggs, milk, and cream. In time of peace such a change in diet would

increases the pressure on a limited agricultural output because of the relatively large amount of land and labor required for the production of these concentrated foods. In this situation efforts to control inflation primarily by the use of rigid price controls have tended to decrease production of many scarce foods, to increase their consumption and to induce evasion or black markets.

Inflation is caused by excess spending power relative to the supply of available goods and services. Inflation can be minimized only by bringing spending power into balance with the supply of goods and services available. This can be done most effectively by increasing the supplies of food thru maximum production and reducing spending power thru a vigorous tax and savings program.

Restrictive Programs Hampered War Food Production

Another factor contributing to the present food shortage is that the steps taken by the Government to increase production have merely been added to agricultural programs established during the thirties and designed to restrict production in a period of low prices and widespread unemployment. In addition, these measures to increase production were administered by an organization whose employees were trained to carry out this program of limiting production. As a natural result, acreage restrictions were continued long after the need for full production became clear and the plans of farmers to increase production were hampered severely. Altho modified, these restrictive programs are still applied rigidly from farm to farm and in many regions still limit the acreage of the best adapted crops that can be grown, thus preventing farmers from freely organizing their resources for maximum production of food. Since they are in direct conflict with wartime requirements, these restrictive programs should be eliminated completely.

Prices and Food Production

Prices determine the kinds and quantities of crops grown and the kinds and numbers of livestock kept. In spite of their critical importance in directing farm production, food prices in the present emergency have been dictated largely by the general program of rigid price ceilings to keep down the cost of living and control inflation. While popular with consumers in the short run, low prices are an unsatisfactory substitute for adequate supplies of essential foods.

Another difficulty with which farmers have had to contend has been the frequency of changes and the continuing uncertainty of food price support programs due to disagreement as to methods to be followed. In order to be effective in influencing production such programs must be agreed upon and announced well in advance of the planting and breeding seasons to which they apply.

The first requirement of a wartime food program is to insure the production of the kinds and quantities of foods necessary to meet probable needs. In the present situation it is imperative that we increase the supply of certain food crops. The quickest and most effective way to shift production is to adjust prices of the foods concerned to bring about the

ministrator is responsible for food supplies he must be able to establish the prices necessary to insure the success of his program.

The disagreement on food subsidies between the Administration and Congress has been the reason for the continuing uncertainty of the food price program. Farmers in general as well as farm organizations are opposed to the general use of subsidies. They do not like the arbitrary administrative controls that always accompany subsidy payments. Then, too, farmers feel that war workers are well able to pay the necessary price for food.

Altho retail prices of food have risen substantially from the depression levels of 1939, they have increased less than the average per capita income of all the people in the United States. At present retail prices the cost of a standard food budget takes 16 percent of the average per capita income, the lowest figure for any period in the last 30 years for which data are available and substantially lower than the range of 24 to 31 percent during World War I. Actual average expenditures for food at present retail prices amount to 21 percent of per capita income, this higher figure being due to the larger proportion of choice foods being purchased by war workers at the present time.

From the standpoint of the national food program, there is sound justification for the judicious use of some food subsidies. From this standpoint, the logical place for subsidies would be to increase the consumption of economical and abundant foods, such as potatoes, soybeans, and dry beans by providing low prices thru subsidy if necessary. To use subsidies to reduce the prices of scarce foods like meat and butter on which we must economize severely only serves to make rationing more difficult.

In order to encourage pork production the Government guaranteed a support price for hogs which at the present time is $13.75 per hundredweight at Chicago. For several months the price of hogs has made a bushel of corn worth about $1.40 as feed for hogs. At the same time, OPA has placed a ceiling price on corn sold in the open market at $1.07 per bushel at Chicago. Thus a mid-west farmer can get about one-third more for his corn by feeding it to hogs than by selling it on the market. The result has been a phenomenal rise in hog numbers and increasing difficulty for dairymen and poultrymen in getting corn for their cows and hens. They cannot get corn at the ceiling price because the grower can make more money by feeding his corn to hogs and selling the hogs.

If present relationships and corn ceiling prices remain in force, it will result in the use of a large part of the total corn supply to produce pork and lard and a corresponding reduction in the amount available to produce milk, eggs, and other animal products. Present plans of farmers to increase hog production, based on Government price policies, jeopardize the supply of milk and eggs for cities, foods which are of critical importance in the maintenance of balanced diets.

In ordinary times corn-hog price relationships change frequently in accordance with changing conditions of demand and supply. In the present situation these normal corrective price changes are prevented by Government price ceilings on unbalanced livestock production and a critical feed situation for dairy cattle and poultry. If Government price fixing is to be substituted for market prices in the guidance of farm production, it is imperative that changes in fixed prices be made promptly when occasion requires, if disaster is to be avoided. Decisions now being made by farmers in the breeding of sows for fall pigs will determine the consumption of the 1943 corn crop in the winter of 1943–44. With the present excessive hog population and an estimated reduction of 14 percent in feed crop production below last year, prompt action is imperative to safeguard the milk and egg supply of eastern cities and to prevent drastic liquidation of livestock next year.

If we produce too little food or the wrong kinds of food, no rationing system can increase the physical supply nor change its composition. The first job is to be certain that we produce the needed quantities of food. The next is to see that the people get it who need it.

Can Total Food Production Be Increased?

For six consecutive years, 1937 to 1942, the aggregate yields per acre of United States crops exceeded any year in history prior to this period. However, it was only with the phenomenal crops of 1941 and 1942 that per capita production of food has again reached the levels of the period prior to 1920. In 1942 aggregate yields per acre of all important United States crops were 36 percent above the 10-year average 1923–32 and resulted in total production 28 percent above the same base period. While hybrid seed corn, improved production practices and conservation measures contributed to this highly favorable result, the major factor was extremely favorable weather thruout the United States.

In view of these extremely favorable yields in recent years, the nation will be fortunate if it can maintain crop production at the 1937–41 level during the remainder of the war emergency even tho all possible assistance is given to farmers. In spite of the steps taken, we still have shortages of skilled farm labor, machinery, fertilizers, and essential supplies.

Almost every month thus far in 1943 has shown a reduction in the over-optimistic estimates of anticipated crop production. An unfavorable winter has reduced the probable size of our 1943 winter wheat crop about 19 percent below last year's record level. Wet weather has caused serious delays in the planting of spring crops while floods have destroyed considerable acreages already planted. Vegetable production to date has been running about 13 percent below 1942. Given favorable growing weather during the summer and an absence of early frosts, it is possible that the total production of crops will be reasonably satisfactory. However, there is no possibility of another bumper crop this year and the danger of a serious reduction cannot be disregarded.

Altho in relation to population, livestock numbers declined considerably from 1919 to 1938; they have increased sharply from these low levels, the largest gain in hogs being about 50 percent. This extremely rapid acceleration in livestock production (principally hogs and poultry) during the present war was made possible by a succession of phenomenal

Methods

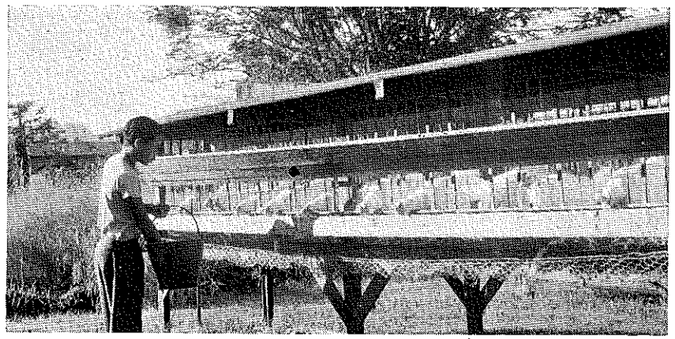
G. P. Deyoe

Students in Hawaii Produce Food on the School Farm

WOON YOUNG PACK, Teacher, Lihue, Kauai, T. H.

A DEMONSTRATION farm with approximately an acre of land is the setup found at the Lihue school. Located at the back of the campus, this demonstration farm is composed of a vegetable plot with 12,000 square feet; a duplex concrete pig pen, 10 feet by 24 feet, which houses at the present time a gilt, a young boar, and two barrows; a poultry unit composed of 60 laying hens housed in five laying batteries and two plantation house units, and 50 Leghorn pullets and 47 cockerels brooded in two 6′ x 12′ mosquito-proof houses; a muscovy duck enterprise consisting of 20 laying ducks and two drakes, which are used for breeding purposes; a rabbitry with nine New Zealand White producing does and two bucks of the same breed; a nursery consisting of more than 100 ornamental plants—mainly anthuriums, common orchids, maiden hair, and other miscellaneous plants; and a fruit orchard consisting of solo papayas, grafted citrus, and Chinese bananas.

This in a nutshell is the general picture of the farm here at the Lihue school, existing purely for educational purposes and not as a commercial enterprise.



A student feeding hens in a laying battery on school farm

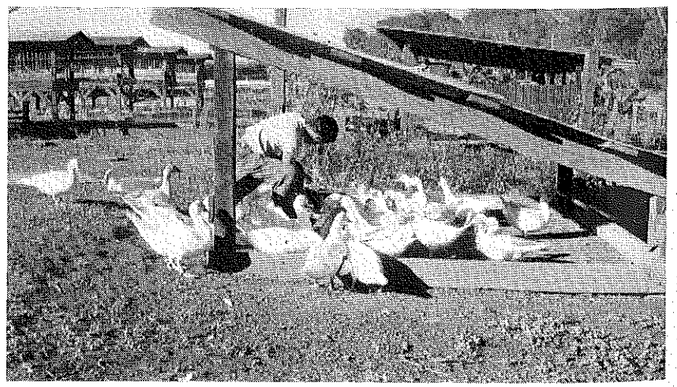
Purpose of Farm

This demonstration farm serves two purposes: (1) a laboratory for the students of vocational agriculture, and (2), production of food for the community. As a laboratory, it enables the students to acquire the necessary skills to manage the above mentioned enterprises, as each is carried on thru a complete cycle. Therefore, students enrolled in this course gain a rather complete understanding of each enterprise before leaving school for employment or further study.

For the swine, poultry, duck, and rabbit projects, particular stress is laid on the feeding and management of each, marketing of such produce, the breeding principles involved in the improvement of the various animals, and the keeping of proper records.

As for the nursery project, students are taught propagation methods of ornamentals as well as fruit trees and the repotting and care of such plants. In the vegetable enterprise, emphasis is placed only on proper fertilization and spraying methods, succession of crops, and rotation, as the students have acquired the basic fundamentals in gardening from a prevocational course.

Students cultivating vegetable crops in the school garden. Cabbage in foreground, carrots in background



Students Do the Work

Supplementing such training, the students do all the necessary construction work on the farm, which may be building, threading and fitting pipes, or cement mixing.

Students enrolled in this agricultural course spend approximately three hours per week doing all the necessary farm work. Any job unfinished during the regular class period or any extra work is done by hired student help, paid from the profits of the school farm.

When not working on the farm, the student's time is consumed in the study of academic subjects taught by other teachers of the school.

This small demonstration farm produces enough food to gross anywhere between $50 to $150 per month. Produce includes eggs, poultry, duck and rabbit meat, vegetables, fruits (solo papayas), and pork. All products are offered for sale first to teachers and students, and if there is any extra it is marketed at the local stores. Expenses on the farm are kept at a minimum, and as a result a small profit is always realized.

War or no war, this small demonstration farm is serving its primary purpose —the training of Future Farmers of

The New Orleans Pre-Farm Employment Training School

D. C. LAVERGNE, Assistant Director Rural War Production Training, Louisiana

SINCE most urban boys are unacquainted with agriculture and farm life, it is important that those anticipating farm employment be given a carefully planned orientation course prior to such employment.

The Pre-Farm Employment Training Program conducted in the city of New Orleans had as its purpose the instruction of urban boys who desired to play a part in the Victory Farm Volunteers Program by accepting employment wherever a deficiency in farm labor existed. The boys trained in this program were between the ages of 14 and 17, and are regularly enrolled in the city schools of New Orleans. The boys who enrolled in these classes had little or no farm experience. This fact was kept in mind in planning the instructional program.

Objectives

The specific objectives of this program were as follows:

1. To develop an appreciation of the critical need for additional farm workers thruout the nation, and to create on the part of the student a desire to co-operate in the war effort by making himself available as a farm employee.
2. To acquaint the boy with the different types of farms and farm work to be found in the various sections of Louisiana, with special emphasis on the types of farming in which peak labor seasons occur.
3. To teach farm safety measures by preparing the boys to observe accepted rules and methods in doing farm work. Also, attention was given to the handling of livestock and to the operation of motor driven vehicles and all farm machinery.
4. To give the boy a knowledge of poisonous plants and animals, together with the ability to apply first-aid treatment in case of an accident or injury.
5. To teach, insofar as possible, general operative jobs associated with farming which would be applicable to any section of Louisiana.

Training Center

The training center was the Warren Easton High School, which was convenient to the students in that it is centrally located in the city of New Orleans. Four instructors, with wide teaching and farming experience, were employed to conduct the classes. Each instructor was required to prepare his own training program to conform with the objectives stated above. In later group meetings, the four instructors revised their individual plans to take in items which may have been overlooked, and which were called to his attention by one of the other instructors.

The course was conducted for a total period of 24 hours in classroom instruction and visual education. The classes met from 8:30 to 11:30 in the mornings and from 1:30 to 4:30 in the afternoons. In both the morning and afternoon periods, two hours and 45 minutes were devoted to classroom instruction, and 45 minutes to visual education. The course extended over a period of eight days, which provided a minimum of 24 hours of instruction. The students were enrolled in the sections most convenient to them. After considerable preparation and consultation, the instructors arrived at a decision as to the course content, and it is presented here.

Nature of Training Program

I. The need for additional farm workers
   A. The instructors worked to develop within the potential farm employee an appreciation of the need for increased production of all agricultural commodities. Information along the following lines was presented:
      1. The need for increased farm production occasioned by the Lend-Lease program, as well as by greater home demands. The instructors attempted to arouse within each student a realization that his employment on the farm during vacation months or other leisure time would be a definite contribution toward winning the war. Emphasis was placed on the fact that boys within the age limits stated above were not eligible for employment in industrial plants.
      2. Manpower needs. It was brought out that America's best manpower, between the ages of 18 and 38, has been absorbed into the armed forces and defense industries. The duty, then, devolves upon all other able-bodied men and boys to give themselves to the task of producing agricultural commodities for the peoples of the United Nations. It was pointed out that the increased activity among millions of people has brought about a proportionate increase in their food needs.
   B. To develop an understanding of living and working conditions on the farm, the instructors presented information on the following points:
      1. Requirements of farm workers. It was explained to the students that there could be no definite schedule of working hours on season and the type of farm. For example, work on the dairy farm is heaviest in the early morning and late evening. On truck farms, long working hours are required at certain seasons in order to care for perishable products.
         The clothing worn on farms should be inexpensive, sturdy and simple. In choosing his clothing, the farm laborer should be guided by the season, selecting the type of garment that will afford protection from heat or cold.
      2. Housing facilities. It was explained that an individual employed on the farm will live with the farmer who employs him and will share whatever conveniences his family may have. He will be expected to live as a member of the family and to work for the interest and welfare of the farmer as the other members of the family.
         If the individual is a member of a group employed on a large farm, he would probably be placed in a house with the group under the supervision of a special supervisor.
         As to food, it was pointed out that most farm laborers have access to a plentiful supply of a variety of fresh vegetables, fruit, milk, butter, meat, and eggs.
      3. Conveniences on the farm. The instructors described the sanitary improvements to be found on most modern farms. Most southern farm houses are heated by wood, while some use gas or coal. The water supply on many farms comes from deep wells with the water pumped into tanks by electric pumps. Other farms have shallow wells and hand pumps. The Rural Electrification program has made possible electrical conveniences on many farms equal to those in the best city homes.
         Communication in rural areas has been modernized by the development of highways, the establishment of R.F.D. routes, and the installation of telephones and radios in farm homes.
         Recreation on the farms was pointed out as being of the highest type. Despite the frequent long working hours, most farmers arrange a schedule that affords the laborer a proper ratio of work, recreation, and sleep.
      4. Rural institutions. The instructors pointed out that excellent schools and churches are to be found in rural communities. In the near-by towns, the farm laborer may have access to hospitals, theaters, and health units.
      5. Compensation for farm labor. The instructors explained that altho the wages paid for farm labor are not as high as those received in industry, this deficiency is more than offset by the lower cost of living on the farm, the healthful benefits of fresh air and sunshine, and the flexibility of the work program.

Supervised Practice

C. L. ANGERER

Characteristics and Practices of Students With Superior Farm Practice

DONALD R. CLARK, Teacher, Hamilton, Indiana

THIS study was undertaken to attempt to find the characteristics and practices of students with superior supervised farm practice as contrasted with those students with inferior supervised practice. The evaluation deals with the productive enterprise project only.

Procedure

The data for this study were obtained from 225 questionnaires submitted to students in 11 departments of vocational agriculture in six counties in northeastern Indiana and Ohio. These departments are in schools varying in size from the largest to the smallest schools offering courses in vocational agriculture. The students responding were graded by their instructors on their supervised practice. Fifty-three percent of these students were graded A or B; the remaining 47 percent were graded C, D, or E. In the interpretation of results, the responses of the better students are compared with the responses of the poorer students.

Another questionnaire was submitted to 47 teachers of vocational agriculture selected at random over the State of Indiana. Frequency of response is used in the interpretation of the results of this questionnaire.

The objectives and practices found to be most useful to teachers of vocational agriculture were obtained from a survey of publications dealing with supervised practice. Frequency of listing is used as the criteria of effectiveness of these objectives and practices.

Results of Student Questionnaire

Ownership, or part ownership, of the project has been long emphasized as a means of securing better projects. The results of this study for some unexplained reason, do not show such relationship. Fifty-eight percent of the students have some interest in their projects, but they did not receive better grades than those who had no ownership. Of much significance, however, is the ownership in farm animals. Sixty-five percent have ownership in some farm animals. These students were graded considerably higher by their instructors than the group which does not have ownership. Also of significance is the ownership of farm animals by the group who received grades of A. Only 23 percen of the students received A in supervised practice, yet these A students own 51 percent of all the hogs, 40 percent of all the dairy animals, 69 percent of all the poultry, 29 percent of all the sheep, and five percent of all the beef animals.

Students coming from farms owned by their parents are better project risks than live on farms which their parents own. Sixty-eight percent of the students from farms owned by their parents received grades of either A or B as compared with only 43 percent from farms where the parents are tenants. If students do not live on farms, they are definitely handicapped in their project work.

Sixty-five percent of these students have lived on the farm where they are now living seven years or more. Generally speaking, the longer the student has been on one farm, the better his supervised farm practice.

Size of the farm, too, influences the project program. The average size of the farms represented by these students is 125 acres; however, the best students come from farms of 150 to 200 acres. Apparently a farm of this size is large enough to challenge the boy, and not too large to make his father a farm manager rather than a farm worker.

Relation of School Grades to Grades in Projects

There is a very positive correlation between grades in school subjects and grades in supervised practice. When the numerical grade in supervised practice is computed by counting A, 100; B, 90; C, 80; D, 70; and E, 60, the students with grades of A in school subjects receive 100 in supervised practice, B students 91, C students 86, D students 79, and E students 60. Here again it appears, as in most school work, the appeal is greatest to the intellectually strongest student.

When asked for opinions of their projects, the poorer students classified their projects "good" as frequently as did the better students, thus indicating that they were not aware of the inadequacy of their projects.

The quality of the projects seems to vary with the farming phase in which they are conducted. The students carrying project work in farm accounts, oats, sheep, wheat, poultry, and hogs have better projects than those in beef and garden, and much better than those in potatoes and farm shop. The following list of projects is arranged in the order in which the largest percentage of the students receiving A and B, as compared with C, D, and E, engage: farm accounts, oats, sheep, wheat, poultry, hogs, dairy, corn, beef, garden, potatoes, and farm shop.

Problems of Difficulty

When asked what they like best about project work, 75 students said, "The money I make." That this is significant is indicated by the rating of the second de- animals," listed by only 29 students.

Students dislike keeping records more than anything else about their project work. One hundred and ten students listed "keeping records" as the most disliked feature of supervised farm practice. Ranking second was "too much work," listed by 45 students, and third, "making plans," listed by six students.

The most difficult phase of their project work as listed by 117 students is "keeping records." "The work of caring for the project," ranked second with 26 students listing. Third, "closing books," which is also record keeping, was mentioned by six students.

The reason given by 109 students for enrolling in courses in vocational agriculture is to learn farming. Fifty-one take the course because they intend to farm; 30, because they like farming; 17, because it is interesting; 13, because it is an easier course; 12, because it helps make money; and 11, to get credit. Other reasons listed less frequently by students are: farm shop, experience in farming, 4-H Club work, fits into school schedule, to learn to make money, get started in farming, to get good grades, and to keep a project.

Listed below are the characteristics of students of vocational agriculture that show a low correlation with superior project work:

1. They have a source of income.
2. They are F.F.A. members.
3. They are 4-H members.
4. Their parents encourage them to take care of their projects and keep records.
5. Their parents are interested in their projects.
6. They are carrying projects in the phase of farming in which they are most interested.
7. They intend to farm after they leave school.
8. They own their projects.
9. They believe that well-kept records are necessary for successful farming.
10. They have been enrolled in vocational agriculture for several years.

The students receiving A and B grades in supervised practice possess the following characteristics much more frequently than those receiving grades of C, D, or E.

1. Their parents farm.
2. Their parents farm 150 to 200 acres.
3. Their mothers like to live on a farm.
4. They have ownership in farm animals.
5. Their fathers like to farm.
6. Their parents own the farm on which they live.
7. They like to carry a project and keep records.
8. They have lived on the farm where they are now living seven years or more.

Conclusions

This study is limited both geographically and in the number of cases. These findings might not apply to other states or even to different sections of the State small to be conclusive, yet great enough to be indicative. Some of the most outstanding indications which may be somewhat controlled by the teacher, and which should be practiced are:

1. Help the boy secure ownership in farm animals thru supervised practice.
2. Insist upon well-kept, up to date records—*simplified* records.
3. Above all, help the boy make money from his project. If money is not made, the project will fail almost as surely as any business operating without interest to the operator.

Needed Research

Research, much research, dealing directly with students is badly needed. Listed below are only a few of the many phases of the supervised farm practice program needing investigation:

1. Many more cases are needed to establish the reliability of or disprove the findings of this study.
2. The apparent lack of correlation between F.F.A. work and a good supervised farm practice program needs investigating.
3. To find how the scholastically low students and the nonfarm students might be challenged sufficiently to do better work in supervised practice would be a great step forward in agricultural education.

A War Livestock Program for Vocational Agriculture Students

J. I. THOMPSON, Livestock Specialist, Bureau of Agricultural Education, San Luis Obispo, California

I AM looking at this problem from the situation in the Pacific Coast area, but some of the changes necessary here may be applicable in other regions. Surely the first item has equal weight everywhere.

1. Time is the important factor. We need more production now.

2. As high as 20 percent of vocational agriculture students have dropped out of high schools. This will change the emphasis given to increased production by those who remain.

3. Many of these students who were best able to expand their programs and increase the total food output were seniors who dropped out of school.

4. The younger boys will not profit as much as usual from the older pupils' experiences, hence will need more teacher supervision.

5. Parents, in many cases, are already doing every bit of work that they can and will often not be able to take over the farming programs of boys going into military service.

6. In many cases, and in many areas, it looks as if long-time farming programs are out for the duration for many Future Farmers.

7. This means less emphasis on breeding projects of beef cattle, sheep, and dairy cattle.

8. The main emphasis must be on the short-time, quick turnover type of enterprise that can be easily liquidated at little or no loss.

9. Feeding lambs for market is still very can be obtained at reasonable prices, and where boys have the proper feeds in sufficient volume.

10. Feeding steers for market will continue to be attractive to many boys, but the goal should change considerably. A "Grand Champion" should be the fortunate "by-product" of a commercial feeding project and not the planned finale. The need is for the greatest possible number of pounds of "good to choice," not "prime," beef in the shortest possible time, produced with the maximum employment of pasture, coarse roughages, unsalable farm products, and the minimum amount of concentrates.

11. Feeding market lambs belongs in the same class as feeding beef animals, but their production of lambs is not as urgent as that of beef. They can efficiently utilize many farm by-products. We have just marketed 300 lambs that received nothing but cull beans for their grain ration. They killed out fine and returned a profit.

12. It looks as if increased emphasis can be given pork production. A boy can get in and out of pork production quickly if he is called suddenly away from the farm. A brood sow can be readily sold for a good price any day of the year. Feeder pigs are selling here for from 22 to 25 cents per pound. Satisfactory protein supplement is the most serious "bottleneck" in pork production in many areas. Pasture, clover or alfalfa, will take care of some of this scarcity and much of the high-protein feeds normally fed to show steers and lambs should now be diverted to pork production.

13. Poultry, for eggs or meat, or both, is in the same class with pork, and is adapted especially for the boys in small towns or on farms where only the back yard is available for their projects. Very few towns will continue to enforce the rule of "no poultry" within the city limits. Even the mayor may enjoy being awakened by the crowing of a rooster, if he thinks this might indicate a possible additional supply of eggs to the nearly empty egg baskets in many towns and cities.

14. You beef cattle enthusiasts will laugh, but the lowly rabbit cannot be overlooked right now. If you have not figured out the amount of human food one white New Zealand doe will produce in one year, on less feed per pound of production than any other meat animal except a pig, plus the value of the pelts, you have a coming surprise. A pound of meat is a pound of meat this year, and will mean more than that by this time next year.

15. Perhaps the senior boys excused from school and deferred to work on the farm should be supervised as if they were still in school, if tires and gasoline permit.

16. A lot of attention will need to be given to different feed combinations for the various rations. It will be necessary, in many areas, to make use of every possible by-product in some form of meat production. Since many of these by-products are bulky, their use in pork production must be watched very carefully, or the ration will not be effective. Too much crude fiber is very costly.

17. Boys still in school can aid the increased livestock program considerably by building in the school shop every piece of equipment that they can use efficiently.

Several schools in this region have lumber previously used in the construction of defense projects which can be used by farmers to increase food production by making self-feeders, brooders, panels for fences or partitions, and other similar items of equipment needed by farmers for increasing food production.

18. More planting of crops that can be harvested by livestock will help to solve the labor problem. Where boys can do this, they will have more time for other projects, or for helping their parents or their neighbors in farm work.

19. More emphasis is necessary on disease prevention. To let any hog die from cholera that could have been prevented by vaccinating cannot be excused this year. The same thing applies to blackleg and anthrax. Lice, mange, and worms should receive special attention, along with warbles in cattle. A single pound or 100 pounds of meat lost because these diseases or parasites were present are not of any value to a soldier, or sailor, or marine, or even a citizen.

20. Finally we must not only be tolerant of small projects but must actually encourage every project, no matter how small. One pig is not a farming program in normal times, but today one pig, or one dozen pullets, or two or three does *are* worth while. Multiplied by several hundred or thousand boys who can produce this much but no more, individual projects add up to a sum that might readily be the difference between enough and not enough.

Producing for the War Effort

LEROY H. COGSWELL, Teacher Waverly, Iowa

JACK and Barbara Wright decided to talk with the high school vocationa agriculture instructor as to possible ways and means of making their contribution to the war effort. This conference resulted in their attending and taking an active part in the discussions in one of our three out-of-school youth and adult commodity courses.

They attended the course on "Increasing Egg Production" taught by Mr. Fred Nuss, local hatchery owner and operator. Mr. Nuss discussed with the group the various problems to be solved in successful poultry work.

With no previous poultry experience but with firm determination to use only the best practices in poultry production Mr. Wright set about to convert the west wing of the greenhouse into a poultry business. He built a series of brooding pens on the greenhouse benches with heat pipes underneath, and constructed five electric brooders and sufficient equipment to operate successfully.

Since March, Mr. Wright has produced 4,000 broilers and 800 pullets. At the present writing he is growing out 1,000 pullets for his own laying flock which will occupy the west wing of the greenhouse this fall. He has moved the pullets out on range to get away from the extreme summer heat under the glass of the greenhouse and to enable him to remodel the west wing into a 1,000-hen poultry house. Mr. Wright found that the high humidity in the greenhouse promoted early feathering and that in seven weeks time he was able to have Barred

Farmer Classes

E. R. ALEXANDER — W. H. MARTIN

Expanding Size of Enterprises

J. G. CANTERBURY, Jr., Teacher, Covington, Louisiana

THE nature of farm enterprises and the fact that crops and livestock require a certain amount of time to progress from plans to the market mean that extra precaution must be used in making the farm production plans. In general, products of factories, such as planes, tanks or guns, may be adjusted much more quickly. If it is a case of expansion, whole new factories can now be erected in a few months or even in a few weeks. If it is a question of curtailment, most costs may be eliminated by ceasing to buy raw materials, discharging employees, and closing part or all of the manufacturing plant. If the farmer attempted to curtail production in this manner, the results would be disastrous. His labor is largely his own and that of his family and cannot be discharged; and in most cases, he does not have sufficient financial reserves to carry him thru to a period of better markets.

Some adjustments will necessarily have to be made on most farms in order to meet the war production goals. It is imperative that these adjustments of enterprises be worked out for each farm individually. (Evening classes could be used to good advantage, affording wonderful opportunities for working on these plans.) If a farmer has shown ability in the production of certain crops and livestock or a combination of crops and livestock, it is the sensible thing for him to continue and to expand these enterprises as long, of course, as they are essential commodities needed for the war effort.

Keeping Records

How may we assist the farmer to plan his adjustment? One of the most important bases for planning adjustments of the farm business is an adequate set of records and accounts. These records will show crop yields, quantities of feed used to raise and fatten or maintain different kinds of livestock, number of eggs per hen and number of pigs weaned per sow. These records will definitely support decisions to increase or decrease various lines of production.

After a careful study of the records and accounts (or even if records and accounts are not available), a good method is to draw up two or more plans and budgets which seem promising in the light of previous experience, and present and prospective conditions. These plans will show the expected production, income, and expense under each program. They will also point out requirements of land, machinery, and supplies which may be difficult to obtain.

Plans on paper will not increase food production if they remain on paper. Planning is about as far as we can go in the evening classroom or in the easy chair. We must put these plans into operation, and the teachers of agriculture best information available on farm management and organization. Now more than ever, we must see that he applies the information that is available on production practices in order that maximum results may be obtained from the available land, machinery, and labor.

The evening class should discuss topics and problems which the farmer will face in expanding his production. The following are some suggestions for discussion:

1. Problems of farm financing resulting from increased production.
2. Ways of securing and producing seeds during the period of wartime restrictions.
3. Means of maintaining and increasing the present numbers of farm animals.
4. Adjustment of farm production to meet wartime market demands.
5. Farm-shop work in maintenance and repair of farm and home equipment.
6. Methods of feeding livestock efficiently including the production and utilization of home-grown feeds.
7. Ways of controlling plant and animal diseases and parasites.
8. Determining the kind and combination of enterprises for efficient expansion.
9. Management of farm labor efficiently.
10. Enterprise rotations for combating the scarcity of fertilizers.

Other Kinds of Help Needed

These items are only a few of the problems the farmer must solve in his battle of production. We, teachers of agriculture, must go even further than this. We must have information at our fingertips on such things as: (1) source of good purchasable seed and stock; (2) location of additional land for expansion purposes; (3) location of available machinery and equipment; (4) available labor for emergencies; (5) location of available materials and supplies, such as wire, machinery parts, and how they may be obtained. We must assist the farmer to develop plans for co-operative purchases of feed, seed, and supplies, and for co-operative assembling, processing, transporting, and distributing farm products; we should assist him in pooling equipment and maintaining repair shops for co-operative use. The Rural War Production Training Program offers many advantages to the farmer so we should not fail to use it to the fullest extent.

More Effective Use of Local Leadership

L. M. QUIN, Jr., Teacher
Greensburg, La.

THIS war has brought about many changes in the everyday life of the average American citizen. It has, also, brought about changes in our educational systems. One of the greatest has taken place in the field of vocational education.

A Job to Do

Many college-trained men from the field of vocational education are in the armed forces of our country. We, of vocational education, were and still are faced with the problem of further educating our farm people along lines of crops considered essential to the war effort, and with the problem of assisting these farmers in marketing the crops and enterprises once they are grown.

As previously mentioned, this educational phase is a *must* job. So, faced with this tremendous task and with scarcely enough college-trained men to fill the post as vocational agriculture teachers, the vocational educational system set out to do the job.

Slow to Organize Classes

When the assistant state supervisor of Rural War Production came to discuss the new program with me. I told him, "No, I don't want to supervise the classes ers." He tried to explain to me that a good farmer and farm leader would make a good teacher, but still I informed him that I wasn't interested.

About 30 days later he returned and this time persuaded me to organize a few classes. I organized 20 classes in November, 1942, which were taught during that month. I visited each of these classes and to my surprise, and yet to my joy, the results far exceeded my fondest expectations. During December, we had 33 classes and these instructors proved their worth. About this time I was sold on the idea of capitalizing on this tremendous source of *local leadership*. So in January, 1943, we had 71 classes in which to teach the people of our parish.

Characteristics of a Good Teacher

I find we have men capable of doing a real job of teaching. In selecting a local leader, one must take into consideration the following: (1) Is he honest and respected by his fellow citizens? (2) Does he practice what he teaches? (3) Do people look to him for leadership? (4) Does he inspire others with his enthusiasm? (5) Will he work hard and not by a clock? (6) Does he have sufficient education to read and write well? (7) Is he, above all, able to secure the co-operation of the group he would teach?

The above in my opinion are the most important qualifications of an instructor.

If you are about to hire an instructor and the second question he asks is "How much will I get?", lay off. Even tho he must receive compensation for what he does,

Success With Young Farmer and Adult Schools

RAY A. SWANSON, Teacher, Thorp, Wisconsin

WITH the event of war and the resulting increased demands for greater production of all farm commodities, young farmer and adult schools are enjoying their greatest popularity since their inception. More and more these schools are assuming a growing importance in agricultural production. For this reason I should like to deal briefly with some of the problems which seem to be forever present in conducting these courses.

Enrolling Students

Ask any instructor of these classes what his biggest problem is and invariably the answer is the *initial enrollment*. The second problem is of course to hold the enrollment for the duration of the course. Most instructors feel, however, that once the initial enrollment has been attained the success of the school is assured. For that reason the problem of attaining a satisfactory initial enrollment seems in order for discussion.

There is of course no exact sequence in dealing with the problem, but certainly the first step is personal contact with prospective members. If these prospective members can be impressed sufficiently with the need for these schools and the accomplishments by attending them, much of the preliminary work has been done. There is considerable difference of opinion as to just how this work should be accomplished, but many instructors feel that if enough questions are raised the students themselves will suggest a school of some kind. It seems to be a human trait for people to believe most in those things which they themselves suggest. Your adult or young farmer school is then the answer to the students' needs. Co-operation with local farmers in their work and evidence of the instructor's interest in their work will do much to create a feeling of dependence of the farmer upon the work of the agricultural instructor. These contacts are, of course, not seasonal but must be carried on thruout the tenure of the instructor. Previous to and during the actual course some of the following suggestions might be found useful.

1. During the summer months let it be generally known that a course will be conducted in the fall.
2. About a month before the school begins announce thru the local paper that a school will be held and also the probable dates of the school.
3. A week before the school starts, announce again thru the local paper that a school will be held and the starting date. Also suggest at this time some probable topics for discussion.
4. After the first class has been conducted, prepare an article for publication stating the enrollment and the topic chosen for discussion.
5. Repeat procedure of the previous week.
6. After subsequent meetings, mail cards to absent members and remind them of the next meeting.
7. After the course has been completed, prepare a summary of the attendance when another course is to follow.

Holding Attendance

So much for the publicity. If an acceptable enrollment has been attained the next problem is to hold or to increase the number of members attending the school. This achievement is entirely a responsibility of the instructor. First of all he must know his subject matter and he must present it in a way that is both interesting and educational. This is the time to prove to the students that they can learn by attending your classes. To vary the program somewhat I have tried to present something in addition to the regular subject which I thought might be of interest to the students. Among other things I have conducted demonstrations in dressing poultry, cutting meat, making rope, caponizing, testing soils, and testing milk. On other occasions I have read or explained articles of unusual interest such as, "How Long Is a Root?" "Twenty Calves From One Cow in One Year," "Artificial Insemination," etc. I also mimeograph some of the lessons and assist the students with testing and records of their herd improvement work. As a follow-up to the course I have made it a habit to make at least one visit to each student during the summer.

The above suggestions are not infallible and are not guaranteed to assure the success of all schools, but I believe they will be found helpful. During the four years in my present position I have had one group of young farmers and one group of adult farmers who have attended during this time a total of more than 100 schools each and we have already made plans for other classes next year. Incidentally two from these groups have been chosen as outstanding farmers of the community for two successive years. They take a pride in their work and willingly credit much of their success to the school.

Community Service

As evidence of my interest in these farmers I have tried in several ways to help them with their work. Last fall I helped several members to cull their poultry flocks. Last week I butchered a beef for one member and a few days later helped him to cut it up for storage in his locker. On other occasions I have assisted with caponizing, castrating hogs, and pruning trees. During rush seasons I have even helped out for a day or so in haying, operating the binder or assisting at threshing time. I have obtained literature for them thru our extension division, have had seed analyzed, and weeds identified. I have also been official inspector for certified grain and hybrid corn in the community. At the same time I have tried to impress the farmer with the idea that he is under no obligation to me in asking my aid, which I feel is a part of my work and which I do freely and willingly. Back these farmers up in their work and they will back you up in your

In Defense of Keeping on the Job

ELWOOD M. JUERGENSON,
Critic Teacher, Linden, California

TODAY the agriculture teacher is confronted with perhaps the most trying problems since the existence of vocational agriculture in secondary education—that of maintaining a long time, sound program, for establishing youth in agriculture, during a period of emergency.

Many Outside Attractions

Scrap drives, defense classes, observation posts, labor shortages, paper drives, and a host of other "win the war" activities all beckon us by their very glitter, publicity, and sentiment, away from our primary job of improving and establishing youth in farming.

This is not meant to condemn the work that is being done in the activities mentioned above. They are useful in these trying times. Nevertheless, most of us can best do our part to win the war by doing the job for which we are best trained and doing the job better than we have ever done it before.

To struggle with youth in the same category as we have been doing these many years is not easy, particularly when every day we see our fellow men moving into military channels or civilian positions directly connected with the war effort, especially when most of them are doing so at greatly increased salaries. High-salaried defense jobs, the glamour of military uniforms all tend to distract the mind of a student from building up a sound farming program, especially when he may be confronted with compulsory military service upon graduation.

If any of us really stops to consider, we must admit that the young teen-age men we will train in agriculture this year will have little, if any, immediate effect in winning the war. Even the increased amount of produce they will yield thru our efforts is negligible compared to the total. What, then, is valuable in vocational agriculture? Its value lies in the fact that in the many years since its birth, vocational agriculture has been building a group of farmers who are co-operative in their action and progressive in their thinking.

When the problem confronting us now is solved and the war is over, unsolved problems will descend on us in multitude. As before, agriculture will receive its share. Let us, as agriculture teachers, do our part today to continue to build a nation of co-operative farmers, eager to work together, progressive, and capable of meeting the unsolved, unstated problems of tomorrow. We can do this best by encouraging every student to build as sound a farming program as tho the war did not exist, so that he will be ready to meet the greater problems ahead.

If you are going to do anything permanent for the average man, you must begin before he is a man. The chance of success lies in working with the boy, and not with the man.—Theodore Roosevelt

What you have inherited from your fathers you must earn for yourself before

Farm Mechanics

L. B. POLLOM

Let's Remove the Necessity for Farm Machinery Repair

I. G. MORRISON, Itinerant Teacher-Trainer
Lafayette, Indiana

THERE is still a considerable quantity of farm machinery around the country that needs repairing, and this condition will prevail in spite of our efforts with in-school and out-of-school groups that are repairing farm machinery. However we can remove much of the necessity for farm machinery repair.

Much repairing would be unnecessary entirely, and much more could be reduced by a considerable percentage if we tackled the cause of most of the trouble instead of waiting until trouble has developed and then applying a cure.

Preventive Maintenance

We hear a lot about "preventive maintenance." Just what is "preventive maintenance"? The idea is to maintain machines in such manner that the major need for repairs is prevented. We might go a step further and call the whole process "proper operation."

So, let's teach proper operation, or preventive maintenance if you prefer, and do necessary repairing as an adjunct to proper operation.

Suppose we do emphasize the teaching of preventive maintenance, what will be the ultimate outcome?—increased efficiency in machine operation. It will not prevent the wrecks, or structural failure, or the picking up of rocks, etc. or other accidents that are beyond the operator's control. It will however prolong the time between overhauls, reduce the number of field break-downs, and increase the trouble-free operating time of the great majority of farm machines.

Proper Condition for Operation

A machine that is properly cared for will always have nuts tightened, be regularly greased and oiled with the right lubricant, will always be serviced with the correct fuel, will always be operated at the correct speed, will always have parts properly adjusted, etc. The net result will be machine efficiency in the field, with consequent low cost per acre, bushel or year.

Much preventive maintenance can be done during slack work seasons so that the machine will not be kept out of the field.

Frequent servicing and checking for wear and maladjustment with immediate adjustment and correction prevent the need for much repairing.

Necessary replacements will be made immediately after the machine has finished its job when the operator is following a program of preventive maintenance. Likewise, the machine will be properly prepared for storage and then stored where it is protected from all damage. Machines should also be taken from storage and prepared for the field ahead of time in order to be doubly sure that it is in good operating condition.

Time Is Required

Proper operation, or preventive maintenance, requires time. In the aggregate it will, perhaps require more time than the usual, casual maintenance, even including periodic major overhauls. It may even cost more cash money for lubricants. However, this is repaid by field performance and efficiency when the job needs to be done, and by utilization of cheap time rather than costly time.

We must recognize that our efficiency as teachers will not be 100 percent. There will very likely be the individual with little or no mechanical aptitude or appreciation whose every action will be wrong, no matter how hard the teacher tries. On the other hand, the great majority of boys and men are teachable. The percentage should be such as to make the effort worth while.

Perhaps we can not quit teaching farm machinery repairing over night, but by emphasizing proper operation or preventive maintenance together with adequate servicing, I believe we will eventually reduce the need for teaching farm machinery repairing almost to the vanishing point.

The New Orleans Training School

(Continued from page 67)

II. Skills and abilities to be acquired
   A. To develop within the potential farm worker a sense of responsibility along these lines:
      1. Care and use of farm machinery. The instructors acquainted the boys with the cost, use, and care of all kinds of farm machinery, from the small hand tools to the farm tractor. Stress was placed on safety measures to be followed in handling farm machinery and on the proper first-aid treatment in case of an accident.
      2. Care and use of farm animals. The instructors presented the two general types of farm animals—those used for power and those used for the production of food and clothing. In the first case, the horse and mule were carefully studied; in the second, the hog, sheep, cow, and chick-
   B. To give the boy an understanding of the types of agriculture and the kinds of farm jobs to be done on the farms, information relative to the following facts was given:
      1. The kinds of crops grown in general farming, dairy farming, truck farming, and livestock production.
      2. The tools and machinery used in each type of farming were thoroly discussed.
      3. The routine procedure for a day's work on a typical farm was presented. From the viewpoint of the different types of farms on which they might be employed, the boys were permitted to follow in detail the plan of a day's work, noting the hour at which work begins, the specific jobs to be done, the time devoted to rest and relaxation, and the number of working hours in each day.

Results

The training program was operated over a two-week period, and of the some 150 boys who enrolled, 116 completed the training. The majority of the boys who dropped out during the course of instruction dropped out after instructors "deglamorized" farming to them. By that it is meant that some of the boys were under the impression that after a few weeks training, they would be ready to go out West and become cowboys—their impression of the life of a cowboy was gathered from western motion pictures. Of course, when the instructors pointed out to these boys actual conditions to be found, just what they would be expected to do, it was quite natural that those with mistaken conceptions would drop out. This belief was held by a rather small percentage of the boys, and for the most part, the boys were impressed with the need for additional farm workers.

These boys are anxious to do this work as a patriotic gesture and because of their love for outdoor life. They are inexperienced and are just boys who must be understood in order to get the best work from them. These young men understand the advantages to be had from farm employment, the importance of using safety measures, and the worker's responsibility for the economic use of all machinery and equipment. It was shown to them that the margin of profit in farming is not large and that present shortages make economy imperative. These boys were assured that the farmers would expect of them full co-operation and trustworthiness as members of the farm family or group. They will need considerable on-the-job suggestions in developing many of the farm skills, but with a little encouragement and assistance, these boys can do the job. A program patterned along these lines and conducted in towns and cities should provide

Why Do We Have a Food Problem?

(Continued from page 65)

crops and was stimulated by very favorable prices of livestock products relative to feed. It resulted in a rapid increase in output and brought our 1942 per capita meat production up to the level of 1918, the highest year since 1908. However, with high wages and ceiling prices, consumer demand kept pace with this increasing supply.

In addition to record-breaking production of livestock products, United States farmers increased inventories of livestock about 10 percent in 1942 and further expansion of hogs and poultry is taking place in 1943. The livestock production of 1943 will consume even more than the enormous feed production of 1942 and will reduce the carryover in the fall of 1943 to a point below last year's level. Even if the production of feed crops in 1943 is up to the high average of 1937–41, it will be necessary to reduce livestock numbers in 1944. A short feed crop would necessitate heavy liquidation of livestock.

Under the stimulus of the Government program, livestock production has outrun feed supplies. Farmers are already fearful of the inevitable feed shortage and the time has come for a change in policy that will reduce livestock numbers on a selective basis in an orderly manner without disastrous and wasteful liquidation. The 1943 production of meat will be large because much of it is being produced on 1942 crops, but the supply will decline when the livestock population is reduced to conform to available feed supplies.

Feeding the People of Europe

For all practical purposes United States peacetime food consumption has about equalled production with the exception of wheat.

Because of the probability of less favorable weather and the shortage of skilled farm labor, machinery, fertilizer, and supplies, the chances of increasing total crop production above 1942 are extremely remote.

At the same time, the United States is faced with imperative demands for more food. The needs of our allies are growing steadily. Every country released from Axis domination will bring further increases in demand. These requirements are certain to increase during the remainder of the war and will probably reach a maximum after fighting ends in Europe. At that time, most of the hundreds of millions of people who have been under Axis control will need some food until their own production can be restored and much of it must come from United States farms.

In view of this situation, it seems clear that the answer to the present food problem must be sought in the better utilization of our present food resources. While a continuation of record-breaking crops may be hoped for, it is not a safe basis for wartime planning.

More Grain—Less Meat

The only way to save much food is to increase the direct human consumption of

civilian consumption of meat. Sooner or later this must become the basic principle of our wartime food program. If there is a definite probability of an end to the European war within a year, it is highly important that such a program be established at once. Time will be required to bring about the necessary changes in civilian consumption and to reduce livestock production so as to make available increased quantities of crops for human consumption.

Substituting direct consumption of crops for indirect consumption in the form of meat greatly increases the number of persons that can be maintained on a given quantity of crops. Animals are not efficient converters of grains and other concentrated feeds into human food altho products richer in certain critical nutrients may result. In converting seven pounds of corn into one pound of pork about 84 percent of the energy is lost. The seven pounds of corn would make 238 corn muffins. With other meats, the proportionate loss in energy is greater. In converting into livestock products the grain produced on United States farms in 1942 about 86 percent of their energy value was lost without considering the hay, roughage, and pasture used as supplementary feed.

Any thought of feeding many additional millions of people on the diet to which we have been accustomed is utter folly. The six percent of our annual production used for lend-lease in 1942 would feed about eight or nine million people on a diet similar to our own. The same amount of concentrated foods would supplement the diets of a somewhat larger number of people. However, all told, the United States produced enough crops last year so that if all had been fed directly to human beings, they would have provided the caloric requirement for a population about three and one-half times our own.

If many additional millions are to be fed during the present emergency it must be largely on wheat, soybeans, dried beans and peas, corn and other crop products. Altho such a ration is not as palatable nor as adequate nutritionally as one containing more livestock products, it will prevent starvation and provide a maintenance diet until European food production can be re-established.

Ample stocks of wheat, soybeans, beans, and other storable foods should be built up and maintained in the United States to insure a food supply for European people at the end of the war. This is particularly important with wheat because of the wide fluctuations in production due to weather. Additional wheat should not be fed to livestock until we are certain of the adequacy of the supply from the carry-over and this year's crop to meet any possible need.

In planning any change from our past high levels of consumption of meats, milk, eggs, and other animal foods, it must be kept in mind that there are important nutritional differences in such products. These become increasingly important as the consumption of food crops is increased. For this reason, any decrease in the use of animal products must be selective in character. Some products are in more concentrated form than others and thus more easily shipped abroad. Some, such as milk, have nutritive values which are especially difficult to obtain in adequate amounts in other foods. Dairy

large quantities of grass and other types of forage which cannot be used directly for human food. Net losses in our total food supply would result if we failed to convert such crops into human food thru the use of animals.

By giving proper consideration to the essentials of a good diet, it is possible to go quite a way toward the direct use for human food of grain and other products we are now feeding to livestock. While grain may be less palatable than meat, this is the only practicable way in which we can stretch available food supplies to feed many more people. It will become imperative as occupied countries are released from Axis control and we are called upon to feed large numbers of people.

A Wartime Food Program

1. As the first step in a realistic wartime food program, the Government should organize and carry out in co-operation with the states, an intensive educational program to point out the facts of the present food situation and to emphasize the patriotic service of civilian conservation of food. It should include a clear statement of the importance of eating more crops and crop products but less meat and livestock products by civilians for the duration of the war. Thus far, reliance has been placed largely on negative controls such as rationing to reduce consumption of choice foods, and threats rather than facts have been employed to make them effective. There can be no doubt that the public would respond satisfactorily to an appeal which explains why this change in diet must be made as a necessary step toward winning the war.

An important part of this educational effort should be the guidance of the public in how good diets can be maintained with crops and available livestock products.

2. Establish prices of essential foods, well in advance of planting and breeding seasons, that will insure the desired production. Necessary prices to bring forth required production are the only sound guide in wartime price policy. Guaranteed minimum prices that are easily understood are likely to be more effective than incentive payments that are inevitably complicated by red tape and administrative controls.

3. Eliminate all Government control programs and payments that restrict directly or indirectly the production of essential crops.

4. Increase the production of all important food crops to provide ample quantities to meet any possible need. We have already made a start but we must go much further in increasing the production of such crops as potatoes, sweet potatoes, dry beans and peas, soybeans, peanuts, and vegetables. These crops are of first importance in wartime because they provide many times as much energy and critical nutrients per acre or per man hour as meat or livestock products.

5. Use the remaining crop acreage for the maximum production of the feed crops best adapted to individual farms. Since the total 1943 goals of the food and oil crops listed above involve only 10 percent of the total crop acreage on farms, the reduction in acreage of feed crops will be small.

6. Establish prices that will result in the use of available feed supplies for

Studies and Investigations

C. S. ANDERSON

The Teacher's Responsibility for Guidance

JOHN B. McCLELLAND, Teacher Education, Iowa State College, Ames

J. B. McClelland

FARM boys in high school and out-of-school young farmers are faced with important decisions today with regard to their plans for service in helping to win the war. At a time when complete mobilization of manpower is needed, it is essential that each individual serve in the situation which provides the best opportunity for the utilization of his talents in the successful prosecution of the war.

Making Choices

Altho some of the decisions concerning wartime service are made by selective service boards and by classification officers in the armed forces, many important choices are stil' open to the individual. Boys who have not reached selective service age, or the age where they will be accepted as volunteers or as reserves, must make decisions with regard to further education and vocational experience. Those who are old enough for enlistment in the armed forces must decide whether to enlist, whether to enter thru selective service, or whether to ask for deferment if their situation would provide a basis for such a request. Those who enter the armed services must make decisions when they are interviewed for classification concerning which points to stress about their education, vocational experience, hobbies, and interests. Answers to questions concerning such points have an important bearing upon the type of service to which individuals are assigned.

Getting the Facts

In order that boys and young men may make intelligent decisions with regard to the foregoing problems and to other vocational and educational problems which they are facing, certain facts and principles should be considered. In the first place each individual should know what he is qualified to do. He should understand his personal abilities, capacities, and interests. In the second place, the boy or young man should know about the educational and other requirements and demands placed upon persons performing certain types of service. He should know about the working conditions, the financial and other compensations that may be expected, and opportunities for advancement in certain occupations. In the third place, the individual must understand that regardless such as training, experience, abilities, and interests would fit him for certain positions or occupations, he must be willing to serve where he can make the greatest contribution toward winning the war.

It is said that there are more than 18,000 ways of earning a living in the United States and that the Army needs persons with training and experience in about 2,000 different jobs.[1] An Army officer has stated that the Army needs 63 men with certain types of specialized technical training and experience in each 100 men inducted into the service. In all branches of the armed services the proportion of newly inducted men who have had certain kinds of needed technical training is much below the required proportion. So officers of the military forces are urging high schools to provide some of the needed training for their pupils, and the various services are also providing further training for men after induction.[2]

In view of the great need for persons with specialized training in the armed forces, and in view of similar needs in industry and in agriculture it is obvious that young persons of school age should not merely drift into the service or into other employment. Boys and young men should make every effort to prepare themselves for the kind of service for which they are best qualified and should plan to go into that type of service in which they will be able to make the best contribution to the war effort.

Long-time Planning Important

Altho urgent wartime needs must in many cases be given primary consideration, long-time vocational plans should also be given some consideration by the young person who is making plans for his immediate education and immediate vocational experience or service in the armed forces. In many cases the educational and other experience obtained during wartime may contribute to the achievement of long-time vocational objectives.

Guidance Needed

Even before the war there was evidence to indicate that many pupils of high-school age had not reached decisions concerning long time vocational plans. Eckert and Marshall in their report of the New York Regents Inquiry pointed out that among withdrawing pupils, graduates and postgraduates alike, the majority were entirely without a career motive or were so definitely fixed on one field that change would involve difficult adjustment. According to these authors evidences of seriously mistaken choices abound among pupils who have reached some sort of vocational decision.[3] A study made in New York State showed school who were interviewed reported that they had no occupational plans for five years hence. Thirty-two percent of those reporting said that they had no plans for a life work.[4]

Change in Vocational Objectives

An investigation of vocational choices of 704 pupils in 36 rural high schools in Pennsylvania showed that only 37 percent of the boys and 39 percent of the girls retained their original vocational choices from the ninth grade to the twelfth grade.[5] A follow-up study was made 10 years later of 54 young men on farms who had been included in the Pennsylvania study as ninth grade pupils and who had dropped out of high school before graduation. Of these 54 young farmers, only 34 percent had given farming as their occupational preference when they were freshmen in high school.[6]

Studies such as those mentioned in preceding paragraphs show that many farm boys, as well as other young people, do not have carefully made vocational plans and that many who do have some plans as to their future work will make changes in their plans. Perhaps we should not expect all young people to have definite vocational plans before completing school. Of course, changed conditions will frequently necessitate changes in plans, but the aforementioned data show that young people are making choices during their high-school careers and during the period immediately after they are graduated or drop out of high school. In view of the many factors involved in reaching decisions concerning educational and vocational choices it is probable that young people need guidance.

It would seem that rural young people especially are in need of vocational guidance because many young people leave the farms, and because they lack knowledge of vocational opportunities in other fields. The need of guidance is especially great during wartime because of the complexity of problems confronting youth and because of the difficulties that young people encounter in making long-time vocational plans.

The School's Responsibility

Some educators regard vocational and educational guidance as highly specialized types of service and hold the viewpoint that classroom teachers should not attempt to assist their pupils to make important decisions such as choosing an occupation or deciding whether or not to go to college. Those who believe that guidance should be left to the specialists point to the fact that classroom teachers have a full-time job in assisting pupils to attain the educational objectives in their particular subject matter fields. Vocational and educational guidance, according to some, involves the use of specialized skills and techniques which can be mastered only by persons who have had extensive training and experience in this field. However, other educators, including many leaders in the field of guidance, point out that the majority of the rural high schools in the United States have less than 200 pupils and that it is not practicable for many small schools to employ special guidance directors. Hence, these persons say, classroom teachers will have to assume some responsibility for guidance if any assistance is to be given rural young people in selecting vocations and in deciding upon further education.

Chambers has stated that in the schools of the nation as a whole there is a ratio of one counselor to 3,100 pupils and that in rural schools the ratio is very much less than that.[7] It has been suggested that specialists in guidance should be employed in offices of county superintendents of schools. Some emphasis is being placed upon guidance programs in a few rural counties such as Harlan and Breathitt in Kentucky, Rockland in New York, and Gratiot and Houghton in Michigan. However, it is not likely that the services of specialists in guidance will be available to a very large percentage of rural high-school pupils in the near future.

Students Do Not Receive Guidance

Bell has stated that only 22.7 percent of the youth included in the Maryland survey conducted by the American Youth Commission reported receiving what might be considered vocational guidance from any source whatsoever.[8] A study by the occupational Information and Guidance Service of the United States Office of Education indicated that guidance was being received by only about 28.7 percent of the approximately 7,166,000 students enrolled in the white high schools of the nation.[9]

Bell makes the following statement concerning the responsibility of the schools for guidance:

"Some persons may doubt whether vocational guidance, which is so definitely the controlling influence in a program of occupational adjustment, is in fact an appropriate function of our schools or a worth-while activity of a public employment office. . . . For those who do, it is always illuminating, occasionally shocking, to talk with a fairly representative sample of young people as they leave school and enter the labor market. . . . Conversation with an average group of our young people should convince the doubters that there is probably no educational or social service more generally needed by the youth of America than that which develops in them the capacity to understand, at least, the basic occupational realities of the new world they are entering and to know with some measure of realism the occupations in which their can most probably and most profitably be put to work."[10]

Specialists Not Essential

The foregoing considerations suggest that schools should assume some responsibility for guidance even tho they do not have specialists on their staffs. As a rule superintendents and principals have had some training and experience in guidance and in many schools one or more teachers have had a course or two in this subject. However, these school officials and teachers with special training in guidance usually have many administrative, supervisory, and classroom teaching duties and hence are not able to devote a very large proportion of their time to guidance activities. In many schools, some attention is given to guidance problems in home rooms; courses are frequently offered in guidance or in occupations; many school libraries contain some good books and pamphlets on guidance; but these means of guidance, altho very valuable, may not be sufficient to meet the needs of pupils.

The Classroom Teacher's Duty

Apparently much of the responsibility for guidance in schools of small or medium enrollment will have to be taken by classroom teachers. This conclusion is reached with full recognition of the importance of adequate information concerning guidance techniques and procedures and also with recognition of the inadequacy of the preparation of teachers for this important type of service.

Chambers makes the following statements in his report of the Institute for Rural Youth Guidance:[11]

"One of the difficult problems faced by the school in attempting to give guidance service is the lack on the part of teachers of adequate, authoritative information, relative both to guidance techniques and procedures and to existing occupations and the training which they require at different levels. This should include the service occupations as well as industrial pursuits. Every school should set up procedures to determine pupil aptitude and need and should carry on a continuing study of what contribution each local agency can make toward finding outlets for the abilities of the local youth. . . . If rural schools are to accept their responsibility for guidance, they need to have their present and prospective teachers grounded in the philosophy and place of guidance in relation to the whole process of education. The teachers need to be trained in the use and function of occupational guidance; and the curricula need to be so reorganized as to make it possible in the already overcrowded school day to substitute guidance instruction and service in the place of less worth-while content that is found so frequently in many of the rural schools at the present time."

Agricultural Teacher's Responsibility

The teacher of vocational agriculture, because of his training in technical agriculture and because of his knowledge of related occupations, should be in a position to be of special help to farm boys if he is willing to devote some time and effort to study of current guidance problems.

Examples of recent publications designed to acquaint teachers of vocational guidance and to assist teachers in the application of these principles to the solution of guidance problems are Knight's bulletin on *Guidance for Rural Boys*,[12] the bulletin by the Department of Vocational Education of Virginia Polytechnic Institute on *Opportunities in Agriculture*,[13] and the *California Life Plan Book* by Carlson and Sutherland.[14]

Conclusion

In conclusion it may be stated that, altho some educators believe that guidance and counseling of pupils should be left to specialists, there seems to be support for the viewpoint that classroom teachers should assume some responsibility for helping their students to make vocational and educational choices. The teacher of vocational agriculture should be able to give valuable vocational and educational guidance to farm boys if he is willing to devote some time and effort to a study of principles and techniques of guidance and counseling. The need for guidance seems to be especially great during the war period.

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2 Somervell, Lieutenant General Brehon B. Address Before the American Institute on Education and the War American University, Washington, D. C. August 28, 1942.

3 Eckert, Ruth E. and Marshall, Thomas O. *When Youth Leave School*. The Regents Inquiry. McGraw-Hill Book Co., New York. 1938. p. 142-146 and 218-260.

4 Anderson, W. A. and Kerns, Willis *Interests Activities and Problems of Rural Young Folk. Part II, Men 15 to 29 Years of Age.* Cornell University. Agr. Exp. Sta. Bul. 631. Ithaca, New York. 1935. p. 16–17.

5 Anderson, C. S. *Vocational Interests of Rural High School Pupils in Pennsylvania State College.* Bul. 342. State College, Pa. 1937. p. 27.

6 Anderson, C. S. *Out-of-School Rural Youth Enter Farm-*

7 Chambers, M. M. "Guidance for Rural Youth." *The Educational Record*, Vol. 22. April, 1941. p. 190.

8 Bell, Howard M. *Youth Tell Their Story*. American Council on Education. 1938. Washington, D. C. p. 74.

9 Brewster, Royce E. and Greenleaf, Walter J. "A Roll Call of Counselors." *Occupations*, XVIII (November, 1939) p. 83–89.

10 Bell, Howard M. *Matching Youth and Jobs*. American Council on Education. 1940. Washington, D. C. p. 37–38.

11 Chambers, M. M. *op. cit.* p. 191–192.

12 Knight, E. B. *Guidance for Rural Boys*. The Department of Agricultural Education in Co-operation with the State Board of Vocational Education. Bul. 7. Knoxville, Tennessee. 1940.

13 *Opportunities in Agriculture*. The Department of Vocational Education, Virginia Polytechnic Institute. Bul. Vol. XXXIX. No. 6. 1941.

14 Carlson, Dick and Sutherland, S. S. *California Life Plan Book*. California Association of Future Farmers of America. San Luis Obispo, California, 1939.

Some Interesting Facts

Americans annually consume 570,000,000 pounds of macaroni, spaghetti, and vermicelli; 100,000,000 pounds of egg noodles and similar egg products, and 10,350,000 pounds of plain noodles.

The population of continental United States on April 1, 1940, was 131,669,275, according to the final count of the Census.

There are four artificial ice factories in Alaska, employing 20 men.

The biggest manufacturing industry in Alaska is fish canning and processing, annual production of which is valued at nearly $36,000,000.

American cigarette factories make more than 180,000,000,000 cigarettes annually with a valuation at the factory, including tax, of nearly $1,000,000,000. Thirty-four factories employ more than 27,000 workers who get more than $26,000,000 in wages.

Binder twine factories, operated in seven penal institutions in the United States, produce 36 million pounds of twine.

United States factories annually produce more than 35,000,000 miles of cotton wrapping twine (38,359,000 pounds), valued at $7,223,000.

The only adequate training for occupations is training thru occupations. —John Dewey in *Democracy and Edu-*

Future Farmers of America

A. W. TENNEY

Future Farmers Conduct Hatchery

C. F. ESHAM, Teacher, Sadieville, Kentucky

IN FEBRUARY, 1941, the Future Farmers of the Sadieville, Kentucky, F.F.A. Chapter made a survey of the needs of their community in order that they might carry out a community project which would be beneficial to themselves and the community. After some deliberation, they decided to conduct a community hatchery. Several factors determined this decision: (1) the rolling land and the climate of the section are favorable to poultry enterprises; (2) there are no commercial hatcheries nearer than Lexington, 30 miles away; (3) Cincinnati, an excellent egg and broiler market, is only 55 miles from Sadieville; (4) there seemed to be a real need for quality chicks and for a poultry-improvement program in the community.

A committee wrote to several incubator-manufacturing companies for information concerning the types and prices of suitable equipment. A 1,300-capacity, used Petersime incubator, to be delivered for $135, was decided on. Money to pay for this incubator was secured from the local bank on a note endorsed by each of the 29 members and me. The hatchery equipment was placed in one corner of the farm shop in the basement of the school.

Quality Chicks

Determined to hatch the best chicks in their hatchery, the boys use eggs from only U. S. pullorum-tested flocks. Eggs for their first hatchings were secured from Lexington hatcheries. Several members of the chapter expressed a desire to become producers of hatchery eggs, and four U. S. pullorum-tested flocks, consisting of approximately 600 birds of dual purpose breeds, were established during the first year. The chapter buys the eggs at a price 10 cents per dozen above the Cincinnati market for Number One eggs.

At first, the Future Farmers took all of the chicks as soon as they were hatched. Of course, every boy in the chapter wanted the chicks from the first hatching. This enthusiasm over the chicks spread from the chapter to the community, and other persons began to purchase the chicks from the hatchery.

Capacity Increased

After that never-to-be-forgotten December 7, 1941, and the subsequent requests of the Secretary of Agriculture for increased production, the Future Farmers decided that they might aid the war effort by producing more chicks. Arrangements were made with the Petersime Manufacturing Company to trade the original incubator for a 6,300-capacity used machine. There was a difference of $335, which the local bank loaned the boys. They had already paid the bank

incubator. Lexington hatcheries were willing to provide the additional eggs needed, and business for the new season started on a larger scale with a complete sell-out each week. In the late spring an electric brooder was also purchased.

During the 1942 season, approximately 13,000 chicks were sold, netting the chapter sufficient funds to eliminate all indebtedness. In that summer, 11 flocks of approximately 1,400 laying hens were established for producing eggs for hatching. These flocks were tested with less than one percent pullorum reactors.

Co-operative Activity

The 29 members do all of the work connected with the hatchery. One member who lives near the school receives a small sum weekly for the extra hours he spends turning the eggs, fumigating the incubator, and culling and sizing the eggs at setting time.

At the present time, the majority of farmers in this community believe that the poultry industry is profitable. Many have built modern laying and brooder houses. During the fall of 1942, 11 Rural War Production poultry classes were taught in the patronage area, with a total enrollment of nearly 400. We would not estimate what portion of this poultry improvement has resulted from our school hatchery, but we do feel that it is the nucleus from which it has grown.

The boys have set their goal for the 1943 season at 18,000 chicks, which will net a profit of nearly $500. All equipment has been paid for and the boys have a reserve in their treasury. Profits are being used to secure purebred breeding male animals for the community and for providing prizes for projects in each enterprise carried on by the all-day group. This year, the chapter is contributing $150 toward the establishing of a community cannery. They are also erecting the cannery building. With all remaining funds, they expect to buy War Bonds.

Book Review

Successful Poultry Management, by Morley A. Jull, pp 467, illustrated, published by McGraw-Hill Book Company, Inc., list price $2.50. This excellent book was designed to present to poultry producers up-to-date information on husbandry practices and marketing methods affecting returns secured from the poultry enterprise. Special emphasis has been placed on factors affecting the quality of eggs and chicken meat. Illustrations are well chosen and of excellent quality. The selection of subject matter and the organization of same make for a usable text either in the hands of the poultry producer or the studen . The vocational agricultural teacher and his students will find *Successful Poultry Management*

Michigan Association of F.F.A. Program Receives Stimulus Thru $10,000 Department of Agriculture Fund

A SPECIAL act of the Michigan legislature for a number of years has provided $10,000 for further development of the State Association of Future Farmers of America program of work. This organization is sponsored by the State Board of Control for Vocational Education, George H. Fern, director and Harry E. Nesman, chief of agricultural education being state adviser of the Michigan Association.

This special state fund provides a budget for the following activities:

A state-wide fat swine, lamb, and beef marketing facility; special premium awards based on market grades are thereby provided for all Future Farmer members with fat stock projects.

Leadership training programs on a county, district, and state basis are made available to all chapters from this fund.

Prizes for the Regional and State Future Farmer Public Speaking Contest as well as $50 for each chapter in the state is provided for expenditures as set up in policies formulated by the State Association F.F.A. Executive Committee.

The $50 for each chapter may be expended for the following if they fall within the limitations of the policies for the activity:

(1) Premiums paid at school fairs for livestock, livestock products, or farm produce from the members' productive enterprise projects.

(2) Premiums paid at school fairs for demonstrations or educational exhibits which are put on by one or more members of the F.F.A.

(3) Awards to F.F.A. members for accomplishments—measurement of accomplishment is determined by a point system spreading over at least scholarship, leadership, supervised farm practice, co-operation, and community service—objectives of the F.F.A. Twenty-five percent of the members must receive awards not exceeding $10 per member.

Expenses for travel and meals within limitations are provided for F.F.A. members to:

(1) Leadership Training Conference—district, county, or state

(2) Delegates' expenses to the State Convention

(3) Participants' expenses for county, regional, or state contests.

Reorganization of F.F.A. Program to Meet War Needs

R. J. PEELER, State F.F.A. Executive Secretary, Raleigh, N. C.

A WIDESPREAD program of reorganization has been accomplished in the North Carolina F.F.A. association in an attempt to meet war needs.

A Program That Gets Results

The 26,000 Future Farmers of America, have increased the scope of their food crops in an effort to meet Secretary Wickard's challenge that "food will win the war and write the peace." F.F.A. members in this state have planned a supervised farming program to include 10,000 Victory Gardens, nearly three-fourths of a million laying hens, over 1,000,000 broilers, nearly 18,000 porkers, over 4,000 brood sows, 9,000 dairy cows, 7,000 beef animals, 1,500 sheep, 21,000 acres of soybeans, and 18,000 acres of peanuts for oil.

In co-operation with the War Production Board, these students collected more than 8,000,000 pounds of scrap metal during the last year. In addition to this, large quantities of paper, rags, rubber, and burlap bags have been contributed to the salvage campaign.

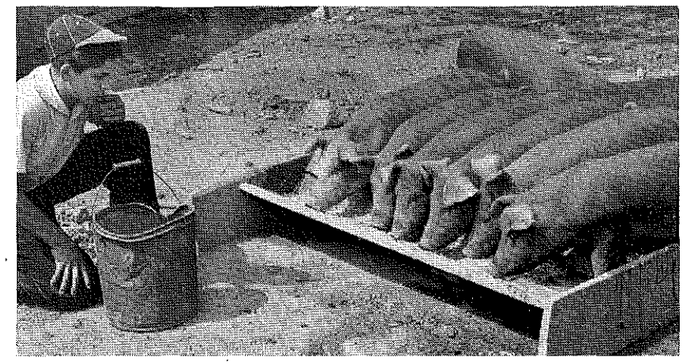
Over $312,000 worth of War Bonds and Stamps have been purchased, and the F.F.A. members have distributed

In their repair work the students of vocational agriculture, with the aid of their teacher, learn the fundamental principles involved in welding, sawing, carpentry, forging, metal work; sharpening and adjusting various tools and machines.

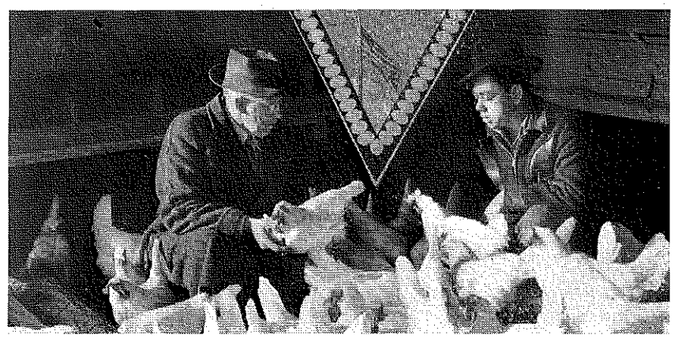
Thru their crop production, they become familiar with modern methods of farming.

Assisting Teacher With Production Courses

The F.F.A. members have given valuable assistance to the teachers of agriculture in organizing the commodity courses for adult farmers in the Rural War Production Training Program, in making surveys to determine the need for food production and preservation in the various communities, and in promoting the



Robert Hogan, a member of a family of six, and a ninth-grade vocational agriculture student, takes a look at his eight feeder pigs after giving them a bucket of grain. The pigs will be fattened and butchered for pork, sausage, and lard for home use



F.F.A. boys and teacher admire flock of victory layers

literature in the rural areas from the United States Treasury in regard to the War Bond Drive. One-hundred percent of the members have pledged to invest a large percentage of the savings from their project work in governmental securities.

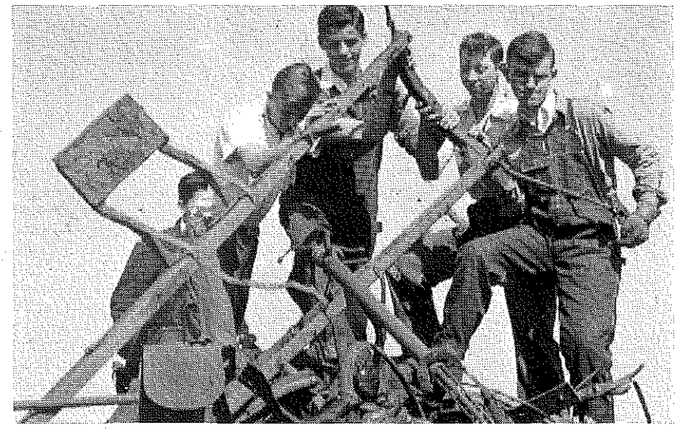
Repairing Farm Machinery

In an attempt to keep Tar Heel farmers well supplied with the necessary machinery to produce an abundance of food in spite of a farm equipment shortage, Future Farmers have repaired 2,086 farm machines such as tractors, combines, and grain drills; 4,314 farm implements such as plows, planters, harrows, and wagons; and 6,461 farm tools including axes, hoes, hammers, rakes, and shovels. Numerous construction projects, such as the building of lime-spreaders, hog and poultry feeders, and wagon beds have been completed by F.F.A. members for the bene-

establishment of canneries

Previously, the Future Farmers have operated two modern camps where they enjoyed summer vacations filled with entertainment and recreation, but this year the F.F.A. members have decided to forego the pleasures of camp life on account of wartime restrictions and the desire of the members to use their time in producing more food and relieving the farm labor shortage. They have also agreed to spend the approximate $20,000, which they have been using in camp expenditures, in purchasing War Bonds and buying equipment to carry on their food projects.

"All out for Victory!" is the 1943 slogan of the North Carolina Future Farmers, and they are emphasizing their motto with action.



Officers of the Windsor Chapter of F.F A. unload the 5,390 lbs. of scrap iron which they

Why Do We Have a Food Problem?

(Continued from page 73)

the production of the quantities and kinds of livestock products required to meet war demands and to balance civilian diets made up more largely of crop products. This will require immediate action to raise corn prices relative to hog prices so as to reduce hog production to feed supplies that should be used for this purpose.

7. Establish prices that will encourage maximum production of fluid milk and milk solids. There are two essential requirements in the maintenance of fluid milk production, the assurance of an ample supply of feed and the establishment of a farm price of milk favorable to feed and other costs. The rapid increase in hog numbers has already jeopardized the feed supply and their prompt curtailment is imperative to prevent a serious milk shortage.

8. Maintain the present skilled labor force on farms, and supplement it with necessary seasonal labor. Provide new machinery to replace worn out machines as well as repair parts, fertilizers and essential supplies. If any attempt is made to increase total food production in 1944, additional skilled farm labor, new farm machinery and supplies will be required.

9. Maintain wheat stocks at levels that will enable us to meet any probable need for human food. The wheat stocks of the United States and Canada are the only substantial reserves of human food that are available to meet any emergencies that may arise.

10. Give public recognition of the vital importance of the food problems and the patriotic service of efficient food production in winning the war and insuring the peace to follow.

11. Maintain the Victory Garden program and increase it if possible. The need will be greater next year.

Editorial Comment

(Continued from page 63)

had during the past two decades in developing rural leaders. There was entirely too much advice given by non-rural, self-styled leaders who were interested in capitalizing depressed farm conditions for their own good. Vocational agriculture also survived these influences.

7. In many schools, farm boys were unwelcome. They did not belong to the town high school and generally were tuition students. Many administrators and school boards felt that farm students were a drag on their schools. High tuition rates and expenses in attending high school were prohibitive in many areas. Yet vocational agriculture grew and expanded.

8. Many college graduates in agriculture tended to specialize. Such training developed or increased certain interests in agriculture that were not in harmony with community needs. Teachers with this kind of a background often stressed programs that had serious economic handicaps.

9. Now we are engaged in World War II, when giant forces are playing upon social groups thruout the country. The welfare of the nation is seriously at stake and many leading thinkers have already been appraising all forms of education. ture has been recognized distinctly as a potential power in our war effort and in building foundations of enduring values for the future.

In reviewing these forces and factors, which at many times were very discouraging to say the least, vocational agriculture offered inspiration and hope to thousands of farm boys and their parents. When state and federal aid was needed to expand the programs, these loyal supporters did not hesitate to come forth in an agressive manner to state their causes, wants, and requirements. No wonder then that our work continued to prosper and grow. Certainly the thousands of instructors thruout this land have cause to be proud of their work. In fact it is distinctly unusual to find a former instructor of vocational agriculture, who has been in service many years, who is not proud of the part he has had in blazing this new trail.

Present and Future Challenges for Vocational Agriculture

In an attempt to offer some suggestions about the future requirements of our program, I am conscious of the many responsibilities of our instructors. In supervising a farming program, it is always essential to understand the opportunities and possibilities for success under the conditions and times actually faced. In agricultural education our wishes are always beyond our means. This is only natural. We must remain practical in self-appraisal. The following suggestions, then, represent workable problems that, in my opinion, can be solved.

1. Some instructors are still attacking farm problems in a piecemeal fashion. When they teach poultry production, for instance, it is purely poultry production, and not poultry production as a phase of farming. Problems of farming must be understood and solved as a successful farmer does, not as an enterpriser.

2. Rapidly changing times and conditions often confuse instructors. Many of them attempt to add new activities without curtailing others. If the criteria for sound course construction are mastered and applied much tension can be released. This is important at present.

3. There seems to be much teaching, yet, that is confined to the narrow boundaries within an enterprise. We know that the basic principles affecting one enterprise carry over to others. But in the teaching process, this vital step is often neglected. If we deal with farmer programs, then we should deal with principles as they affect a farmer and not as they affect a single enterprise.

4. The value of objectives in teaching is not fully appreciated. We are slowly building up and developing objectives for farms as a whole, for enterprises and for major units within enterprises. A clear cut perspective must be had of these various objectives. If attained they will guide the person toward the ultimate end, namely that of being a successful farmer with a high labor income.

5. The mental steps involved in farmer program planning are still foreign to some instructors. Planning has become popular and undoubtedly will become a keynote activity in the future.

6. Subsistence farming is often treated as a war measure. Unfortunately, in peace times, a large portion of our farm population lived as subsistence farmers. and must be recognized as one of our major postwar issues.

7. Vocational leaders must recognize the fact that a sound program of agricultural education made available to the entire rural areas of this country is the best substitute and insurance for national relief programs, soil conservation activities and other national programs, fostered at great expense and operating from the adult level downward.

8. There is no need for "polishing other people's shoes" when our own need it so badly. Vocational agriculture programs are so comprehensive and challenging that all of our best efforts must be devoted to them. The public will judge us by our results.

9. We must become aware of the fact that physical improvements in agriculture thru agricultural education give great leverage values. Evaluating 50 or more farm management studies has convinced me that for every one percent improvement in crop or livestock production efficiency, we can expect several percent improvement in labor income. It is, perhaps safe to say that a working ratio is approximatcly one to three. Convictions developed on this point will go far in encouraging all of our instructors to exercise maximum leadership.

10. Adult education must continue to expand. If professionally trained leaders do not meet this need, outside agencies will spring up and attempt it.

11. In order to maintain a growing confidence in the values of teaching, instructors of vocational agriculture should constantly realize that experiences had in dealing with sound programs can always be capitalized later, thru farm ownership. Certainly a good farm, paid for, should be a splendid thing to work toward for retirement.

After reconsidering this list of present and future problems, we can go forward in confidence. World War II has made the American public more aware of our activities, possibilities, and promises for the future. We have just begun our expansion.—G. P. D.

Creed of the Production Front Fighter

THIS all-out total war is for the preservation of my freedom, as well as that of millions of others. It is my war as well as that of the man who carries a gun, and I will fight it vigorously and constantly wherever I am.

. . . As a soldier on the Production Front, I will do my duty to the fullest extent of my ability. I will use my talents to procure the most and best of fighting equipment.

. . . I will use all of my ingenuity to save raw material, machine hours and man hours for more production.

. . . I will salvage every reject, pound of scrap, and every tool so that the fullest usefulness may be obtained from every ounce and hour that has been expended.

. . . I will eliminate every unnecessary ounce of shipping weight and cubic foot of shipping space to make room for more war material.

. . . I will exert all my energy and ability to doing a more thoro, businesslike, and productive job in war production than I ever did in civilian production.

This Is My War—I Will Fight It.

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