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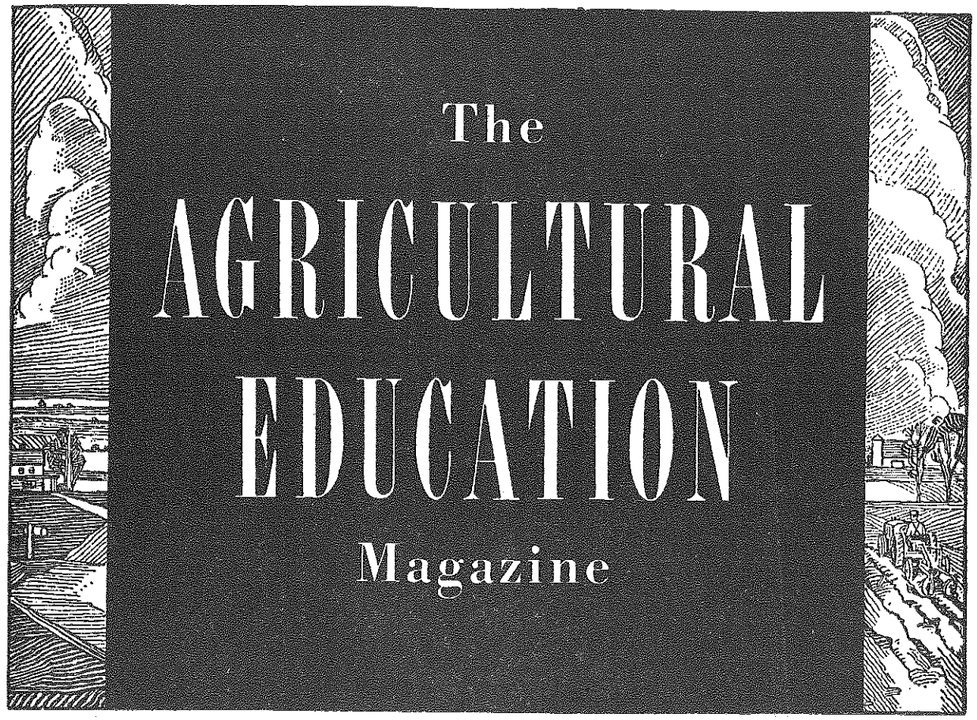


"THE ALL-NIGHT VIGILS at farrowing time will be our sentry duty; the tractors we guide along contour rows will be our tanks; the seeds we plant will be our inland ocean mines; farm machinery we repair will convert our farm shops into our own ground crew work; agricultural information we use will be our own intelligence work; our neighbors will be our Allies in a common cause. We will regard every dead pig, every missing hill of corn, every smutted wheat head, every scrub animal, every cull hen, and every bit of wasted material and effort as being of aid and comfort to our enemies."—

ALBERT VAN WALLEGHAN, KANSAS
(A FARM BOY)

VOCATIONAL AGRICULTURE
For
TEACHERS
Teacher-Educators
And Supervisors
OFFICIAL PUBLICATION

# 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


Looking at Ourselves.....H. S. Brunner..... 223

Educating for Satisfactions in Work.....W. A. Smith..... 223

Readjustments in Virginia's Supervisory Program to Meet the War Situation.....Dowell J. Howard..... 224

Readjustments in Teacher-Training Programs Necessitated by the Rural War Production Training Program.....L. F. Hall..... 225

A student Harvest-Work Program.....Herbert F. Bartlett..... 226

Analysis of Hog Project Records.....W. Leslie Newport..... 228

Adults Profit From Field Trips.....R. M. Carter..... 230

An Expanding Adult Program.....R. H. Young..... 231

A County-Wide Farm Machinery Repair Program.....J. N. Baker..... 232

The Eight-Year Study and Some of Its Implications for Vocational Agriculture.....George P. Deyoe..... 234

Let's Work Together.....S. C. Hulslander..... 236

Vermont Future Farmers in the War Effort.....Ralph H. Granger..... 238




# Editorial Comment

## Looking at Ourselves

H. S. Bruner

VOCATIONAL education in agriculture is in a strategic position to make an incalculable contribution to the welfare of our nation both during the war and during the period of trying time which must of necessity follow the war. With OSY and OSYA classes, vocational agriculture has demonstrated a full-fledged capacity to function directly as a vital tool for increasing the efficiency of the war effort.

The importance of this capacity stands out in bold relief in the light of the rigid scrutiny and careful evaluation to which all agencies are being subjected. Public institutions and educational services are largely exempt from such things as taxes, but they are not excepted from the scrutiny and evaluation which are concomitant to times of great stress. And because schools and school services must be on-going, living, continuously growing things, this scrutiny, particularly as self-scrutiny and self-evaluation, is necessary and desirable.

We must satisfy ourselves and the nation that we are doing our utmost to meet immediate needs and problems, remembering always that our next objective is reconstruction, and the ultimate goal is broad freedom and peace in a democratic society. The attainment of ultimate peace and freedom is unquestionably worth our every effort in production, in service, and in self-sacrifice. The farmer's part in the all-out program was to see to it that the United States was prepared to serve as the larder as well as the arsenal for the war campaign. And, of course, persons responsible for programs of such great scope realize full well that the only chance for accomplishment lies in a program of education, a program of training for the manpower which must carry the burden.

### Teachers' Responsibility

In the days ahead teachers of agriculture will face many new responsibilities, but the conscientious and vigorous carrying-on of our part of the job in agricultural education may not be allowed to diminish one bit in importance. In many respects it will, in fact, assume new importance. Food production will undoubtedly become supremely important while farm labor becomes increasingly scarce. Not only must our soldiers and those of our Allies be fed, but civilians must be fed, and in some cases better than in recent years. Quotas for the desired increases in the various products are being announced daily. What can we do to help every farmer and every farming community to supply the needs of our people? That is the foremost question of this hour and one which supersedes all others. The answer will determine our success on all fronts.

For teachers everywhere the responsibilities are great. All our practices, all our lives, in fact, will have to be adjusted so that each one of us, each school, each farmer, and each farm, may co-operate fully with the least possible loss in efficiency and production.

### Remaking the World

Teachers of agriculture are scientists, applying science in its natural setting. They know that science can create power but that it does not determine whether to use our machines to till the soil and produce goods or to use them for the destruction of the world. They have learned that science can help to create wealth but it cannot tell us how to distribute it justly according to the needs of men. Science can show us how to rule nature; it cannot tell us how to rule ourselves or how to live together in good will and peace. How the power of science is used is a matter for men to decide.

Teachers of agriculture can go forward exerting their influence for intelligent action in keeping with the ideals of American democracy, striving for the up-building of the agri-

this by devoting ever more and more energy and attention to those things which have been tried and found worth while—by becoming personally acquainted with students, their parents, and their home farm situations, to the end that their teaching may have larger benefits for individuals in helping each one to develop into his best self.

The dynamic force of the spiritual values of such a goal for teaching and for life will bring the faith and the new spirit which will carry us thru to "the reconstruction." And possessing the tools, the experience, and the knowledge which we will then have, we should be unfaithful servants indeed if, upon the coming of peace, we merely buried the talents charged to our keeping. Means will be at hand to perform feats that men have long dreamed of doing.—H. S. B.

## Educating for Satisfactions in Work

W. A. Smith

A BRIEF editorial statement in the November issue of *Agricultural Education* over the initials L. H. D. emphasizes the growing popularity of vocational education. Frequent reference is found elsewhere to the significant services which all forms of vocational education are rendering in the present emergency. We may take pride in our accomplishment so long as we recognize that improvements are needed and can be made. I wish to direct attention here to one aspect of education for work—the essence of vocational education—which we may overlook, especially under present circumstances, when emphasis is so markedly upon material results. I have in mind that phase of education for work which enables the individual to find satisfactions in his work.

### Work Without Love for Work

For a brief period this past summer I had the experience of observing at first hand some 15,000 men employed on a construction project connected with the war program. It was emergency in character. Employees were recruited from all walks of life and from widely divergent economic and social backgrounds. Being an emergency project under the jurisdiction of one branch of the military there should have been the urge for maximum effort and efficiency on the part of every worker. In fact, on every side one was confronted with posters designed to provide such incentive. The wages received by workers of all grades and trades should have proved sufficient incentive insofar as wages can provide incentive for honest effort.

Actually, there was a shameful waste of time, materials, and potential effort on every hand. Shirking was common, and to find a worker with a genuine interest in his work was rare. More could be said to present the undesirable features of this situation, but I have mentioned enough to give point to the question of vocational education's responsibility.

The situation was bad enough if we look at it merely from the standpoint of getting a job done. It is much worse when we consider that the workers were also some 15,000 citizens in a democracy. I admit that the project in question was not typical of what takes place in private industry, but that it could take place in such manner at all denotes an unhealthy condition.

What is the solution? One possible answer is dictatorship, with its dependence upon compulsion and disregard for the individual. That is not the answer in a democracy. However, a solution consistent with democracy must accept the idea of voluntary acceptance of responsibility by each individual in that democracy if work efficiency is to result. And that depends upon attitudes and satisfactions. Can we in vocational education make a contribution in this direction? We not only can, but we must.

# Professional

S. S. SUTHERLAND — R. W. GREGORY

## Readjustments in Virginia's Supervisory Program to Meet the War Situation

DOWELL J. HOWARD, Supervisor, Richmond, Virginia

D. J. Howard

THE many programs created as a result of the emergency preceding the war and as a result of the war itself have rather seriously complicated the normal plan of supervision in the states. The responsibility of supervisors has multiplied severalfold, and it seems that the question we must answer first is whether or not this increased responsibility can best be carried out by setting up separate staffs for the new program or by having the present staffs accept the responsibility and expand to meet the need.

Unquestionably, the situation making it necessary for the schools to co-operate with so many new agencies has caused confusion in the minds of school people as to how they can best render the most efficient service. If we have one staff supervising one type of program and another staff supervising another type, when all programs clear thru the school system it will seem next to impossible to avoid confusion and conflict in policies. Because of the very close relationship of many of the agricultural war programs with the program of agricultural education, it has been deemed advisable in Virginia to assign the responsibility of supervision of these programs to the staff of supervisors already employed, and make the necessary expansion to the present staff rather than set up a separate staff.

There are four major programs in Virginia which directly concern the schools and likewise directly concern the program of agricultural education. These programs are:

1. A program designed by the entire school system to meet the needs of the war effort
2. The Rural War Production Training Program, which primarily involves agriculture
3. The regular program in agricultural education, which must be modified to meet the emergency
4. The Farm Machinery Repair Program, the responsibility of which has been assigned by the State War Board to the division of agricultural education.

The first program listed above includes all phases of education in Virginia. It is, therefore, essential that the supervisory staff in agriculture be closely associated with all plans for the broad general program in order that it might adapt its plan of supervision in its particular field to the whole program. The basis for this particular program is the Seven-Point Outline by the President, which indicates the very definite part the schools might play in the war effort. In Virginia, this program has been briefly analyzed as shown in Table 1.

Following the national meeting held in Washington in August, the state superintendent of schools in Virginia called a meeting of all the supervisors of all fields of education in Virginia. The result of this meeting was the establishment of definite policies and procedures and the assignment of definite responsibilities to the fields of education best qualified to accept the responsibility.

### Informing the School People

In order that school officials and teachers might be thoroly informed of the part that they might play in promoting this program, meetings were held over the entire state by representatives of each field of education working together. Following these general meetings, one supervisor of home economics, one supervisor of agriculture, and one high-school counselor traveled together to each county in the state, where an effort was made to adapt the program to the need of the particular county. Following these visits, the supervisors in the three fields worked out jointly plans of supervision considered most effective, and in their visits to schools have rendered every possible assistance in setting up the program to meet each individual school situation.

### Problems Facing Agricultural Education

By referring to the seven points set up in the broad Virginia program, it will be observed that the second point, that of production and conservation, offers a broad field of service for the division of agricultural education. This responsibility can best be accepted and carried out thru two very definite avenues:

1. The regular program of agricultural education.
2. The Rural War Production Training Program.

It becomes necessary, therefore, for the supervisor of agricultural education to administer these two programs with the greatest possible efficiency, if we are to make the maximum contribution to the war effort.

It is necessary that these two programs operate with the closest possible relationship. The supervisor of agricultural education is directing both programs and the district supervisors of agriculture have likewise assumed this responsibility in their respective districts. One additional supervisor has been added from regular vocational funds, and the state is now divided into five areas instead of four as previously. An assistant to the director of the Rural War Production Training Program has been appointed, as have four additional secretaries. In other words, a new staff has not been set up, but the present staff of the agricultural supervisor has been slightly expanded.

### Relationship With the Teacher-Training Department

Because the serious loss of teachers of vocational agriculture has greatly decreased the efficiency of field personnel, it is increasingly important that the supervisory staff and the teacher-training department work in the closest possible relationship. It is not only necessary to increase in-service training, but it is also necessary to modify the system of pre-service training to meet the emergency. The whole plan of supervision and training is worked out jointly by the supervisory and teacher-training staffs.

The teacher-training staff at the Virginia Polytechnic Institute has made available the services of one man in the field at all times for the purpose of assisting the weaker teachers with classroom methods and procedures. A joint relationship has also been developed with the agricultural engineering department, where their staff not only renders valuable assistance in the field with the Farm Machinery Repair Program, but likewise renders splendid service by offering special courses at the college for teachers on the job and men preparing to teach.

At the Virginia State College for Negroes, arrangements have been made whereby an assistant teacher-trainer not only teaches farm mechanics at the college, to regular and summer school students, but spends the equivalent of three days per week in the field for the purpose of supervising the Rural War Production Training Program and the Farm Machinery Repair Program.

It should be recognized that the Division of Agricultural Education has the responsibility of rendering very definite and specific service. It is likewise recognized that its ability to render this service is dependent largely upon the full co-operation of the entire school system. It is, therefore, the policy in Virginia for the broad general program to be directed by the state superintendent of schools, and the close relationship among all of the departments of education not only makes it possible for the entire school system to render a great service, but for the Division of Agricultural Education to administer that part of the program for which it is definitely responsible.

**Table 1. Adapting the School Program to Meet the Needs of the Country Under War Conditions**

| Physical Fitness | Production and conservation | Skills & emphases in math & science | Mobilization of students & teachers | Inflation | Air conditioning | International relations |
|---|---|---|---|---|---|---|
| *Health*<br>1. Physical inspection and correction of physical defects<br>2. Information and practice for positive health<br>*Physical Education*<br>1. Strength<br>2. Co-ordination<br>3. Agility<br>4. Endurance | Production of farm products essential in the war program<br>Production of food for good nutrition<br>Training of workers for war industries and replacement in civilian occupations<br>Care and repair of clothing, equipment, and buildings<br>Conservation of all goods and services<br>Wise buying and selling of goods for essential needs<br>Development of an understanding of the co-operative effort consumers and retailers may employ in controlling living costs | Skills in mathematics and science needed by individuals entering the Army, Navy, and Air Corps<br>Ability to apply skills in new situations with special emphasis upon military illustrations and applications<br>Preflight aeronautics | Development of a realization that each individual can play an important part in the total war effort and provision for participation by all students and teachers<br>Guidance of students into that type of service in the war effort for which they are most needed and best fitted<br>Provision of opportunities for students to prepare themselves to take part in the war effort<br>Co-operation and co-ordination of school activities with other community agencies engaged in the war effort | National program for preventing inflation<br>1. Heavier taxes<br>2. Ceilings on prices<br>3. Stabilization of wages<br>4. Stabilization of farm prices<br>5. Buying war stamps and bonds<br>6. Rationing essential commodities<br>7. Discouraging installment buying and encouraging paying off debts and mortgages | 1. Developing air-mindedness<br>2. Influence and social significance of the airplane<br>3. Social and economic significance of global geography<br>a. For the community<br>b. For the country<br>c. For the world<br>4. Planning for the air age | What we are fighting for:<br>Survival of democracy<br>The "four freedoms" on a national and international basis:<br>Freedom from want<br>Freedom from fear<br>Freedom of speech and expression<br>Freedom of worship<br>Political, cultural, and economic realignments<br>Interdependence of nations<br>Organization for world peace |



## Readjustments in Teacher-Training Programs Necessitated by the Rural War Production Training Program

L. F. HALL, Teacher Education, Manhattan, Kansas

L. F. Hall

EVERY teacher-trainer is eager to make all necessary readjustments in his thinking and in his work to meet the needs of the Rural War Production Training Program. Our problem resolves itself then into a matter of organizing ourselves and our work so as to do the job most effectively.

We all realize the necessity for a unified command for our armed forces. In the same way a unified program for our state staff is an absolute necessity. As a group we must decide upon the program to be carried out in our state. Then when our supervisor, as administrative officer, suggests a job for any of us to do, it is up to us to do it with the same alacrity with which we would carry out an assignment if we were with the armed forces in North Africa.

### Need for Staff Adjustments

I'll go further than that—I'll say that it is up to each of us as teacher-trainers to take the initiative in adjusting our regular work so as to permit us to carry added responsibility in connection with the Rural War Production Training Program. In these times, we can be happy in our work only to the extent that we feel we are contributing something definite to the war effort. We as teacher-trainers cannot face teachers who are working nights as well as days unless we too are carrying super loads.

This war program is so definite and so challenging that it demands the best efforts of every member of the supervisory and teacher-training staff working shoulder to shoulder with the total program in mind. I do not mean to imply that supervisors and teacher-trainers have not worked together as a closely knit group in the past. It is simply a matter of the degree of working together to achieve well-defined results in this home front all-out war effort.

The problem of arranging for increased staff time in the field is not insurmountable.

In normal times teachers in training require the major portion of the time and attention of the resident teacher-training staff. There is the possibility that with reduced enrollment one staff member may assume the full resident teacher-training load and release the other members for field work. Another possibility is that of arranging the schedule so as to group all classes in one semester, leaving the other semester free for field work. A third possibility is that of arranging the schedule of classes so as to leave some days every week free for giving added service to employed teachers.

This service could take the form of field work, or the taking on of certain responsibilities formerly carried by field men or supervisors, so as to give them more time for travel.

We all agree that the basic programs, with certain necessary modifications, must be kept in effective operation in every school. We agree too that the Rural War Production Training Program is one on which our teachers cannot fail without bringing criticism upon vocational education.

What responsibility can we as teacher-trainers assume in connection with this program? Perhaps we should decide first just what responsibilities we need not assume.

In our state, we believe that all administrative responsibilities, such as allocation of funds, approval of local budgets, and check on the adequacy of local programs in meeting reimbursement requirements, should be centered in the offices of the state supervisor and the assistant state supervisor in charge of the Rural War Production Training Program.

The teacher-trainer, if he has a practical working knowledge of the program, can work with the vocational agriculture teacher and his school superintendent from the standpoint of promoting the program, helping the local teacher think thru special organization problems encountered in his community, and helping him with the organization of instruction.

### Opportunity for Teacher-Trainers

If a teacher-trainer does not have a practical working knowledge of the Rural War Production Training Program, the rapid acquisition of that working knowledge is one of the obvious readjustments he is called upon to make. Acquiring a working knowledge of a new program, or one for which we have not before had responsibility, does not present insurmountable difficulties.

Those of you who have not yet been working with the Rural War Production Training Program may be asking yourselves, "But where am I going to start in getting a practical working knowledge of this program?" My attempt to answer this question must of necessity be based on my own experience.

### Pooling Experiences

In every state at least part of the staff members are already working with the war production program. It is more important now than it ever has been before for staff members to *pool* their information, their backgrounds, and their experiences.

Let me illustrate what I mean by *pooling* by showing how our state supervisor, Mr. Pollom, and our assistant state supervisor, Mr. Wilson, shared with me their experiences and their responsibilities in connection with the Rural War Production Training Program in order that I might be in a position to meet the needs of teachers in the field who are faced with problems in connection with this program.

Last August they outlined the Rural War Production Training Program to the members of the state staff at a staff meeting. At that time it was decided that the program should be taken to Kansas teachers in a series of 19 district conferences and that I was to have the responsibility for conducting seven of them.

There followed for me a period of intensive study of the Federal Act and all the material pertaining to the program which had been released up to that time. After this background study, Mr. Pollom and Mr. Wilson shared with me, in a series of discussions in preparation for the conferences, the practical problems they had been encountering in putting the program into operation.

# Methods

G. P. Deyoe

## A Student Harvest-Work Program

HERBERT F. BARTLETT, Teacher, West Springfield, Massachusetts

VERY soon after school opened on September 9, 1942, it became apparent to the vocational agricultural instructor that a large number of students came from farms. A critical help shortage existed on farms, and the labor of students was necessary to get in the crops. In the past, harvesting was done by adults on the farms, but they were not there last fall.

### Need for Farm Labor

An effort to secure farm help had been carried on by the United States Employment Service in Springfield, Massachusetts, and students were released part-time from Wilbraham Academy, Wilbraham, Massachusetts. Students at the high school in Middleboro, Massachusetts, were being used for farm work, and in the spring of 1942 some students from this school had been used along with a few from the junior high school.

The agricultural instructor at West Springfield owns and operates a fruit and poultry farm, and an effort on the part of the instructor to organize a picking crew on the first Thursday and Friday, September 10 and 11, for work on Saturday met with no success. As a teacher in the high school, he was in a very favorable position to locate a supply of help, but his being unable to secure the help brought out the necessity of making some concerted effort to get help which he and other farmers needed.

On Monday, September 14, a person-to-person survey of larger farms, including fruit, dairy, potato, and market-garden farms, to discover the exact help situation was made in West Springfield by the instructor. On Tuesday, September 15, the desperateness of the situation was called to the attention of Dr. F. P. Hawkes, the superintendent. He called a conference for Tuesday afternoon with the high school principal, W. A. Cowing; the vocational guidance and placement director, William Valdina; and vocational agricultural instructor, Herbert F. Bartlett, at which time plans were made to revise the high-school schedule for one month to allow students to help in harvest work. This schedule revision provided for the full number of periods each day, but each period was shortened so that school would close at 12:30 instead of 1:45. In this way, all students covered the same amount of class work as usual. The entire student body was released, and with the farm-work program in progress and with those already working, about 85 percent of the students had a full half day at their respective jobs.

On the form shown in Figure 1, a preliminary survey of the working status of high-school students was made on Tuesday, September 15.

This survey disclosed that 50 percent of the high-school students were already working at some kind of job. Also, an order from the various farmers was received Thursday as to the number of workers actually needed.

Students help with silo filling

Figure 1

West Springfield High School
West Springfield, Massachusetts

American *Youth* Pledges *Aid* for *Victory*
Help the War Effort

Name..... Date.....

Address..... Telephone.....

1. Are you now employed regularly after school? Yes..... No.....
2. If not employed after school at present, would you be willing to do work vital to the war effort? Yes..... No.....
3. Are you willing to help gather in the *harvest* during the next four weeks? Yes..... No.....

I pledge: To fight on the home front by participating in the vital tasks that can be done by the youth of America.

Signature.....

### High-School Students Help to Plan

On Wednesday, the proposed revised plan was presented to the high-school students. At a previous conference between the vocational agricultural instructor and the superintendent, it was decided that the correct psychological approach and presentation of the matter were of utmost importance. Superintendent Hawkes made an excellent presentation and appeal, and the plan was accepted by the student body. Immediately after the assembly, the students who had agreed to work on farms were asked to remain to be assigned to the various farms for the next day. At this time the vocational agricultural instructor called for certain types of workers for certain jobs. For example, nine husky boys were wanted for a silo-filling crew. These volunteered, were put in one group, and were told to bring their work clothes to school with them the next day. A market gardener wanted a group of 20 girls to pick beans. It was quickly discovered that most of the girls volunteering for this group belonged to a school club, and that worked out very well.

### Teachers Co-operate

In most cases, small groups could be discovered that would work well together. Previously, certain teachers had been asked to help in launching the program, and to facilitate locating certain groups in front of the school the next day. Each group of students was asked to report to a certain teacher. Thus, when farmer Brown arrived and wanted his 20 girls, the vocational agricultural instructor had merely to locate the teacher in charge of that group, the teacher having previously seen that the group was all together. This seemed to be a satisfactory way of getting the students off to the job.

Farmers were instructed to have their trucks at the school promptly at 12:30 on Thursday. When they came, the agricultural instructor located the teacher in charge of certain groups and saw that that group got off with the right man.

Once a student or group of students was turned over to an employer, it was understood by both parties that all future arrangements as to wages, hours, transportation, and all details of further employment must be taken care of between the employer and student worker. The instructor was to be involved only for replacements and matters of arbitration.

Later Thursday afternoon Superintendent Hawkes and the vocational agricultural instructor visited several farms to observe the work of the program, and at that time it appeared to be progressing in a satisfactory manner. Thursday night's papers carried very favorable and ample publicity of the program.

In order that inquisitive townspeople who were not familiar with the program might have their minds put at ease, the form shown in Figure 2 was issued to authorize the student to be out of school.

The vocational agricultural instructor had his own telephone, and quite early Friday morning requests for help from outside of Springfield were phoned in. When these calls arrived early enough in the morning, it was possible to secure a crew for that afternoon. Calls after 11:30 were put over until the following day.

Each day it was necessary for the instructor to see which pupils were absent and to check on the lists of the various crews to see that a full crew was on hand for the various farmers. This was a very important phase of the program.

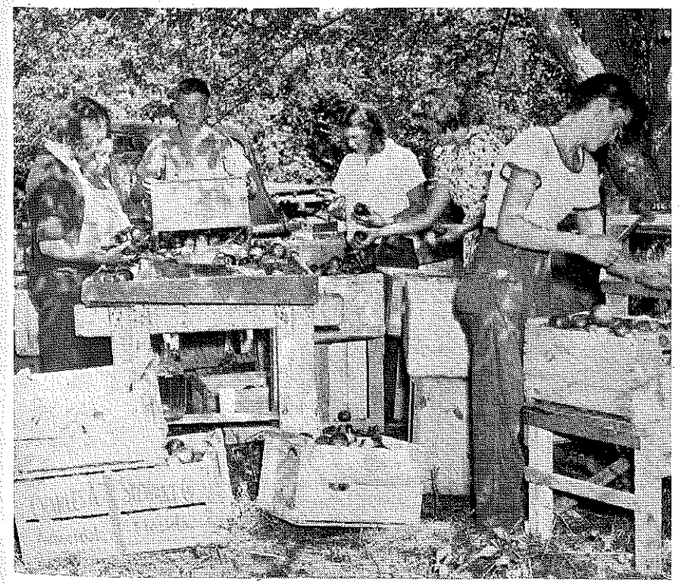
Friday afternoon was spent in another inspection tour, this time with a newspaper photographer. Eight good action shots appeared in the paper.

### Program Closely Supervised

Every school day during the period, the vocational agricultural instructor checked the crews out from school at 12:30. In so doing, he was able to see who were the regular workers and where they were going. At least once a week, visits were made to the farms for a check with the employers, and movies of students at work on various types of jobs were taken for a permanent record of the program. It was the function of the instructor during these visits to observe whether or not workers and employers were in harmony. On one or two occasions, a suggestion was made by the instructor which made the program move a little more smoothly. For example, a market gardener who had 38 girls picking beans was paying them by the hour; and he found out, and so did the girls, that some girls picked more beans than others but were receiving the same money. It was suggested to the employer that the pickers be put on a piecework basis. This was done, and everyone was better satisfied. Also, in this matter of good working relations between employer and worker, the services of certain teachers were engaged while in school for the purpose of listening to conversations between students while waiting for class to begin, or in corridors, or after school. By this "grapevine" method certain small inequalities were discovered and soon straightened out.

This student-work program continued for as long a period as it was apparent that a large percentage of employers still required help. As soon as the program required only a few workers, the high-school program was returned to normal, and quite a number of students continued to work after the normal closing time.

After students had returned to their regular program, the vocational agricultural instructor sent a letter to all employers, 14 in all, asking them for a summary of the student work done. This summary was to be returned on a self-addressed postal card with the questions set up in simple form giving the information which the school authorities desired.



### Students Get School Credit

Students who worked on farms were asked to turn in a report of their activities. A total of 121 reports was received from students, which represents about 95 percent of those students who worked. They were not told in advance why the reports were to be turned in, but the idea in mind was to devise some scheme for using their work experience as a basis for graduation credit.

After the reports were in, the vocational agricultural instructor proposed to the principal and superintendent, and had accepted with minor changes, a plan to give graduation credit to students who worked during this period.

After the reports had been received

Figure 2

West Springfield Public Schools

..... Date

To Whom It May Concern:—

....., a student in the ..... school, West Springfield, Massachusetts, has permission granted by the Superintendent of Schools to work temporarily on various farms and market gardens on school days from ..... o'clock and other times when school is not in session. This permission is given because of the urgent need of farm labor at the present time and is temporary, subject to the approval of the Superintendent of Schools. This form serves as a temporary working card.

..... Principal

# Supervised Practice

C. L. ANGERER

## Analysis of Hog Project Records

W. LESLIE NEWPORT, Instructor, Kansas, Illinois

RECORDS on high-school agriculture production projects are kept each year, but often no analysis is made of these records to determine the causes of success or failure. Much may be learned about the causes of failure or success from a thoro analysis of account records and comparison with other similar records. A large amount of good teaching material may also be obtained from the results of a thoro analysis of a large group of such project records. The analysis gives information based upon production and experience in the immediate community in which it is to be used.

### Necessity for Making Analysis

With these things in mind the author has attempted to make an analysis of some of the project records which have been kept by students of vocational agriculture in the Hamilton High School during the past 11 years. As hog projects have been most numerous during that period, the analysis of these projects will be explained in this discussion.

During the 11-year period thru which these records were kept, the price of hogs, as well as of feed, has fluctuated greatly. Financial returns or net profit would, therefore, not be a good standard on which to base the merits of the success or efficiency in the production of pork. As feed cost normally makes up about 85 percent of the total cost of producing pork, it is by far the greatest single item of expense in pork production.

For these two reasons the amount of feed required to produce 100 pounds of pork is taken as a standard measure to determine the efficiency in pork production in these project records.

Forty-five records were included in the analysis. They were ranked according to the amount of feed required to produce 100 pounds of pork and then divided into three groups of 15 records each. One group contained the 15 which showed the smallest amount of feed requirements per 100 pounds of pork production. Another group of 15 records required the medium amount of feed, and the third group required largest amounts of feed to produce 100 pounds of marketable pork.

### Analysis of Food Requirements

Table 1 shows the scope of this analysis. It included 45 project records of the production of 64 litters of hogs, with a total of 448 hogs raised to market weights. Eighty-one thousand eight hundred thirty-two pounds of pork were produced, requiring a total of 308,093 pounds of feed, or an average of 377 pounds of feed per 100 pounds of pork produced.

Table 2 gives the amount of each kind of feed used and the percent of each kind of feed fed by each of the three groups of projects and by the total of all producers.

### Protein Supplement

One of the outstanding things shown by this table is the difference between the proportion of protein supplement to grain in the low feed consumption group as compared to the medium and high feed consumption groups. The low feed group fed over twice as large a proportion of protein supplement as did either of the other two groups. The proportion of oats to corn was higher in the low feed group and in the medium feed group than it was in the high feed group.

### Efficiency Factors

Table 3 gives a few of the efficiency factors and their relationships to the amount of feed required to produce pork. The number of pigs raised per litter is inversely proportionate to the amount of feed required.

The three groups did not vary greatly in the actual average daily gain per hog. However, the high feed consumption group were fed out for a longer period of time and to a greater weight. It is a generally recognized fact that growing and fattening animals increase their rate of gain per day as they become older and larger up to a time approaching maturity. This trend is shown to be true in the 448 hogs studied here as given in Table 4. The records were grouped again according to the weight at which they were marketed and the light, medium, and heavier hogs compared in average daily gain. The heavier hogs made a much greater average daily gain.

When the above fact is taken into consideration, the low feed consumption group of hogs in Table 3 really made more rapid gain in proportion to their age than groups requiring more feed.

Late spring pigs do not have any advantage over early spring pigs according to this analysis. In Table 5 is given the number of pigs farrowed during various months or seasons of the year. Sixty-nine percent of all pigs were farrowed during March and April. Of the pigs farrowed in March, a larger proportion were raised to market age and required less feed per 100 pounds of pork produced. More definite outbreaks of roundworms and necro were found among the pigs farrowed in April than among the pigs farrowed in any other month.

Table 6 gives some of the recommended practices in hog raising and the number of producers in each of the three groups who carried out these practices. Here again is shown the importance of using good breeding stock, practicing sanitation, raising a large number of pigs per litter, proper feeding of the breeding stock, and full feeding of the growing and fattening pigs with a good proportion of protein supplement to farm grains.

The outstanding reasons for the large amount of feed required to produce 100 pounds of pork in the high feed consumption group were:

1. Lack of sanitation
2. Improper proportion of protein supplement to grains
3. Insufficient feed on the farm and lack of understanding of the importance of full-feeding hogs
4. Too large a proportion of pigs lost between birth and marketing time
5. Use of poor breeding stock

### Some Trends

An analysis was also made of the efficiency in hog production during the 11-year period. Feed requirement per 100 pounds of pork produced was taken as a standard of measure here. Some general conclusions may be drawn from this study which would help any farmer to improve his efficiency in pork production.

1. There was a great variation in the amount of feed required by different producers in the production of pork. This means a great variation in the cost of production.
2. It paid to feed a liberal amount of protein supplement with the farm-grown grains.
3. Oats proved to be a good feed for hogs up to about 15 percent of the total feed.
4. The number of pigs raised per litter is an important factor in determining efficiency in the production of pork. This was due mainly to the fact that the feed for the breeding stock remains the same for large litters as for small litters. A further increase in the average feed per hog raised comes from the fact that the feed consumed by pigs lost late in life thru disease and accident must also be charged to the remaining live pigs.
5. The more rapid gains were the most efficient gains.
6. Sanitation was an extremely important factor in the efficient production of pork.
7. Purebred hogs made more efficient production than grade hogs.
8. Late spring pigs made very little more efficient gains than did early spring pigs. Breeding for late spring farrow also had two very distinct disadvantages: (1) They were usually marketed at a time when the price was from $1.25 to $2.00 per 100 weight less than that received for the earlier farrowed pigs marketed at similar weights; (2) Late spring farrowing usually means late fall farrowing where two litters are raised per

(Continued on page 233)

**Table 1. Scope of Study Made and the Amount of Feed Required per 100 Pounds of Pork Produced, in Low, Medium, and High Feed Consumption Groups**

| Item | One-third of producers requiring | | | Total |
|---|---|---|---|---|
| | Lowest amount of feed | Medium amount of feed | Highest amount of feed | |
| Number of records | 15 | 15 | 15 | 45 |
| Number of litters | 24 | 22 | 18 | 64 |
| Number of pigs marketed | 178 | 157 | 113 | 448 |
| Total pounds of pork produced (including increase in weight of breeding stock) | 29,824 | 28,700 | 23,308 | 81,832 |
| Total feed required (including feed for breeding stock) | 80,621 | 107,566 | 119,906 | 308,093 |
| Average amount of feed required per 100 pounds of pork produced | 270 | 374 | 513 | 377 |

**Table 2. The Kind, Amount in Pounds, and the Proportion of Each Kind of Feed Required to Produce 100 Pounds of Pork**

| Kind of Feed | One-third of producers requiring | | | | | | Total of all | |
|---|---|---|---|---|---|---|---|---|
| | Lowest amount of feed | | Medium amount of feed | | Highest amount of feed | | | |
| | Amount in pounds | % | Amount in pounds | % | Amount in pounds | % | Amount in pounds | % |
| Corn (shelled basis) | 55,859 | 69.3 | 83,817 | 77.8 | 102,836 | 85.9 | 242,512 | 78.8 |
| Oats | 11,958 | 14.8 | 14,574 | 13.5 | 7,027 | 5.8 | 33,559 | 10.9 |
| Wheat | 1,582 | 2.0 | 814 | .8 | 1,469 | 1.5 | 3,865 | 1.3 |
| Rye | 198 | .2 | 123 | .1 | 210 | .2 | 531 | .1 |
| Mill feeds | 300 | .4 | 1,006 | 1.0 | 640 | .5 | 1,946 | .6 |
| Other grains | ..... | .... | 1,120 | 1.1 | 112 | .1 | 1,232 | .4 |
| Total grains | 69,897 | 86.7 | 101,454 | 94.3 | 112,294 | 93.7 | 283,645 | 92.1 |
| Tankage | 687 | .8 | 793 | .7 | 903 | .7 | 2,383 | .8 |
| Trinity mixture | 782 | 1.0 | 200 | .2 | 226 | .2 | 1,208 | .4 |
| Skim milk, gal. | ( 6,251) | .... | ( 3,675) | .... | ( 6,225) | .... | ( 16,151) | .... |
| Dry basis | 5,313 | 6.6 | 3,124 | 2.9 | 5,291 | 4.4 | 13,728 | 4.5 |
| Soybeans | 635 | .8 | 1,889 | 1.8 | 1,074 | .9 | 3,598 | 1.1 |
| Commercial supplement | 3,307 | 4.1 | 106 | .1 | 118 | .1 | 3,531 | 1.1 |
| Total protein supplement | 10,724 | 13.3 | 6,112 | 5.7 | 7,612 | 6.3 | 24,448 | 7.9 |
| Total feed | 80,621 | 100. | 107,566 | 100. | 119,906 | 100. | 308,093 | 100. |
| Ratio of protein supplement to grain | 1:6.5 | | 1:16.6 | | 1:14.7 | | 1:12.0 | |



**Table 3. Relationship of Various Efficiency Factors to the Amount of Feed Required to Produce 100 Pounds of Pork**

| Item | One-third of producers requiring | | | Total of all |
|---|---|---|---|---|
| | Lowest amount of feed | Medium amount of feed | Highest amount of feed | |
| Number of litters | 24 | 22 | 18 | 64 |
| Number of pigs farrowed | 213 | 199 | 166 | 578 |
| Number of pigs marketed | 178 | 157 | 113 | 448 |
| Average number of pigs farrowed per litter | 8.9 | 9.1 | 9.4 | 9.0 |
| Average number of pigs raised per litter | 7.4 | 7.1 | 6.3 | 7.0 |
| Percent of pigs farrowed which were raised to market age | 84 | 78 | 67 | 78 |
| Average farrowing date of spring litters | April 4 | March 25 | April 16 | April 7 |
| Average age of hogs at marketing time (in days) | 183 | 212 | 228 | 204 |
| Average market weight of hogs | 162 | 171 | 198 | 175 |
| Average daily gain in pounds | .88 | .81 | .86 | .85 |

**Table 4. Relationship of Average Market Weight to Average Daily Gain**

| Item | Weight at which hogs were marketed | | |
|---|---|---|---|
| | 35 to 150 pounds | 151 to 200 pounds | 201 to 325 pounds |
| Number of pigs raised | 177 | 153 | 126 |
| Total pig days (no. of pigs x age in days) | 25,098 | 35,596 | 30,834 |
| Total gain in pounds | 18,760 | 29,123 | 30,203 |
| Average daily gain in pounds | .74 | .82 | .99 |
| Average age in days | 142 | 232 | 245 |
| Average market weight in pounds | 104 | 190 | 241 |

**Table 5. Comparison of Factors of Production as Affected by the Months or Seasons in Which Pigs Are Farrowed**

| Item | Months in which pigs were farrowed | | | | | |
|---|---|---|---|---|---|---|
| | Jan. Feb. | March | April | May | June July | Aug. Sept. Oct. Nov. |
| Number of records studied | 2 | 18 | 11 | 5 | 3 | 4 |
| Number of litters farrowed | 2 | 21 | 21 | 5 | 3 | 9 |
| Average number of pigs farrowed per litter | 8.5 | 8.6 | 9.8 | 8.6 | 10.0 | 9.1 |
| Average number of pigs raised per litter | 6.5 | 6.7 | 6.7 | 7.0 | 5.7 | 7.7 |
| Percent of pigs raised to market age | 76.5 | 80.5 | 71.0 | 81.0 | 57.0 | 85.0 |
| Total production of pork in pounds | 2,355 | 28,205 | 25,258 | 7,012 | 3,124 | 9,268 |
| Total pounds of feed consumed | 8,832 | 109,532 | 102,433 | 22,266 | 16,017 | 32,340 |
| Feed required per 100 pounds of pork produced | 374 | 388 | 406 | 315 | 512 | 348 |
| Average marketing weight | 181 | 193 | 173 | 201 | 184 | 132 |
| Average daily gain | .79 | .85 | .82 | .93 | .89 | .96 |
| Average age in days at marketing time | 227 | 227 | 210 | 217 | 213 | 138 |

# Farmer Classes

E. R. ALEXANDER

W. H. MARTIN

## Adults Profit From Field Trips

R. M. CARTER, Instructor, Vermont

FIELD trips were used alternately with classroom meetings in a rural war production course dealing with increasing milk production taught to Vermont farmers. These trips, which it is believed are an essential part of courses devoted to farm management problems, were made to selected farms in the neighborhood of the school where the class meetings were held.

### Planning and Preparation

The first meeting held at the local schoolhouse was attended by farm operators varying in ages from 27 to 68 years. The principles of good barn layout were discussed, and a field trip was planned for the following week to the barn of a near-by farmer. During the intervening week the farm was visited, and the presence or absence of desirable conditions was noted. A score card of general application for the dairy barn layout was prepared, and sufficient mimeograph copies were run off so that several were available for each member of the class.

When the class met at the selected farm, a short review of the first meeting was held, emphasizing points of good barn layout. The score cards were distributed and comments made as to their use. During the tour of the barn, critical comments regarding both good and bad conditions observed were made by class members, and some time was devoted to a discussion of possible corrections, with debate concerning cost of changes, resulting savings, general effect on performance of barn chores, etc. Later each farmer present took his score card and made an individual appraisal of the barn. These score cards were checked over, and the criticisms and evaluations of stable conditions made by the visiting farmers. Before the meeting ended additional score cards were distributed for use by the participating farmers in checking their home barn in a manner similar to that employed on the field trip. These score cards, which were brought to the next class meeting, gave each farmer a chance to discuss individual problems which had arisen in his mind as he checked over his own barn.

A second field trip followed the class discussion of milking machine operation and care. The farmer whose barn was visited got out his milker, and the class had an opportunity to watch a step-by-step checkup of the milking machine. The methods of checking inflations for leaks, of flushing out air lines, of inspecting pipe line and milker pails to insure correct operating pressures, and of preparing lye solutions for storing inflations during rest periods were demonstrated. The class members themselves were invited to take part in the checking work to familiarize themselves with the processes. The place of the vacuum gauge as an indicator of trouble was brought out, and the use of the test gauge made clear. The milking unit on the demonstration farm was checked over on specially prepared checkoff sheets, copies of which were placed in class members' hands for home use during the week following the field trip. At the next regular meeting an opportunity was given class members to discuss their own milker problems and the results of the home checkup.

During the week following a class meeting where barn equipment was discussed, another field trip was arranged to a farm where many laborsaving devices were already in use. Prior to the gathering of the class a number of common articles of barn equipment, which were not customarily used by the host, were assembled at this farm. The class members therefore had a chance to make a side-by-side comparison of good and bad articles of barn equipment, and actually to use the items on hand. A chance to try out different barn tools in the performance of a single job is not too common, and all members of the visiting class took advantage of the opportunity.

### The Farm as a Laboratory

Demonstration projects were arranged. For example, a given floor area was sprinkled with sawdust, and members of the class experimented with brooms, brushes, shovels, and scrapers, as cleaning tools. New and old brooms, narrow and wide brushes, tools with long and with short handles were on hand, and their effectiveness noted. Thru the use of a stop watch the relative time required to clean the stable with different types of tools was computed, and the saving possible thru the use of a wide brush, as compared with a broom, was estimated. The net effect of one over the other, for an entire year, was quite amazing to many class members; a saving of one minute per day amounts to about six hours a year, and there are many chances of making a saving of that much or more on many barn jobs.

Similarly, wheeled vehicles used in the barn were compared for effectiveness. The balancing properties of single- and double-wheeled barrows were far more apparent to class members trying them in the barn than to class members listening to a classroom discussion. A well-balanced barrow proved to be much more desirable to the operating farmer than a poorly designed barrow, after a chance had been given to try both. Spring scales were used in making comparison of the effort required to lift various loads in carts and wheelbarrows, and the material handled per load by different articles of equipment was actually measured. This objective proof of equipment efficiency, carried on by the farmers themselves, had much more weight than manifold printed matter or long periods of lecture.

This particular field trip had a third advantage; it provided evidence of the possibilities of using homemade equipment in the barn. Many laborsaving devices in use on individual farms can only be obtained when made on the farm or by a local craftsman. This is especially true during the war emergency. While many farmers doubt their ability to follow the sketch or diagram given in agricultural publications, they will have much more faith in their own potentialities if they inspect a cart, grain measure, or other device made by a neighbor. The collection of tools arranged for this farm visit served in a measure to dispel this doubt in the minds of many farmers. A number of home projects followed this trip.

### Learning Made Easier

The field trip also offers a stage for the dramatization of some practices and procedures which are difficult to transfer from discussion leader to class member. One phase of the course in efficiency dealt with the adoption of satisfactory barn routines. A good chore routine requires the successful integration of various barn chore jobs, as well as some revision of method, but both the object of a new routine and the procedure to be followed by the operating farmer in developing a better plan are difficult for farmers to grasp. Most adult farmers, some with a lifetime of experience in the performance of barn chores, feel that they are already doing a far better job in their particular barn than can be suggested by a stranger, unfamiliar as he must be with existing conditions. They feel that their whole habit pattern is in danger of being disturbed.

### Problems Need Study

Observation of many farmers at work in their own barns indicates that only a very few operate along a really efficient pattern, or one that cannot be readily improved upon. Experimentation has proved that operating farmers who desire to do so may improve their chore plan immensely. But while the groundwork preparatory to adjustment of routines may be worked out in the classroom, the changes themselves must be made in the barn, and the barn is the most effective laboratory in which to illustrate changes in methods.

The field trip used as a sequel to the class meeting on this subject was made to a farmer's barn where differences between good and poor routines were demonstrated. A sequence of barn chore jobs were performed in various ways, and the distance traveled in conjunction with the same job, according to both good and bad practices, measured off by pacing. The process of checking off each chore job, according to points of emphasis was carried on before the group, with the leader both asking and answering the questions on the spot. This gave the procedure a sense of reality and value that could not easily be gained in any other way.

The members of the rural war production class apparently enjoyed the field trips. Usually the farmer-host provided refreshments following the barn tour, and discussion was lively for a period before leaving for home.

The advantages of field trips for classes in laborsaving methods are:

1. Makes possible the understanding of ideas which are difficult to transfer from group leader to class members
2. Provides a common point of reference for all class members for subsequent discussions of efficiency factors
3. Gives a sense of reality to problems of an abstract nature
4. Insures the possibility of attaining recommended goals
5. Offers a demonstration laboratory wherein class members may observe and experience given procedures, which may later be duplicated on the home farm
6. Stimulates the class to participation in discussion, suggests questions to class members, and requires the members to pass a judgment on their own practices, at the same time as they criticize and grade conditions or practices of their neighbors
7. Permits repetition of subject matter previously covered in lecture or discussion period in a new manner and under new conditions, to emphasize further and drive home important practices



## An Expanding Adult Program

R. H. YOUNG, Teacher, Middlebury, Vermont

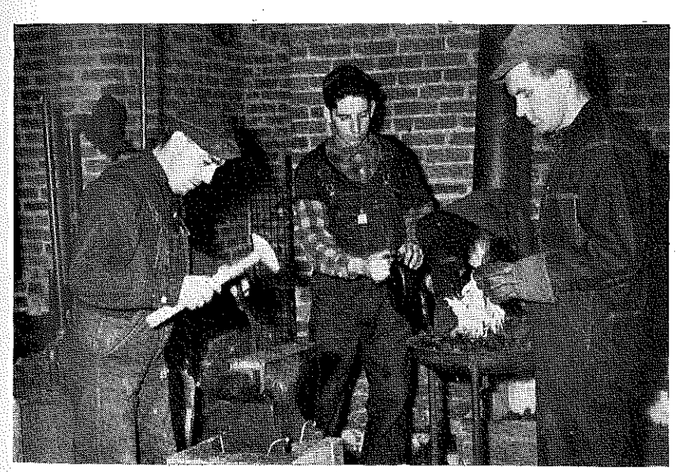
A WAR production advisory committee, which offers counsel on the procedure for starting and carrying on the expanded vocational program is essential. The consensus of opinion of my advisers was to select a group of young farmers for this committee. Fortunately, the men who were suggested for my group were the right ones.

At the first meeting of the group, seven young men, whose average age was 24, were present; one an American Farmer (degree received in 1942), four State Farmers and two Progressive Farmers. These young men were all established on farms and knew what the problems were. We had two committee meetings with the following results: a list of 85 farmers' names, a program planned for one class, and the instructor and center for meetings selected.

### Nature of Program

One program was planned to deal with problems of increasing milk production. Each unit in the course was planned to run at least two meetings. The main reason for setting up this type of a program was to afford more opportunity to find out present practices and problems. The solutions to some problems would be given. Here, other problems would be brought up and solutions given with improved practices suggested. In this way, we expected to secure a better follow-up of the instruction and secure the adoption of more improved practices.

Repairing farm machinery



Forging repair parts

### Advisory Councils

The central committee also recommended that an advisory council be established for each course. This council, consisting of three men, was what could be called the instructor's "right-hand man." As far as the details of any specific course were concerned, the three men were recognized as chairman, secretary, and one other to help wherever needed. The chairman presided over all meetings. The secretary made notes on all meetings and gave them to me after each meeting.

### The Attack Develops

We started our first course on increasing milk production in the vocational building. I had been selected as instructor by the committee. Notices were sent to 50 farmers, with the announcement of the first topic on the program to be discussed. We felt that combining the organization meeting with the topic for our first meeting on the program would result in better attendance. This, I believe, was true, for we had nearly 30 farmers sign up at the first meeting. The advisory council was selected at this first meeting.

### Second and Third Courses

The second and third courses were organized about two weeks after the first course. These are in two outer towns in the patronage area. Both courses are quite similar in nature. In each case the farmers who were suggested as potential members by the committee were sent notices to attend a meeting to discuss this program. The men who came immediately endorsed the plan and proceeded to choose a place for meetings, selected the advisory council and an instructor, and approved the same type of program as was adopted in the department center. It took two of these meetings in each town before everything was in readiness to start the courses. The advisory council gave as much publicity as possible, and I put notices in the local paper and sent notices to farmers. I was present at one town for the first meeting, but the other community started its meetings with its own council and instructor taking charge.

(Continued on page 233)

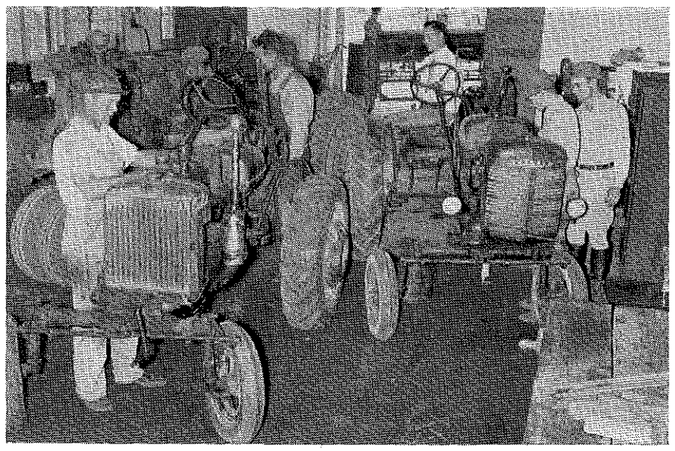
# Farm Mechanics

L. B. POLLOM

## A County-Wide Farm Machinery Repair Program

J. N. BAKER, Assistant Supervisor, Swainsboro, Georgia

THE farmers of this country are confronted with the most gigantic problem in the history of the world—the problem of producing huge quantities of food with a shortage of labor and inadequate equipment. Talk with one of these farmers and hear what he has to say: "Now that farm equipment has been rationed, what am I going to do? How can I produce my part of the food this nation needs so badly when my plows are worn out and new ones are not obtainable. I carried my wagon to the blacksmith shop for repairs and found that the blacksmith had gone to the shipyard. What are we going to do?"



Farmers repair tractors

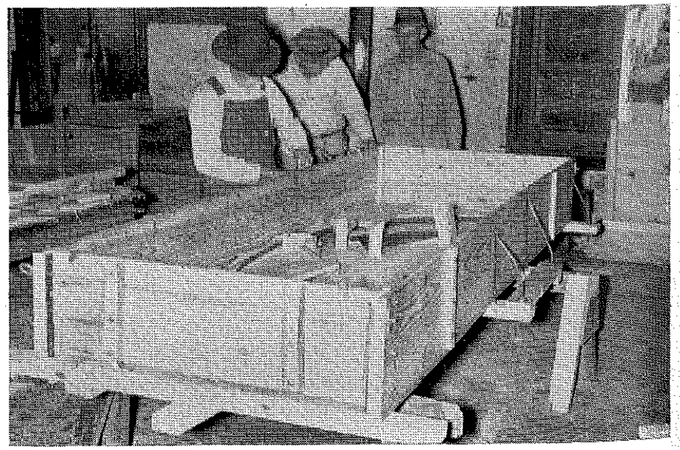
Thru the Rural War Production Training Program the vocational agricultural schools in Georgia have found a way to meet this emergency. Farm machinery repair training courses are now in operation in approximately 400 Georgia vocational departments. Each of these vocational departments has well-equipped shops and has thrown its doors open to the farmers of this state. These shops are operated as training centers where farmers are taught to repair their equipment under the supervision of a mechanic.

### Farmers Do the Work

Everybody works in these school shops. That farmers like the plan and are interested in the program has been clearly demonstrated by the fine attendance records in dozens of shops thruout Georgia. What are these farmers doing in these shops? They are doing everything from putting handles in rakes to building wagons. While all of these vocational schools are rendering a real service to the farmers in their patronage areas, let's go down to the Baxley High School.

Last fall County School Superintendent C. C. Padgett and E. D. Whisonant, superintendent of the Baxley High School, and young Randall Tuten, vocational teacher, determined that the farmers in Appling County would have an opportunity to repair their machinery. Their first step was to acquaint the farmers with the program and employ Mr. V. E. Googe, local mechanic, as the instructor. The response from the farmers was so great that it was necessary for them to be divided into four groups, each group to meet for four and one-half hours per day, two days each week, for a period of four weeks.

Since December 1, 12 farm machinery courses have been conducted at the Baxley shop. Five thousand, four hundred and twenty man-hours have been spent in these courses by 150 farmers. These farmers have repaired 756 pieces of farm equipment. According to Mr. Googe it would have cost these farmers $4,200.75 to have had these repairs made in a private shop, had one been available. In addition to repairing equipment, members of these classes have also constructed 424 pieces of new equipment, such as stalk cutter, brooders, wagon bodies, etc., with the value of $2,610.70.



Farmers make useful farm equipment

### Results

Take the case of Mr. K. C. Mayers, outstanding Appling County farmer. Mr. Mayers is 45 years of age and operates a seven-horse farm nine miles from Baxley. He has spent a total of 144 hours in the Baxley shop in the past 12 weeks. Following is a list of the equipment that Mr. Mayers has repaired:

1 tractor
1 wagon body
1 small fertilizer distributor
1 tractor planter
1 wagon
1 tractor distributor
1 turning tractor plow
1 car trailer

He has constructed three hand rakes, six butcher knives, 1 tractor stalk cutter, 1 hog trough, and 1 self-feeder. When asked how he liked the course, Mr. Mayers had this to say: "The course has meant the difference between operating my farm and going out of business."

County School Superintendent Padgett said: "This training program has meant more to the farmers of Appling County than any single emergency program that has been promoted here. Farmers thruout the county have taken a great interest in these courses and are determined to reach the production goals set up by Secretary of Agriculture Wickard for 1943."

Superintendent Whisonant has this to say: "The course in repairing farm machinery and implements has proved so satisfactory that we hope it will be a permanent part of our regular school program in the future. It is adult education at its highest and best."

When modest, energetic, young Randall Tuten, teacher of agriculture and local supervisor of the Baxley shop, was asked how he manages to organize and conduct such a fine Farm Machinery Repair Program, he said this: "Farmers are willing and ready to meet the war challenge of increasing agricultural production with much less new farm machinery and equipment. When given good tools to use, farmers can do a fine job in repairing and constructing farm machinery and equipment in an organized way."



## Analysis of Hog Project Records

(Continued from page 229)

year. The bad effect of the winter on the younger late farrowed fall pigs more than offsets any advantage which late spring pigs have because of weather conditions.

Much of the information brought out in this study is not new. Many of the practices found to be good and usable here have also been found to be good by various experiment stations. However, this is information based upon practical farm conditions in the immediate community where it is to be used. It is therefore much more convincing to many farmers than information obtained at some distant place.

There is a wealth of information available in the project records of high-school agriculture students in many high schools in the United States if we could only make a more complete analysis of these records. Too many project records as well as farm records are kept each year and then thrown away or stored away without anyone's determining the reasons why the operator succeeded or failed, or why he had better or poorer "luck" than his neighbor.

### Need Good Records

It has been the observation of the author that many high-school agriculture project records are rather inaccurately kept. Probably the most important reason for this is that most students cannot see any advantage in keeping such records.

As a result of these observations and of information secured thru the making of the above analysis, the author has worked out project record summary sheets for hog projects which will give the student something definite in the way of information to be secured and some possibility of learning something from an analysis of his records each year.

These sheets include four main parts:

1. A list of standard goals against which any student may check the progress in the efficiency of his projects
2. A list of approved practices which students may use as a guide in production and in checking the results which have been obtained and the relationship to the use of certain practices
3. A supplementary information sheet on which the producer may describe the methods used with respect to some of the critical factors of production
4. Some definite statistical data which may be used in determining the relationship of some of the various efficiency factors to the practices which he has used. This may also be filed and used as the basis for a long-time study by the accumulation of such information over a period of several years to include a large number of project records. It was information of this kind on which the above described study was made.

Table 6. Number of Producers Using Various Practices in the Production of Pork

| Practices | One-third of producers requiring | | |
|---|---|---|---|
| | Lowest amount of feed | Medium amount of feed | Highest amount of feed |
| Number of records studied | 15 | 15 | 15 |
| Bred for early March pigs (1st to 20th) | 5 | 7 | 4 |
| Used purebred stock | 14 | 12 | 9 |
| Had breeding stock registered | 8 | 3 | 6 |
| Followed McLean County system of swine sanitation: | | | |
| a. Cleaned house with hot lye water and disinfectant | 4 | 2 | 2 |
| b. Cleaned sow with soap and water before farrowing | 4 | 2 | 2 |
| c. Hauled sow and pigs to clean ground where hogs have not been for one year | 10 | 4 | 2 |
| d. Kept pigs on clean ground for four-and one-half months | 11 | 2 | 1 |
| Vaccinated pigs before the age of eight weeks | 9 | 3 | 2 |
| Castrated pigs before the age of eight weeks | 9 | 8 | 5 |
| Used a self-feeder | 7 | 2 | 1 |
| Constructed a guard rail around all of the inside of farrowing house | 6 | 6 | 4 |
| Provided artificial or natural shade | 11 | 6 | 8 |
| Kept water before pigs at all times | 7 | 4 | 2 |
| Used a pig creep and small feeder to get pigs started to eat before weaning time | 9 | 4 | 2 |
| Had sow gain at least 80 pounds during gestation | 11 | 8 | 6 |
| Full-fed pigs at all times | 9 | 3 | 0 |
| Fed a protein supplement to sow at the rate of at least one pound (dry weight) to eight pounds grain | 9 | 7 | 5 |
| Fed pigs at least one pound of protein supplement to each six pounds of grain to the age of four months | 8 | 3 | 7 |
| Fed pigs at least one pound of protein supplement to each nine pounds of grain from four months of age to marketing time | 9 | 3 | 3 |
| Fed a protein supplement at the rate of less than one pound of protein supplement to each 15 pounds of grain | 3 | 7 | 7 |
| Had serious outbreaks of necro | 0 | 1 | 1 |
| Roundworms | 0 | 0 | 3 |
| Had poor sanitary conditions | 0 | 2 | 2 |
| Raised less than five pigs per litter | 1 | 0 | 4 |
| Produced insufficient feed on the farm | 0 | 4 | 4 |

## An Expanding Adult Program

(Continued from page 231)

Our fourth course, on the care, repair, and construction of farm machinery, was operated in the department center. This type of course was very interesting to farmers and just as important as the production courses. At the first meeting each member listed one machine which he needed to have repaired. Dates were set when each farmer was to bring in his machine or machines. Two hay loaders, one corn harvester, one mowing machine, and one lime spreader were in the shop at one time. A chart with a list of skills and jobs was prepared and was checked as jobs were completed.

The meetings for the production courses are from eight to 10 p.m., and the repair course from seven to 10 p.m. Full time is spent on instruction or work connected with the course. No recreation or refreshments follow any meeting. We have planned to follow each course with one extra meeting to give out diplomas or certificates and have refreshments and some type of entertainment or recreation.

The members of all the courses were informed that a follow-up is to be made to check on the adoption of improved practices as a result of taking these courses. They predict that there will be changes from their present practices as a result of the instructional program.

# Studies and Investigations

C. S. ANDERSON

## The Eight-Year Study and Some of Its Implications for Vocational Agriculture

GEORGE P. DEYOE, Teacher Education, East Lansing, Michigan

G. P. Deyoe

ONE of the most significant studies ever made in the field of educational methods and procedures has been designated as the "Eight-Year Study." This study was conducted under the auspices of the Progressive Education Association with special grants from the Carnegie Corporation of New York and the General Education Board. As stated by Dr. H. B. Alberty, of Ohio State University, "Probably not again in our generation will so much time, thought, and money be put forth in any single experiment to improve secondary education. During an eight-year period, 30 schools co-operated with over 300 American colleges in determining the effect upon college success of radically different types of secondary-school programs. Approximately 1,500 pairs of students (the pairs being made up of one student from a conventional school and one from an experimental school) were carefully studied by experts selected from the colleges. The study was instituted because of general dissatisfaction among the high schools and colleges with the product which the secondary school was turning out and with the conventional college entrance requirements."

### Why Should the Study Concern Persons in Vocational Agriculture?

Some persons in vocational agriculture might take the position that this study is of no particular concern to them because: (1) it does not include vocational agriculture in its sphere of investigation, and (2) most or all of the things which this study points to as desirable are already being practiced in vocational agriculture.

While it is true that no mention of vocational agriculture is included in the published reports of the study, this appears to be due to the fact that the schools included did not happen to have departments in this field. It is also true that many of the methods shown to be significant in this study have been applied to teaching in vocational agriculture. However, such a study as this, even by indirection, is of value in showing persons in vocational agriculture that they are headed in the right directions with reference to certain theories and practices. The study also provides many suggestions for refining and extending certain procedures already being practiced to some degree by certain teachers of vocational agriculture.

### Some Important Findings

Perhaps the most significant finding of this study is that high schools can meet the needs of the large group who will not go to college as well as prepare the few persons who attend college. The study demonstrated that experiences in high school which best meet common or individual needs should comprise the curriculum. Persons who had this type of education were not handicapped when they went on to college. In general, they achieved as well and in certain respects slightly better than college students who had the conventional type of high-school training. The more marked the departure from the traditional, the more striking were these differences.[1]

### Some Specific Implications for Vocational Agriculture

The findings just mentioned have some specific implications for vocational agriculture. These findings suggest rather definitely that colleges should accept for entrance credits courses earned in vocational agriculture upon the same basis as credits in the traditional fields.[2]

Several of the procedures developed and practiced in the participating schools carry definite implications for the field of vocational agriculture. These include the following:[3]

1. Objectives should be evolved from the needs and concerns of youth. It is important that these needs and concerns be carefully derived and analyzed
2. There should be increased pupil-teacher planning in setting up objectives, in determining ways and means for achieving these objectives, and in evaluating progress
3. In the learning process, emphasis should be placed on meaningful experiences and types of motivation which lead toward the achievement of the objectives
4. More attention should be given to individual differences, to the release of creative energies, and to the encouragement of each person to work up to his capacity
5. Source units provide a practical substitute for rigidly preplanned courses of study, since it is difficult to anticipate fully the needs and interests of particular groups
6. Procedures of evaluation should be developed which indicate progress *in terms of the objectives set up.*

### Source Units, a Useful Device in Vocational Agriculture

For certain of the items included in the preceding list, further elaborations seem desirable in indicating their implications for vocational agriculture.

The use of source units is of comparatively recent origin, altho certain teachers of vocational agriculture have been using this device, perhaps without knowing it. However, the techniques which were worked out in several high schools with the help of curriculum consultants should be suggestive to teachers of vocational agriculture for the extended use of this device.

A source unit consists of a block of instructional materials which is developed in advance of instruction and from which selections and adaptations can be made by a teacher as he reaches a given point in his instructional program. Each source unit comprises a problem area (or group of related problems). "Breakdowns" within the unit include: (1) statements of goals and objectives (or outcomes) which can be expected to result, (2) problems and concerns of youth in the area covered by the unit, (3) generalizations or understandings involved, (4) individual and group activities likely to be helpful, (5) suitable reference materials for students and teachers, (6) appropriate equipment and visual aids, (7) a wide variety of procedures which might be used in planning and developing the unit, (8) suggestions as to how the achievement of the proposed objectives or outcomes may be evaluated, and (9) suggested "leads" to other related units which might grow out of the proposed unit.

Such a source unit would ordinarily include more suggestions than would be used with a given group. As lessons are developed with the group at hand, selections and adaptations of the materials in the source unit would be made in accordance with the specific interests and problems or needs of the persons in the group, which cannot be fully ascertained in advance. As implied earlier, such source units provide a favorable compromise between rigidly preplanned courses of study and the other extreme of little or no planning in advance which some seek to justify in order to maintain flexibility for meeting the needs of the group. It would seem that neither extreme is desirable, for reasons which should be fairly obvious. Teachers of vocational agriculture should find the development of source units a desirable approach to course building.

1Chamberlin and others, *Did They Succeed in College?* Harper and Brothers, 1942. (Vol. IV of the report of the Progressive Education study.)

2Studies made elsewhere of the achievements in college of former students of vocational agriculture bear out the findings mentioned in the preceding paragraph. (Hamlin, H. M., "Summary of Measurement Studies in Agricultural Education," *Agricultural Education*, Dec., 1933, Vol. 6, No. 6, pp. 90–93.)

3These implications were based primarily on materials presented in the following publications of the study: Vol. II, Giles, McCutcheon, and Zechiel, *Exploring the Curriculum;* and Vol. III, Smith and Tyler, *Appraising and Recording Student Progress*, Harper and



### Teacher-Pupil Planning

Many teachers in the study utilized teacher-pupil planning. They found that, under guidance, students can and will plan very intelligently. Such an approach avoids teacher domination on the one hand and a "do-as-you-please" attitude on the other. It was found that it takes time and skillful teaching to lead students to realize that the teacher is "a partner in a common task" and to develop the ability of the students to plan satisfactorily. Such questions as the following were found to be helpful in directing the thinking of the group toward the formulation of acceptable purposes or objectives: (1) "What would you like to know about the unit we are to study?" and (2) "What would you like to be able to do at the end of the unit that you cannot do now?"

Not only were students encouraged by many teachers to participate in initiating a unit or problem area, but such planning in most cases continued thruout the development of each unit and included the evaluation of outcomes. Thus, students and teacher shared in deciding what goals and objectives were to be sought, in determining the problems involved in achieving the objectives, in finding satisfactory solutions for these problems and planning appropriate courses of action, and in evaluating the attainments in terms of the goals and objectives. It is to be emphasized that this concept of teacher-pupil planning does not mean that the teacher makes the plans and entices the students into accepting them, nor does it imply that the teacher should abdicate entirely.

While many teachers of vocational agriculture have encouraged teacher-pupil planning in their classes, it is undoubtedly true that these and other teachers could secure many valuable suggestions from the experiences reported by the study.

### Appraising and Recording Student Progress

One entire volume is devoted to the developments of the study with respect to appraising and recording student progress. For the purpose of aiding the participating schools in setting up techniques for evaluation, an evaluation staff was provided. It was recognized at the outset that the conventional methods of "measurement" or "testing" were inadequate for the types of outcomes which these schools were seeking to develop in their students. It was also recognized that the process of evaluation is an integral part of the educational process. Seven major steps were included in developing the evaluation program. These include: (1) formulating objectives, (2) classifying objectives into major types of changes in "behavior," (3) defining objectives in terms of behavior, (4) suggesting situations in which the achievement of objectives will be shown, (5) selecting and trying appropriate evaluation methods, (6) developing and improving appraisal methods, and (7) interpreting results. Many instruments of the pencil-and-paper type were devised, some of which should be suggestive to teachers of vocational agriculture. Some of the devices developed were useful in appraising such outcomes as (1) the ability to determine relevancy of data, (2) the ability to collect information, (3) the ability to interpret data, and (4) the ability to apply principles of science.

Not the least of the contributions of the study to the field of evaluation is the further clarification of the basic philosophy of evaluation and the use of the results of evaluation in improving pupils and teachers. Teachers of vocational agriculture have many opportunities to evaluate their own effectiveness as teachers and the attainments of their students thru situations available on the farm and in the classroom, in addition to pencil-and-paper tests. To recognize the evaluative significance of such data as are available in project records, observations on home-farm visits, performance by the students of various skills involved in farming for which some training was provided in school, and other evidences of attainments is a constant challenge to teachers of vocational agriculture.

### Challenges for Professional Improvement

Teachers of vocational agriculture should read the reports of the study and utilize many additional ideas which have implications for their field. Perhaps not the least of the values of such a perusal would be the development of a broadened outlook on education and an awareness of the fact that much of the best that is now practiced in vocational agriculture has been indirectly recognized and given status by the study herein reviewed.

### Published Volumes of the Eight-Year Study

(These are available from Harper and Brothers, New York)

Vol. I. *The Story of the Eight-Year Study*
Vol. II. *Exploring the Curriculum*
Vol. III. *Appraising and Recording Student Progress*
Vol. IV. *Did They Succeed in College?*
Vol. V. *Thirty Schools Tell Their Story*

## A Student Harvest-Work Program

(Continued from page 227)

and the graduation credit plan worked out, it was presented to the student body and accepted by them in a favorable manner, with the expectation that further credits could be secured in future work programs.

The moving pictures that were made by the instructor while on various visits to farms were titled, put in the proper sequence, and supplemented by a summary of the figures by the employers.

A written report of the program was submitted to the school committee, the advisory committee members of the vocational agricultural department, and to the state supervisor of the vocational agricultural education.

The period covered by the special harvest-work program was from September 10 to October 9, 1942, inclusive. A number of students continued to work on farms after classes had been returned to the regular schedule. A few were still working December 4.

The largest number of student workers on farms during the period, as tabulated from employer reports, was 121. Besides these, there were about 15 workers who were working on farms where no extra help were needed. This made the total number of high-school students working on farms 136.

Following is a list of jobs done by student workers:

282 bushels field corn husked
10 tons winter squash harvested
10 tons winter squash dipped in formaldehyde solution
35 acres silage corn harvested
4,596 bushels apples picked, packed
598 bushels snap beans picked
675 bushels potatoes picked and stored
400 crates lettuce packed
150 bushels summer squash harvested
2,148 bushels peppers harvested
153 bushels eggplant harvested
74 crates cauliflower harvested
320 bushels cabbage harvested
589 bushels green tomatoes picked
8 acres spinach weeded
3 acres strawberry plants weeded
7 tons cider apples picked
6,500 cauliflower tied for bleaching

Money paid to workers as reported by employers amounted to $1,635.65 for 5,609 hours, or an average wage of 29.1 cents per hour.

In general, the student harvest-work program at West Springfield High School was quite successful. Public, civic, student, and parental responses were generally very good, and if the need of another program arises, no doubt another student-work program can be executed with an equal degree of success.

### Recommendations for Setting Up and Operating a Student Harvest-Work Program in High School

It is important that:

1. There be a definite need of and demand for a student help program
2. The co-ordinator be the right type of man for the job
3. The superintendent of schools and the principal of the high school be in favor of such a program and that the co-ordinator in charge of the program be given the necessary amount of time and facilities to do the job right
4. The co-ordinator keep in close touch with employers and students to iron out any difficulties that may arise
5. Students be encouraged to keep a record of work done
6. Whenever possible, academic teachers be encouraged to make visits to farms so that they might relate work experience with academic teaching
7. Adequate publicity of the right sort be given the program
8. A check with prospective employers be made to determine whether or not the vocational agricultural department can provide a short unit-course training period for workers. This should be only for *specific jobs* and only *if requested by the employer*
9. The co-ordinator make an effort to have the employers organize work so that it can be put on a piecework basis, if possible, and that an attempt be made to have all workers in the program receive about the same wage for the same kind of work. Even small differences in wage scales and rates are quickly discovered by students, and this forms a basis for dissatisfaction
10. Employers be made to realize that the majority of the workers are green and inexperienced and an emergency type of help, and that they be dealt with on that basis

# Future Farmers of America

A. W. TENNEY

## Let's Work Together

S. C. HULSLANDER, Specialist in Agricultural Education Subject-Matter
Acting National Executive Secretary, Future Farmers of America, U. S. Office of Education, Washington, D. C.

S. C. Hulslander

"CRITICAL Food Shortage Looms!" "Farm Labor Inadequate to Meet Increased Food Production Demands!" "High-school Students to be Recruited for Farm Work!" These home front headlines tell the story of today's major farm production problem, the successful solution of which will guarantee that American people may have adequate food, clothing, and shelter.

The 550,000 girls and 338,415 boys studying vocational home economics and agriculture in 9,000 of the nation's high schools, thru their productive "learning by doing" activities, dealing with the adequate production, distribution, and utilization of food, clothing, and shelter, contribute directly to solution to the present and impending problem of shortages of these necessities of life.

A more effective present and future contribution will be made if home economics and agriculture groups plan and conduct co-operative programs of instructional activities in which girls will receive a greater emphasis on production and distribution, and boys a greater emphasis on utilization of food, clothing, and shelter.

This co-operation can best be obtained thru the effective use of existing facilities. In a majority of schools where home economics and agriculture are taught, there are organized chapters of Future Farmers of America, a national organization of farm boys studying vocational agriculture, and home economics clubs for girls enrolled in home economics. Joint programs of these organizations can and should stress group projects involving planning, growing, processing, preserving, and storing of vegetables, fruits, and meat for the school lunch programs, for community cannery operations, or for commercial production. Exchange classes in which girls receive agricultural instruction in the production of vegetables, poultry, fruit, dairy products, pork, beef, mutton, etc., and boys, instruction in nutrition, health, and conservation of clothing are possible co-operative undertakings.

In rural districts a majority of students come from farms. In many instances where brothers and sisters are enrolled in vocational courses, the boys conduct supervised farming programs, and the girls, home projects on the same farm, in a totally unrelated manner. Combined effort in the planning, producing, distributing, and utilizing of farm and home commodities is the result of a supervised co-operative project program such as shown in Table No. 1.

Such co-operative programs are more than a wartime necessity, for it is recognized that many rural students will enter upon the responsibilities of conducting a farm business and farm home; that these two parts of the farm are inseparable in many details; that co-operative planning between the farm manager and the home manager results in greater efficiency in the production and disposal of farm products; and that greater harmony and closer companionship will develop in the farm family home because of inter-responsibilities. Let's work together to win the war, establish the peace, and build for future security and happiness!

**Table 1. Co-operative Supervised Project Programs**

| | |
|---|---|
| **Garden** | |
| Boys' Supervised Farming Program | Girls' Projects |
| Garden for home use | Canning vegetables |
| | Preparing vegetables for table use |
| | Serving vegetables |
| | Preparing vegetables for market |
| | Exhibiting |
| | Growing and serving new vegetables |
| | Planning a garden layout |
| **Poultry** | |
| Raising baby chicks | Grading and packing eggs |
| Raising broilers | Preparing eggs for the table |
| Laying hens | Killing and preparing birds for oven |
| Turkeys, geese, etc. | Cooking and serving chicken |
| | Preserving eggs for household use |
| **Fruit and Small Fruit** | |
| Strawberries | Canning and preserving fruits |
| Raspberries | Preparing and serving |
| Tree fruits | Fruit and fruit dishes |
| | Picking small fruits |
| | Exhibiting fruit |
| | Preparing fruit for market |
| **Dairy** | |
| Raising young animals | Proper care of milk, such as clean utensils, refrigeration, etc. |
| Milk production | Using milk in the daily diet |
| Animals | Preparing milk products for table use |
| | Preparing and cooking veal |
| | Canning veal |
| | Cutting veal carcass |
| **Swine** | |
| Raising fattening pigs | Cutting pork carcass |
| Raising sow and litter | Preserving, curing, canning pork |
| | Preparing pork products |
| | Saving and feeding table scraps |
| | Cooking and serving pork |
| | Salvaging fats |
| **Beef** | |
| Raising beeves for home butchering | Cutting beef carcass |
| | Preserving, curing, canning beef |
| | Preparing beef products |
| | Cooking and serving beef |
| **Bees** | |
| Producing comb honey | Serving honey |
| Producing extract honey | Using honey in cooking |
| Making beeswax | |
| **Home Maintenance and Improvement** | |
| I. Outside Renovation, Repairs of Buildings | I. Outside Renovation, Repairs of Buildings |
| (a) Replace window panes, putty | (a) Hanging a small door with butt hinges |
| (b) Repair siding | (b) Shooting door trouble |
| (c) Construct porch rail | (c) Repairing a mortise lock |
| (d) Repair or construct | (d) Installing a hasp for a padlock |
| (e) Removal of useless buildings | (e) Cutting glass |
| | (f) Mixing putty |
| | (g) Replacing broken window pane |
| | (h) Adjusting a window that sticks |
| II. Outside Painting | II. Outside Painting |
| (a) House, entire or portion | (a) Porch floor, railing and other surfaces accessible from ground |
| (b) Outbuildings | |
| (c) Barn | |
| III. Inside Renovation, Repairs of Buildings | III. Inside Renovation, Repairs of Buildings |
| (a) Partition, removal or change | (a) Interior decorating-papering, painting, refinishing furniture, selection of home furnishings and equipment |
| (b) Floor construction or repair | (b) Selection—electrical fixtures |
| (c) Simple wiring | (c) Planning room arrangement |
| (d) Simple plumbing | (d) Repacking faucet |
| (e) Simple plastering | (e) Replace fuses |
| | (f) Repairing broken electric wires, etc. |



## Readjustments in Teacher-Training

(Continued from page 225)

When the time came for the conferences, Mr. Wilson conducted the first one, and Mr. Pollom and I observed his procedure and also the reactions of the teachers and the special problems which occurred to them.

Mr. Pollom conducted the second conference with Mr. Wilson and me observing his presentation and making note of any new problems brought out by the teachers in that group.

The third conference was my responsibility, but I knew that Mr. Pollom and Mr. Wilson were there and ready to lend a hand.

We have found that the problems uppermost in the minds of the teachers and the superintendents are those dealing directly with the Rural War Production Training Program or with adjusting the regular program so as to include time for this added program. We have found that school superintendents when properly informed welcome the opportunity to administer this essential wartime service thru the public school system, and their chief concern is for making it successful.

### School Administrators Co-operate

We have found that while superintendents are backing the program, they are delegating the responsibility for its organization to the vocational agriculture teacher. This being the case, our teachers will bear the brunt of any possible criticism in their communities and, of course, receive due credit for a successful program.

Increasing the capacity of teachers to organize their work is an ever-present problem of the teacher-trainer. We have found that the Rural War Production Training Program greatly accentuates the importance of organization.

We have found, too, that we must do more than tell a teacher to organize his work or to streamline his regular program in order to allow time for the added war program. We have to help him clarify his thinking as to what are the basic essentials that must be stressed and what are the desirable but nonessential features that may be given minor emphasis or dropped altogether.

One of the most definite helps we can give teachers is to get them to see that efficient organization involves the utilization of the counsel and co-operation of others rather than the attempt to do all the planning and all the work themselves.

### Teachers Have Many Responsibilities

We have found that the problem of training a teacher as local supervisor is more acute right now than training him as a vocational agriculture teacher in this sense—a vocational agriculture teacher may flounder with his regular program for two or three months and still get straightened out in time to do a good job for the remainder of the year. But in the case of the Rural War Production Training Program the possibility of going on with the program is dependent upon the success of the first unit.

We have found that one of the early decisions to be made in each community is the ratio of emphasis to be given to the farm machinery and construction program and the commodity production courses.

In connection with the commodity production courses we have found it well to stress the use of regular evening school funds.

We have found that if a teacher does not have a successful organization for the war program, it is not because of any lack of patriotism. Some other factor is involved, and it is up to us to find out what that factor is.

Those of you who have been working with the Rural War Production Training Program will agree with me that any one going into the field will soon develop a systematic approach for discovering and meeting the problems encountered by teachers in putting the program into effect.

### Work With Local Superintendent

We have found that when we call on a superintendent, he readily accepts the suggestion that the vocational agriculture teacher be called to join in a discussion of the program. I do not hesitate to request such a conference, since this program is the responsibility of the superintendent as well as of the vocational education staff.

There is an advantage in having the superintendent hear the progress report of the teacher and in having the teacher familiar with the superintendent's reaction to the program—which is invariably favorable. Incidentally, it lays a more definite foundation for counsel and co-operation between the superintendent and teacher.

The discussion serves to clarify the objectives of the program, the interpretation of rules and regulations, and the duties of the local supervisor and instructor. What is equally important, the particular problems faced in the local community are brought out. A discussion of these problems will ordinarily bring about a plan for solving them.

Not infrequently a superintendent or teacher will ask a state worker to go with him to discuss some problem with a member of the advisory committee, a school board member, or an instructor. Such requests cannot be turned down.

Suppose the problem is that of securing an instructor for the farm machinery and construction program.

Usually the capable mechanic who would make a desirable instructor is overburdened with more commercial work than he can possibly take care of. He is often doubtful as to his ability to act as an instructor. It is natural for him to think that he does not have time to take on added responsibility and that he is not a teacher anyhow. Almost always he is a rugged individualist who would resent any high-pressure salesmanship. However, he would be the first to admit that the farm machinery repair problem is acute and that it is going to become more and more pressing as time goes on. He is anxious to serve where he can do the most good in this time of emergency. When he understands that the class will be made up largely of employed farmers; that teaching does not involve a series of lectures; that it means rather the supervision and instruction of 15 or 16 of his friends and neighbors while they do their own farm machinery repair work in a place where adequate facilities are at their disposal and where he can instruct and lend a hand at the critical stages, he is more than willing to make his skill available to the larger group thru the Rural War Production Training Program.

Let us consider now some of the possibilities for a redistribution of responsibilities among staff members as a means of increasing the capacity of the staff as a whole to meet the needs of the war production program.

### Adjustments in Staff

In such a readjustment the following activities would be among those to receive consideration by those teacher-trainers who, thru a realignment of duties, are able to take on added responsibilities:

Holding special conferences for beginning teachers

Holding regional conferences for all teachers

Publishing the F.F.A. News Letter

Handling Chapter Activity Programs and Chapter Achievement Reports

Conducting F.F.A. Officers' Training Schools

Presenting F.F.A. State Association Activity Programs to the National Organization

Administering State Farmer Awards

Presenting American Farmer Applications to the National Organization

(Continued on page 238)

## Editorial Comment

(Continued from page 223)

There are satisfactions to be obtained in the performance of any job in any occupation. We as a people have come to place a major emphasis on the satisfactions derived thru economic return for work performed. The present farm labor situation is partly an outgrowth of such tendency. The pirating of workers from one defense plant to another has been possible because of the dominance of economic motive. In our vocational education we have stressed monetary return. It is important that we do so, but are there limits to satisfactions derived thru economic returns beyond which we must go if we are to have efficiency in performance in occupations and jobs?

There is much evidence today that the answer is in the affirmative. Some of the satisfactions possible are those of pride in the product of work, sense of fulfilling obligation to the other fellow, understanding of the materials and tools in any given job or activity, understanding of the background and contemplation of the future of materials, tools and products of the job or operation, development of "rhythm" and adjustment to the "harmony" desirable in operations and jobs. These and other sources of satisfaction are possible in any occupation, any job, or any vocation.

We must recognize that education for work is not complete until we have enabled workers to obtain necessary satisfactions as well as skills and abilities to perform. The importance of skills and abilities is granted since, to a large degree, the acquiring of satisfaction is dependent upon efficient performance. But we dare not assume that the necessary desirable attitudes basic to satisfaction will follow or be present.

It seems to me that the obligation to give attention to this matter in vocational education, whether in agriculture, trade and industry, or elsewhere, is all the more essential as we contemplate the aftermath of the war. The stability of democracy is so intimately tied up with the welfare of the individual that it behooves us to take seriously our part in improving individual welfare. We do so as we enable workers to find satisfying experience in the work they perform.

## Readjustments in Teacher-Training

(Continued from page 237)

Administering the Union Pacific Carl Raymond Gray Scholarship

From the standpoint of our experience in Kansas, this partial list of possible fields of activity for teacher-trainers is not theoretical. Our teacher-training staff is now involved in all of them.

I would like to mention the building of commodity production course outlines as a new service which contributes directly to the Rural War Production Training Program. Outlines which have been received in our office indicate that teacher-trainers in many states are already taking advantage of this opportunity. This seems a logical service for teacher-trainers to assume since they are located on the campus, where they can work in close co-operation with subject matter

## Vermont Future Farmers in the War Effort

RALPH H. GRANGER, Executive Secretary

THE Vermont Association of Future Farmers, tho composed of only 35 active chapters, has been doing a splendid piece of work in co-operation with the war effort. We all have heard much about the amount of work that is to be done and the shortage of labor and materials with which to do it. So the local chapters thruout the state have decided to do something about the situation. Chapter morale and co-operation never were any better, as the results of these several activities have shown.

The scrap campaign offered a challenge which was gladly accepted and carried thru to completion with an average of 2,522 pounds of scrap materials being collected by every F.F.A. member in Vermont. This total is impressive and shows what the boys really will do when given an opportunity and proper leadership. Several of the chapters have used the money obtained from the sale of scrap materials to add to their purchases of War Bonds and Stamps. Recent totals on purchases of War Bonds by the local chapters are not summarized, but we do know that most of the chapters are purchasing Bonds or Stamps regularly.

### Building Egg Crates

Egg crates in the state of Vermont are very scarce, so the state association, thru the local chapters, has decided to see what can be done to provide suitable cases and crates for the commercial producers of eggs. Following plans drawn up by the agricultural engineer at the University of Vermont, the local chapters are building over orange crates so that they are the same dimensions as a standard egg crate. The state association has purchased a supply of flats and fillers for these crates and is distributing them among the chapters as they are requested.

The activities of the districts and of the state association which have involved travel in the past have been largely eliminated from this year's program, altho limited district meetings were held in each of the five districts during the fall. One of our more important recreational and leadership training events on the annual F.F.A. calendar has been the winter carnivals held in each of the districts during the height of the snow season. Since the restriction on nonessential travel has been in effect, these carnivals have all been canceled and the boys have found an outlet for their enthusiasm and inspiration in such events as the scrap collection campaign, the egg crate building program, and events thru which they raise money to purchase additional War Bonds and Stamps.

### State Convention

Plans are now under way for a very limited state association convention this spring. We in Vermont feel that a delegates' meeting, with one or two representatives from each chapter, is necessary and will prove of great value in keeping the chapters informed and inspired for the work which obviously lies ahead for all local chapters.

The Vermont Association of F.F.A. has just received a $100 War Bond, awarded to the rural youth organization collecting the most poundage of scrap materials on a per capita basis. With this reward as an added incentive, the members of the local chapters are all set to go to work on the Victory Garden program, the increasing of the home food supply, and the care and repair of farm machinery and equipment. All of these activities are a part of the local chapter's program of work.

### Teacher-Trainers Help With All Phases of Program

We as teacher-trainers may look upon the Rural War Production Training Program as a means of increasing the efficiency of teachers in every phase of vocational agriculture work.

The farm machinery and construction program makes it possible for the teacher, as local supervisor, to put on his overalls and learn the "tricks of the trade" from a skilled mechanic. Teachers who take advantage of this opportunity are going to have the skill and confidence to undertake an expanded day-school program in farm machinery repair.

It would be impossible to set up a more effective means of upgrading our teachers in their farm mechanic skills. It is up to us to capitalize on this opportunity.

We say that a teacher is no stronger than his adult contacts. The war production program provides an ideal setting for adult contacts and gives the teacher an experience which should result in a more effective part-time and evening school program in the future.

In the same way the Rural War Production Training Program challenges us with an opportunity to increase our

Those teacher-trainers whose work has kept them thinking largely in terms of giving teachers in training a good professional attitude and the tools with which to teach, will find that this war-born opportunity to go into the field and acquaint themselves with the practical problems faced by teachers, will place them in a position to make their methods courses more functional when they return to the class room.

As teacher-trainers, we are all faced with a new degree of responsibility for defining and stimulating definite programs carried by the vocational agriculture teachers. This means that our success as teacher-trainers will be measured in terms of the results achieved by our teachers in these programs.

With the regular day school programs we have been accustomed to strive for the ever-increasing efficiency of our teachers. But we have not expected every teacher to carry every program as soon as it was suggested and with uniform success.

With the Rural War Production Training Program we are faced with the necessity for getting full participation on the part of the teachers with a high degree of efficiency, immediately. This is no

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rs—C. C. Scarborough, Auburn
rs—T. L. Faulkner, Auburn
t—S. L. Chesnutt, Auburn
t—George T. Sargent, Auburn
t—W. R. Montgomery, Auburn
rt—A. L. Morrison, Auburn

**ARIZONA**
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s—L. D. Klemmedson, Phoenix
t—R. W. Cline, Tucson
t—J. R. Cullison, Tucson

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t—Roy W. Roberts, Fayetteville
rt—Henry L. Cochran, Fayetteville
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d—Julian A. McPhee, San Luis Obispo
s—E. W. Everett, San Luis Obispo
rs—B. R. Denbigh, Los Angeles
rs—Howard F. Chappell, Sacramento
rs—B. J. McMahon, San Luis Obispo
rs—A. G. Rinn, San Luis Obispo
rs—Weir Fetters, San Luis Obispo
rs—Harold O. Wilson, San Luis Obispo
t—S. S. Sutherland, Sacramento
it—George P. Couper, San Luis Obispo
it—J. I. Thompson, San Luis Obispo
rt—C. O. McCorkle, San Luis Obispo

**COLORADO**
d—H. A. Tiemann, Denver
s—L. R. Davies, Denver
s—Alfred R. Banger
t—G. A. Schmidt, Fort Collins
rt—Gilbert Betts, Fort Collins

**CONNECTICUT**
d—A. S. Boynton, Hartford
s—R. L. Hahn, Hartford
t—C B. Gentry, Storrs

**DELAWARE**
d-t—R. W. Heim, Newark
s—P. M. Hodgson, Dover

**FLORIDA**
d—Colin English, Tallahassee
s—J. F. Williams, Jr., Tallahassee
t—E. W. Garris, Gainesville
t—A. W. Tenney, Gainesville
it—H. E. Wood, Gainesville
it—W. T. Loften, Gainesville
ct—L. A. Marshall, Tallahassee
ct—C. W. Conoly, Tallahassee

**GEORGIA**
d—M. D. Mobley, Atlanta
s—T. G. Walters, Atlanta
ds—George I. Martin, Tifton
ds—C. M. Reed, Carrolton
ds—J. N. Baker, Swainsboro
ds—J. H. Mitchell, Athens
cs—Alva Tabor, Fort Valley
t—John T. Wheeler, Athens
t—O. C. Aderhold, Athens
t—A. O. Duncan, Athens
t—R. H. Tolbert, Athens

**HAWAII**
d-s—W. W. Beers, Honolulu, T. H.
s—W. H. Coulter, Honolulu, T. H.
s—Warren Gibson, Honolulu, T. H.
t—F. E. Armstrong, Honolulu, T. H

**IDAHO**
d-s—William Kerr, Boise
s—Stanley S. Richardson, Boise
s—Elmer N. Beinap, Idaho Falls
t—H. E. Lattig, Moscow
t—H. A. Winner, Moscow
s—Carl O. Hennings, Boise

**ILLINOIS**
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s—L. C. Cannon, Springfield
s—B. A. Tomlin, Springfield
s—D. G. Daniels, Springfield
t—H. M. Hamlin, Urbana
t—Melvin Henderson, Urbana
t—J. N. Weiss, Urbana

**INDIANA**
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s—Harry F. Ainsworth, Indianapolis
t—B. C. Lawson, Lafayette
rt—S. S. Cromer, Lafayette
it—K. W. Kiltz, Lafayette
it—H. W. Leonard, Lafayette
it—I. G. Morrison, Lafayette
it—H. B. Taylor, Lafayette
it—W. A. Williams, Lafayette

**IOWA**
d—F. E. Moore, Des Moines
s—H. T. Hall, Des Moines
s—R. A. Towne, Des Moines
t—Barton Morgan, Ames
t—John B. McClelland, Ames
t—J. A. Starrak, Ames
t—T. E. Sexauer, Ames
t—A. H. Hausrath, Ames

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s—L. B. Pollom, Topeka
t—C. V. Williams, Manhattan
t—A. P. Davidson, Manhattan
t—M. R. Wilson, Manhattan
it—L. F. Hall, Manhattan

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s—E. P. Hilton, Frankfort
t—Carsie Hammonds, Lexington
it—Watson Armstrong, Lexington
it—W. R. Tabb, Lexington
ct—J. J. Mark, Frankfort

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s—S. M. Jackson, Baton Rouge
ds—A. Larriviere, Baton Rouge
ds—T. E. Kirklin, Baton Rouge
ds—A. E. Robinson, New Orleans
ds—W. J. Parent, Hammond
ds—M. M. Parry, Monroe
ds—Harold Montgomery, Shreveport
t—C. L. Mondart, University
ct—M. J. Clark, Scotlandville
ct—Dallas Matthews, Scotlandville

**MAINE**
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s-t—Herbert S. Hill, Orono
s-t—Wallace H. Elliott, Orono

**MARYLAND**
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s-t—H. F. Cotterman, College Park
ct—J. A. Oliver, Princess Anne

**MASSACHUSETTS**
d—Robert O. Small, Boston
s—John G. Galvin, Boston
t—F. E. Heald, Amherst
t—W. S. Wells, Amherst

**MICHIGAN**
d—George H. Fern, Lansing
s—Harry E. Nesman, Lansing
s—Luke H. Kelley, Lansing
s—Raymond M. Clark, Lansing
t—H. M. Byram, East Lansing
t—G. P. Deyoe, East Lansing
t—G. C. Cook, East Lansing

**MINNESOTA**
d—Harry C. Schmid, St. Paul
s—Leo L. Knuti, St. Paul
s—Harry J. Peterson, St. Paul
rs—Felix Nylund, Virginia
t—A. M. Field, St. Paul
t—G. F. Ekstrom, St. Paul

**MISSISSIPPI**
d—H. E. Mauldin, Jr., Jackson
s—A. P. Fatherree, Jackson
ds—R. H. Fisackerly, Jackson
ds—E. E. Gross, Hattiesburg
t—V. G. Martin, State College
t—N. E. Wilson, State College
t—D. W. Skelton, State College
t—A. E. Strain, State College
rt—H. O. West, State College
it—V. P. Winstead, State College
ct—W. A. Flowers, Alcorn
ct—A. D. Fobbs, Alcorn
ct—Robert Ross, Alcorn

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s—G. A. Woodruff, Jefferson City
s—M. D. Thomas, Jefferson City
s—Joe Duck, Jefferson City
t—Sherman Dickinson, Columbia

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s—A. W. Johnson, Bozeman
s—H. R. Rodeberg, Bozeman
t—R. H. Palmer, Bozeman

**NEBRASKA**
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s—L. D. Clements, Lincoln
s—H. W. Deems, Lincoln
t—H. E. Bradford, Lincoln
t—C. C. Minteer, Lincoln

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t—W. C. Higgins, Reno

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**NEW MEXICO**
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s—W. J. Weaver, Albany
s—R. C. S. Sutliff, Albany
s—J. W. Hatch, Buffalo
t—R. M. Steward, Ithaca
t—E. R. Hoskins, Ithaca
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ds—R. J. Peeler, Raleigh
ds—E. N. Meekins, Raleigh
ds—J. M. Osteen, Rockingham
ds—T. H. Stafford, Asheville
ds—A. L. Teachey, Pleasant Garden
ct—S. B. Simmons, Greensboro
t—Leon E. Cook, Raleigh
t—L. O. Armstrong, Raleigh
t—J. K. Coggin, Raleigh

**NORTH DAKOTA**
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s-t—Ernest L. DeAlton, Fargo
s-t—Shubel D. Owen, Fargo

**OHIO**
s—Ralph A. Howard, Columbus
s—W. G. Weiler, Columbus
s—E. O. Bolender, Columbus
t—W. F. Stewart, Columbus
t—H. G. Kenestrick, Columbus
t—C. E. Rhoad, Columbus
rt—Ray Fife, Columbus

**OKLAHOMA**
d—J. B. Perky, Stillwater
s—Bonnie Nicholson, Stillwater
ds—W. R. Felton, Stillwater
ds—S. M. Crosnoe, Stillwater
ds—Roy Craig, Stillwater
ds—Edd Lemons, Stillwater
t—Don M. Orr, Stillwater
t—Chris White, Stillwater
ct—D. C. Jones, Langston

**OREGON**
d—O. I. Paulson, Salem
s—Earl R. Cooley, Salem
s—Ralph L. Morgan, Salem
s—Kirby E. Brumfield, Salem
t—H. H. Gibson

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s—H. C. Fetterolf, Harrisburg
s—V. A. Martin, Harrisburg
rs—R. C. Lighter, Gettysburg
rs—J. S. Champion, Pittsburgh
rs—A. B. Young, Kittanning
rs—A. V. Townsend, Bedford
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rs—W. J. Tucker, Bellefonte
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rs—J. B. Park, Honesdale
rs—R. E. Seamens, Greensburg
rs—T. M. Malin, York
t—Henry S. Brunner, State College
t—William A. Broyles, State College
rs—G. L. Reisner, McConnellsburg
rs—A. A. McBride, Huntingdon
rs—D. R. McClay, Washington
t—William F. Hall, State College
it—Russell B. Dickerson, State College
it—D. C. Sprague, State College

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d—Lloyd A. LeZotte, San Juan
s—Nicholas Mendez, San Juan
t—Lorenzo Garcia Hernandez, San Juan
t—Ernesto Vazquez Torres, Mayaguez
ds—Juan Acosta Henriquez, Arecibo
ds—Juan Robles, Cayey
ds—Andres Ramirez, Mayaguez
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ds—W. M. Mahony, Anderson
ds—R. D. Anderson, Walterboro
ds—R. E. Naugher, Loris
t—W. G. Crandall, Clemson
t—W. C. Bowen, Clemson
t—J. B. Monroe, Clemson
ct—J. P. Burgess, Orangeburg
ct—Gabe Buckman, Orangeburg

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s—H. E. Urton, Pierre
t—R. R. Bentley, Brookings

**TENNESSEE**
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ds—G. B. Thackston, Murfreesboro
ds—J. W. Brimm, Jackson
ds—L. A. Carpenter, Knoxville
t—N. E. Fitzgerald, Knoxville
t—J. B. Kirkland, Knoxville
rt—A. J. Paulus, Knoxville
rt—E. B. Knight, Knoxville

**TEXAS**
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s—J. B. Rutland, Austin
s—R. Lano Barron, Austin
ds—O. T. Ryan, Lubbock
ds—C. D. Parker, Kingsville
ds—C. B. Barclay, Commerce
ds—B. C. Davis, Austin
t—E. R. Alexander, College Station
t—Henry Ross, College Station
t—Malcolm Orchard, College Station
rt—W. R. Sherrill, College Station
t—J. L. Moses, Huntsville
t—W. E. Driskill, Huntsville
t—S. V. Burks, Kingsville
t—Ray L. Chappelle, Lubbock
it—T. L. Leach, Lubbock
it—F. D. Shackelford, Kingsville
it—H. W. Gist, Kingsville
ct—E. M. Norris, Prairie View

**UTAH**
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s—Mark Nichols, Salt Lake City
t—L. R. Humpherys, Logan

**VERMONT**
d—John E. Nelson, Montpelier
s-t—W. Howard Martin, Burlington
s-t—Charles L. Park, Jr., Burlington

**VIRGINIA**
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s—D. J. Howard, Richmond
ds—F. B. Cale, Appomattox
ds—T. V. Downing, Ivor
ds—J. O. Hoge, Blacksburg
ds—W. R. Legge, Winchester
ds—J. C. Green, Powhatan, Virginia
rt—Olive A. Salem, Blacksburg
t—Harry W. Sanders, Blacksburg
t—Henry C. Groseclose, Blacksburg
t—E. Y. Noblin, Blacksburg
t—C. E. Richard, Blacksburg
ct—G. W. Owens, Petersburg
ct—J. R. Thomas, Petersburg
ct—A. J. Miller, Petersburg

**WASHINGTON**
s—J. A. Guitteau, Olympia
t-s—E. M. Webb, Pullman
t-s—Bert L. Brown, Pullman

**WEST VIRGINIA**
d—W. W. Trent, Charleston
s—John M. Lowe, Charleston
s—H. N. Hansucker, Charleston
t—M. C. Gaar, Morgantown
it—D. W. Parsons, Morgantown
it—A. D. Longhouse, Morgantown

**WISCONSIN**
d—George P. Hambrecht, Madison
s—Louis M. Saeman, Madison
t—J. A. James, Madison
t—V. E. Kivlin, Madison
t—V. E. Nylin, Platteville
t—J. M. May, River Falls
it—Ivan Fay, Madison
it—Clarence Bonsack, Madison

**WYOMING**
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