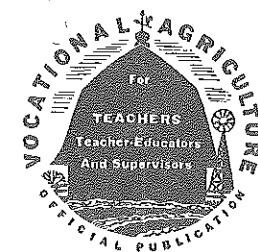


The United States will emerge from this war with a school program more nearly adapted to the practical and current life of the students.—W. W. Charters



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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Entered as second-class matter, under Act of Congress, March 3, 1879, at the post office, Des Moines, Iowa.

CONTENTS

Evaluating Our Efficiency.....	G. P. Deyoe.....	163
Vocational Aspects of High-School Agriculture Not Generally Appreciated.....	M. C. Gaar.....	163
Readjustments in Supervisory Programs to Meet the War Situation.....	Julian A. McPhee.....	164
Farm Families in Georgia Provide and Preserve Foods.....	T. G. Walters.....	166
Book Reviews.....	A. P. Davidson.....	167 & 169
The Success of the Supervised Practice Program Depends on the Teacher.....	Kenneth Diehl.....	168
Adult Education in Agriculture 1942-43.....	H. M. Hamlin.....	170
Relationships Between Teachers of Vocational Agriculture and Organizations Interested in Farm Equipment.....	D. C. Sprague.....	172
A Youth Survey Suggests Program Changes.....	R. L. Amsberry.....	174
What Becomes of Vocational Agricultural Students.....	J. M. Hill.....	175
The Star Farmer of America.....		176
Machinery Repair—a Basis for Improved Economy.....	J. H. Pownall.....	176
Chapter Profits With Pigs.....	Frank A. Buchanan.....	177
Save a Life for the War Effort.....	Harold L. Kugler.....	178
A Pennsylvania Agricultural Teacher Cycles to Work.....		178
National Officers of F.F.A.....		178

Editorial Comment

Evaluating Our Efficiency

EFFICIENCY is the watchword of the hour, and well it should be. In a scientific sense, efficiency is the ratio of the output to the input, or the ratio of the useful work obtained from a machine to the energy supplied to it. Teachers of vocational agriculture have definite amounts of time, energy, and talents at their disposal. They can be adjudged efficient to the degree that the output is consistent with these types of input. Right now, it seems reasonable to say that the output should consist largely of those things which contribute most to the war effort and to the peace which follows.

In vocational agriculture and various other service agencies for agriculture, perhaps one of the clearest challenges for our efforts is the statement by Secretary Claude Wickard that "Food will win the war and write the peace." At the risk of being called materialistic, the writer maintains that for the present and probably for some time to come, our efficiency in vocational agriculture should in no small way be evaluated by the extent to which we can demonstrate that we are influential in increasing the production and conservation of essential food products.

While we must never lose sight of the fact that as educators we are concerned with the development of human beings, in a large measure this development can be evaluated by the degree to which the persons under our instruction "do better the desirable things they are likely to do anyhow" (to borrow from Thomas Briggs). Once more (or perhaps we should say as never before) it is desirable for us to develop in those whom we teach the abilities necessary for making two blades of grass where one was growing, and for using this grass to the best advantage. This increased production must be brought about under the handicaps of decreased labor, older machinery, and reduced amounts of commercial fertilizers. What greater challenge could we have as teachers of vocational agriculture!

To be sure, teachers of vocational agriculture have been carrying on many activities which, with minor revisions, fit into the needs which are current. However, as never before, this is the time to put first things first in order to secure the maximum efficiency with the resources at our command. Not only must we be doing an effective job with boys in our day-school classes but our programs must reach larger and larger numbers of out-of-school farm people.

Thus, it behooves us to evaluate our efforts thru securing evidences of increased farming efficiency by those who come under our instruction. To what extent are these persons securing increased production per unit of labor? To what extent are production quotas being reached? To what degree is this being done thru increased efficiency of production as shown by increased pigs saved and increased poundage of pork per litter, increased butterfat and milk production per cow, greater egg production per hen, or greater yields of better quality crops per acre?

It is to our credit to be able to point to many instances where outcomes of these types are in evidence. One teacher of vocational agriculture found that the boys in his classes helped increase the production in their home herds thru selection and improved feeding by approximately 1,000 pounds of milk per cow per year. With the number of cows in these herds kept approximately constant (by judicious replacement of the culls) the increased production thru their efforts amounted to the equivalent of 25 additional cows. In another case, lamb production in the flocks represented was increased from a 100 percent lamb crop to approximately a 125 percent crop, which in these flocks represented the equivalent of nearly 100 additional lambs. Another teacher worked with boys and adult farmers in the improvement of poultry flocks. Over a period of one year, their efforts were rewarded by an average annual increase of nearly 36 eggs per hen, which in this group amounted to an additional 6,000 dozen of eggs. In all of these cases, increased production was made possible with no increase in productive units, altho the latter is also desirable in many instances.

In a school in one state, 40 farmers in courses in farm machinery made repairs and adjustments on nearly 100 pieces of

farm equipment. In another state, one teacher reached 563 farm families who canned 164,283 cans of food in the community canning plant connected with the school. These are only a few examples of many which might be given.

Admittedly, there is more to evaluation than might be inferred from the foregoing. Our procedures as teachers may need evaluating, especially if outcomes of the type indicated prove disappointing. Furthermore, there are additional outcomes which are revealed by improvements in farming and farm life of which no mention has been made. These and other aspects must also be given attention in any comprehensive program of evaluation.—G. P. D.

Vocational Aspects of High-School Agriculture Not Generally Appreciated

DOES the average teacher of agriculture have the true concept of vocational agriculture? Do his course of study, his methods of teaching, and his techniques of handling all-day, part-time, and evening-school members indicate that his local school program is organized and is being carried out as provided for in the Smith-Hughes Act, which states, "that the controlling purpose of such education shall be to fit for useful employment; that such education shall be less than college grade and designed to meet the needs of persons over 14 years of age who have entered upon or who are preparing to enter upon the work of the farm or of the farm home"? Do the average teacher's plans and activities give proof that he is teaching for establishment and proficiency in farming, or is he still teaching book agriculture? Such questions are simple, and yet they are important. They serve as criteria for checking on our program. Too frequently we become so elated over the progress and increasing popularity of our program that we fail to check ourselves and our teachers as to how well our program is progressing from the vocational aspect. Obviously its final outcome over a long period depends on the philosophy, the concept, and the activities of the average teacher.

To be more specific we must ask ourselves to what extent the average teacher is actually teaching superior farm skills and farm management practices and setting situations for each boy to apply the skills and practices he is learning. Again teachers are still teaching about agriculture rather than demonstrating actual performance because this is easier to do and requires less planning. For example, in too many cases the students are taught about how brooder houses are built or remodeled without actually doing the job. In other cases boys are taught about the advantages of castrating and docking lambs and treating sheep for parasites with too little effort to see that every boy who has such an enterprise or sheep at home actually performs these practices until the necessary skills have been attained. Unless these practices and all others included in the course of study are carried to the doing level, the learning process has not been completed, and the teacher has no specific evidence that students have mastered the learning exercises. The proof that students have learned is their development of the necessary skills and their putting superior practices into operation.

Providing actual performance of the many superior farm practices for pupils on an individualized basis, either at home or elsewhere, requires much effort and planning. Frequently we find teachers who possess the true vocational concept but encounter many problems that prevent them from carrying out their ideals. Some of the problems that appear to be very realistic are: (1) school day schedule is too long to make more home visits possible, (2) class work and home farm activities are too far apart, (3) there is a lack of transportation facilities for class field trips, (4) class period is too short for field trip operations, (5) classes are too large to take on field trips, (6) field trips conflict with other class work, (7) there is not enough time to visit and get acquainted with home farms, (8) boy fails to get Dad's co-operation. Yes,

(Continued on page 177)

Professional

A. K. GETMAN

R. W. GREGORY

Readjustments in Supervisory Programs to Meet the War Situation

JULIAN A. MCPHEE, Chief, State Bureau of Agricultural Education, State of California

THERE has never been a time since vocational agriculture was established as a national education institution in 1917 when vocational agriculture teachers have needed more honest, constructive, and ingenious leadership than today.



J. A. McPhee

The position of the vocational agriculture teacher has undergone a significant change in the last two years. In the period between 1930 and 1940, a large number of agencies came into existence or were expanded to deal directly with farmers and their problems. Men who had been teaching a long time maintained an identity in their communities which the new-found agencies could not obscure, but many a new teacher found himself only one of many public servants of agriculture and often the one who dealt with the farmer's son but seldom with the farmer.

Many New Problems

I do not mean by that statement that the influence of vocational agriculture declined during this decade; I do mean that so many other agencies sprang up or were given duties and authority that vocational agriculture often seemed lost in the shuffle. I know that, in my own state, many meetings of farmers were called by the various service groups to which the vocational agriculture teacher was not even invited. This was often just an oversight, entirely unintentional; there were just so many agencies and public servants in each county or district that they did not even get to know each other.

Many of these agencies other than vocational agriculture were created to cure some particular farming ill. Many of these ills resulted from the inability of farmers to dispose of the goods they were producing. The tendency was toward reduction of the price-depressing surpluses, utilization of the excess of available farm labor, assistance to those living on marginal farm lands because they had no other place to go.

I do not say that these ills will not return to agriculture, but I do say that the Japanese provided a plan for a temporary "cure" when they dropped bombs on Pearl Harbor. Surpluses of food have now turned to scarcities. Dangerous shortages appear in farm labor. People have left marginal lands, and even good lands, for factory employment. Food

private institutions will lend money on deals they would have scorned a few years ago. So the agricultural agencies created to cure these ills now have less to do.

In this picture, which has changed so rapidly one way and then another since 1930 or thereabouts, the primary job of the vocational agriculture teacher has remained constant. His objective to teach good methods and practices to those farming or preparing to farm has not been altered. I do not mean that his activities have not been changed; I do mean that his fundamental *function* has remained the same.

As a result, the vocational agriculture teacher has found himself to be a very important community leader in an agricultural sense. He is usually the only agricultural public servant located in the immediate center of the farming district he serves; the others are located at the county seat or in district offices. The agriculture teacher is the man who can be reached, day or night, for answers to a lot of new and perplexing problems. The work of the agriculture teacher was not associated with any national political regime because he had no propaganda to sell. He had the confidence of the young people, and Dad turned to the agriculture teacher as a stable influence in a whirlwind of changes. This agency or that agency came and went but vocational agriculture had permanency.

In order for us to list some necessary readjustments in the supervisory program to meet the war situation, it is essential that the supervisory staff understand the present job of the vocational agriculture teacher. In listing 10 items in which readjustments might be made, let us put this one first. The complete suggestions are:

1. The supervisor must understand the job of the teacher.
2. The supervisor must bring the teacher into a true understanding of the war program.
3. The supervisor must prepare the teacher to meet the immediate problems.
4. The supervisor must prepare the teacher to meet postwar problems.
5. The supervisor must improve follow-up service with new teachers who have gone out half-prepared.
6. The supervisor must devise new inspiration for the 18-19-year-old age group.
7. The supervisor must limit topics of professional meetings.
8. The supervisor must brief teaching aids and state office material.
9. The supervisor must deputize work

10. The supervisor must reorganize travel to increase his efficiency.

Understanding the Job of the Teacher

I doubt whether a state supervisor can understand the wartime job of the agriculture teacher thoroughly unless he actually visits sufficient schools to get a good cross-section. The state supervisor cannot be sure he is getting a true picture from the field reports of his staff or from the customary reports to the state office because the teacher and the assistant supervisor may only discuss those routine items of prewar vintage, or the customary reports may contain no place for recounting wartime responsibilities.

In my own state, I am very sure that at least half the time of the vocational agriculture teacher now is taken up with duties which did not exist two years ago. However, when one considers the new duties in the Rural War Production Training Program, supervision and placement of emergency farm labor, salvage drives, War Bond sales, war chest campaigns, county war board activities, school bus driving, home Victory Gardens, community gardens, training non-farm students for crop harvesting, and a multitude of other items, one understands why supervision along the time-tested lines will not meet the issue. The teacher needs help in all of his wartime duties, not in just his teaching and supervised practice work.

Bringing the Teacher to a True Understanding of the War Program

It is possible that in each state many vocational teachers have not seen their opportunities for wartime service. If this is true, it is not surprising; because I cannot understand how the United States has progressed as far as it has during the last year when so many people absolutely refuse to make any adjustments or sacrifices. When one hears people grumbling over taxes, rationing, speed limits, inability to get special accommodations on trains, inexperienced help, dimout regulations, and other restrictions, while still enjoying luxuries most of the world never experienced in the most prosperous peacetimes, one can understand why all of the agriculture teachers may not have grasped the fact that we are in a struggle for our very lives.

No doubt all Americans want to win the war, but they want it done with as little inconvenience to themselves as possible. War to millions of them has been up to now an opportunity to make more money than they ever saw before or something fought between armies of strangers

if American cities were bombed, many citizens would protest to the Government at the discomfort caused. Certainly we do not find the pioneer spirit by which the men of Lexington and Concord plowed with muskets strapped to their backs, ready at the sound of the village church-bell to throw down the reins and take up arms against an approaching enemy. Something has taken the starch out of the American backbone.

So, the second adjustment in supervision is to inspire the teacher so that he will give his best efforts to increase the agricultural production in his community. There is no other possible activity which can even compete with this all-consuming need.

Preparing the Teacher to Meet Immediate Problems

After the supervisor has a thorough understanding of what the teacher is being called upon to do in the various communities and has psychologically prepared each teacher to get in and help solve his community food production problems, he must provide assistance for the teacher to meet these problems.

Let's assume that it is early September and a bumper crop of tomatoes is ready to harvest in a certain district. The most important job in that community is to get those tomatoes to the cannery or packing house. Nothing else matters for the moment. The growers secure the approval of the school administration to close the high school for a week.

The agriculture teacher is in a key position to help save an essential food crop. He can organize work crews in an orderly manner, supervise them on the job until they have developed some skill, help arrange for transportation of the students to the fields, and serve in any other way his time and talents permit. He will not find any plans for this in any educational courses he has taken. His teacher-training did not allow for the recruitment and supervision of emergency farm labor. He needs help from the supervisory staff, and the state supervisor or his assistant.

The problem next week may be entirely different. A farmer in the district must sell a herd of productive dairy cows. The butcher will be glad to take them, but we need milk and more milk. The wide-awake agriculture teacher will arrange finances to keep the cattle in the community by resale to other farmers or Future Farmers. Or the problem may be a need for leadership in home gardening. Many agriculture teachers have looked upon this "back-yard stuff" as inconsequential and beneath their notice. Now the vegetables and poultry produced in back yards or the crops grown in a community garden can contribute in a vital fashion toward food production and the health of the community. The agriculture teacher can contribute expert help, and he will need help from the supervisor. The point is that he must be shown the need to get in and help with whatever activity is most important in his community. These change from day to day; the teacher must have a constant ingenuity and a flexible program.

Preparing the Teacher to Meet Postwar Problems

Perhaps the man who is happiest and

period is the man who has not read any of the experts. One know-it-all who claims to have the very best inside information says the war will be over in six months. Another who claims to have equally good information says four to seven years. One man assures us that Germany is stronger now than at any time during the war; another asserts that the Third Reich is about to collapse economically. The fact is that nobody knows. One expert may make a luckier guess than another.

We are rather convinced that when the war is over perhaps millions of persons will return to agriculture as a means of livelihood and as a mode of living. We can be quite sure that at the end of the war farm machinery will be run down and in need of a lot of replacement and repairing. We know that with the all-out emphasis on quantity and less attention to quality there will be need for upbreeding programs in livestock and poultry. We know that hundreds of thousands of farm boys who were contented with a simple existence and few conveniences will have circled the globe as soldiers, sailors, and marines. It will not be easy for them to return to the rutted roads and the oil lamps of the "back country."

These are a few of the things we do know, without depending upon the experts for too much information regarding how long the war will last or what will be the world political and economic picture after it is over.

It is not easy to guide the agriculture teacher in the philosophy that his sole responsibility is the *immediate* needs of his district in farm production and at the same time arouse very much interest in the *postwar problems*. There must be some attention to the long-range program. In the belief that he could quickly conquer all of Europe, Hitler slaughtered off the foundation cattle, sheep, and swine in the conquered countries to meet his immediate needs for meat. This blunder may have cost him the war; time will tell. Anyway, we do not want to be so close to the immediate needs that we are unable to see any of the implications of the postwar period. It is the responsibility of each state supervisor to have a program leading to postwar adjustments in agriculture.

Follow-up on New Teachers

In order to staff high-school vocational agriculture departments with men to replace those leaving the profession for various reasons, it has been necessary to put into service men who are only partly trained. I do not know whether this has been true in every state, but in California, where we normally have a full year of apprentice training after college, before service begins, it has been a great problem. I know that in some states where the loss of teachers has been very much higher than in California it has been necessary to replace experienced men with boys still in the process of completing undergraduate requirements.

This means that if you are fortunate enough to have a sufficient number of "4-F's" or "2-B's" to meet some or all of your placement needs, these youngsters will need a lot of help. It would have been bad enough in peacetime to start the difficult job of teaching vocational agriculture with limited training. Today, the agriculture teacher is expected to have many more skills and a wider scope of

lot to expect of a youngster only four years out of high school.

We have found one compensating factor, altho only a temporary one. With a small number of apprentices available to train this year, we are able to devote more time to the follow-up on those already placed. We have changed our program to a year-round activity, enabling a "cadet," as we call our trainees, to enter the apprentice period any time during the year. We know that there will be a job waiting for him in two, three, five, or eight months—whenever he is capable of handling a full-time teaching assignment. On the job, he needs a maximum amount of help.

Inspiration for the 18- and 19-Year Olds

The agricultural morale of the seniors in high school and other farm boys facing almost certain induction into the armed forces is understandably low. There is little incentive for them to attain a status above that of a farm laborer. The prospect of financial loss in disposing of a self-owned supervised farming enterprise, and the discouragement of seeing that which was built up thru careful saving and planning sold and scattered is not a pleasant one. City people must not get the idea that farm boys are less patriotic than other boys. The facts are that so many of them have volunteered for service that the food production program is seriously endangered. But the city boy of 18 or 19 years who enters the service usually leaves only a job or school; he does not have a "business" to be sold or turned over to other hands.

Under normal times, we could expect the teacher to supply the "pep" necessary to keep the young men interested in agriculture up to the time of their induction into the armed forces. Unfortunately, the morale of many of the agriculture teachers is low, too. It is not easy to think up reasons why the young man should develop his own farming enterprise in preparation for a postwar period which he may not live to see, or which may be so far distant as to make present efforts ineffective.

We think the young man with a financial interest in agriculture is more likely to return to a vocation which will desperately need young enthusiasm and the planning of those who have seen the agriculture and food needs of the rest of the world. We think that a supervised farming program which challenges the muscles and the mind to their best endeavor is a vital part of agricultural education. We believe that the supervisor must find the way to retain interest of young men in agriculture and home farming programs. The arguments of a few years ago will not work now.

Limit Topics of Professional Meetings

Time of the supervisor and the agriculture teacher spent in meetings should be profitably spent. A few years ago, we did not worry too much if an hour or so was spent arguing about a rule at a fair or a constitutional amendment to the teachers' association constitution. There is no time today for anything except constructive discussion and important business.

One means of accomplishing this is careful planning of all district or regional meetings within the state. One or two important war topics are enough. Securing

Methods

A. M. FIELD

Farm Families in Georgia Provide and Preserve Foods

T. G. WALTERS, State Supervisor, Atlanta, Georgia

IT IS estimated that one-half of the total commercial production of canned vegetables in 1943 will go to meet the requirements of our armed forces and allies. It is the patriotic duty of every farm family to produce and preserve as much as possible of the year's family food supply.

The fable of the ant and the grasshopper illustrates what may be the condition of the farm family that depends upon buying canned vegetables from the village grocer. There just will not be enough to go around.

Georgia farm families did not wait until their pantry shelves were empty. They started in February and March, 1942, planning their food program. Fifty thousand one hundred and twenty-five enrolled in adult evening classes to study the "Food for Victory Program" and plan with a conviction that every day might be considered a "rainy day." Forty-nine thousand nine hundred and fifty-two Georgia farm families canned this past year 9,848,309 pints of fruits, vegetables, and meats in 382 community canning plants under the supervision of teachers of vocational agriculture, assisted in many plants by the teachers of home economics. The total number of



T. G. Walters

cans filled would amount to approximately 200 railroad cars of canned goods.

The Georgia Canning Program did not just happen overnight, but dates back to 1926, when the first community canning was done by Mr. J. L. Gilmore, agricultural teacher in the Linc Community, Franklin County. Mr. Gilmore did not have even a building, but made use of the shade trees on the school grounds. A borrowed saw mill boiler generated the

steam; wooden barrels were used for processing. Live steam was released in the barrels to boil the water. No pressure cookers were used and most of the products canned consisted of tomatoes and vegetable soup. Even with one sealer and very limited equipment Mr. Gilmore supervised the canning of 9,000 cans of vegetables for 20 farm families.

The community canning in Georgia did not gain momentum until 1932. The



Canning Plant, Douglas County, High School

mention of this date will no doubt help visualize the farm conditions that made a food preservation program necessary. At that time farm income was at a low ebb. Altho the canning program in Georgia had its beginning in our agricultural depression, it has not been an emergency program. It has increased in scope each year since its beginning.

In practically every case community canning plants have grown out of an adult evening class in which the job of "Providing Food for the Farm Family" was discussed. In these evening-class programs, conducted jointly by the agricultural and the home economics teachers, the farmer and his wife have set up the family budget for the year. After the plans were formulated, they planted vegetables in sufficient quantities to meet their needs. The following is a typical canning budget for a farm family: tomatoes, 75 quarts; snap beans, 50 quarts; soup mixture, 75 quarts; corn, 50 quarts; greens, 50 quarts.

The canning plants are a part of the school facilities. The canning equipment



same basis as laboratory equipment is purchased for the science department. Some communities have not been fortunate enough to have a board of education with sufficient money to buy canning equipment and have had to depend on other methods of financing. To list the different methods agricultural teachers in Georgia have used to raise money to purchase equipment and construct canning buildings would take entirely too much space. Many plants have sprung up and secured good equipment in communities where it was thought impossible. When the people saw the need, they always found a way. The canning equipment ranges in value from \$300 to \$1,000, depending upon the size of plant and community. The size of a building on an average is 24' x 40'. This, however, varies widely over the state.

Let's visit one of the community plants where a typical farm family of five are canning. The job of canning food is too big for the mother to assume all the responsibility, so all members of the family

when needed to supervise other phases of his program.

This farm family we have visited could easily be from Pickens County, Jasper, Georgia, where Mr. M. T. McMurray, the agriculture teacher, and Misses Inez Martin and Nell Griffith, home economics teachers, supervised the canning of 167,000 pints of fruits and vegetables this past summer. Six hundred and forty-nine families used the Jasper plant this past summer.

The success of the food preservation program at Jasper no doubt resulted from the educational program sponsored by the vocational teachers. These teachers covered Pickens County in February and March with 36 meetings in 10 different communities in a food production program. The County School Superintendent, Mr. U. S. Worley, made available school busses to transport the farm men and women to these night classes. Mr. Worley states he considered these adult classes a regular part of his school program.

The ten community canning plants with the highest record for 1942 are:

School	Total Cans Pints	Families Served
1. Pickens County	167,000	649
2. Chamblee.....	163,805	310
3. Tucker.....	159,233	300
4. Claxton.....	151,302	472
5. Canton.....	146,039	497
6. Franklin County	110,880	263
7. Murray County	110,814	612
8. Lula.....	103,200	287
9. Dawsonville....	103,000	325
10. Sparta.....	98,138	131

Book Review

Farm Machinery, Archie A. Stone, 524 pp., illustrated, published by John Wiley & Sons, Inc., list price \$3.25. In this, the third revision of Stone's *Farm Machinery*, the material has been expanded approximately one-third. About 200 new illustrations have been added. Each of the first 10 chapters is devoted to a selected farm machine; the last eight chapters, to tractors. Chapters are devoted to plows, harrows, seeding drills and planters, cultivators, mowers, potato planters and diggers. The chapters in the tractor section deal with tractors in general; engines; carburetion; ignition; cooling; transmission; axles, wheels and steering gear; and there's a separate chapter on operation and maintenance. The approach to the subject has been changed very little, inasmuch as the book continues to lay emphasis on basic farm implements from the point of view of size and type available, their mechanical construction, and specific directions for their operation and maintenance. The laboratory studies used in the first and second editions have been omitted to make more room for job instruction. The new edition will prove helpful to teachers of vocational agriculture, and should appeal to many students enrolled in OSYA courses.—A. P. D.

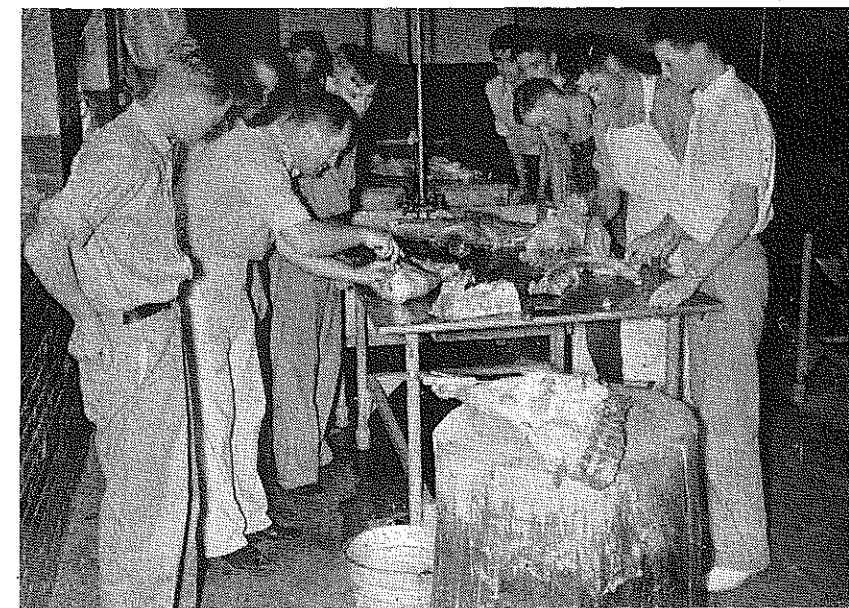


Canning Plant, Bowdon High School

go along to help with the operation.

The five members of the family arrive at the plant with several bushels of tomatoes and a good supply of okra and corn to go in the soup mixture. They are greeted upon arrival at the plant by the agriculture and the home economics teachers. If this is the first trip for the family to the canning plant, the teachers take special pains to supervise step by step each operation in the canning. The home economics teacher emphasizes methods of preparing the products in order for the family to have a canned food of high quality. The agriculture teacher assumes the responsibility of assisting the family in processing, sealing, and cooking. In one day's work this family has provided food for many "rainy days."

Before leaving the plant, the farmer pays a minimum price for the cans used and also a small plant charge ranging from one-half to one cent per can. This charge is made to pay for repairs, water, fuel, and in many cases for additional labor to assist in operating the plant. This additional labor enables the agriculture teacher to be away from the plant



P. L. Elkins, Teacher of Vocational Agriculture, Alpharetta High School, Fulton County, demonstrating to students of agriculture the proper method of cutting meat for canning.

Supervised Practice

C. L. ANGERER

The Success of the Supervised Practice Program Depends on the Teacher

KENNETH DIEHL, Teacher, Lovington, Illinois

MANY times the agriculture teacher's minimum standards for a student's supervised practice program become the maximum for the student. This is one of the dangers of setting goals as to the number, kind, and quality for a supervised practice program. Goals are as important to a good supervised practice program as a road map to a traveler. We need goals or standards, but many of our goals are not set high enough. If we are content to

have such a project in order to complete his work in agriculture.

In most cases the student's supervised practice program should help him become established in farming. This idea usually will not appeal to many freshmen. A boy 13 years of age is not interested in becoming established in farming. If this freshman starts with a purebred swine or dairy project, and continues during the time he is in high school, he does not



John Casteel and his prize hogs

have one pig, or one grade calf for a project, that is the kind of a program we will have.

We as teachers should stop to think how we would respond to the requirements we set up for a supervised practice program. I believe a number of us would change our methods and standards. Most of us as adults resent being told we must do a particular task and respond in a rather half-hearted way. But if we are shown the need for doing a certain job, we usually respond well and give our whole-hearted support. Students are certainly like adults in this respect.

Sell the Program

One of the major reasons for a poor supervised practice program with the majority of students is that the teacher is a poor salesman. He has failed to sell the boy the program. Let us sell the program rather than compel the boy to do some particular task! By this I mean let us convince the student by some method that he should have a specific number of enterprises rather than say he must

have to be told he has a good start in becoming established in farming when he is a senior.

Interested in Making Money

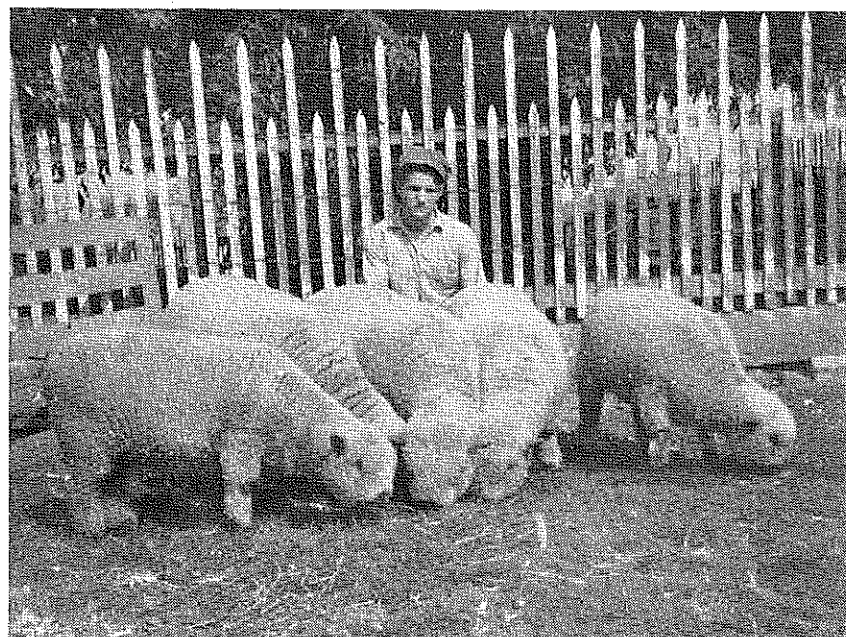
On the other hand, it is hard to find a boy who is not interested in making money. Show the average freshman how he should be able to make some money and he will usually become interested. In most cases where a supervised program will not return a profit to the student in some way, it should be discouraged.

Where the agriculture departments have been established in a community for some time, there are usually numbers of examples of boys who were former students who have become successfully established in farming. Many times their herd foundation stock was started from their supervised practice program. Trips to their farms or to the homes of outstanding F.F.A. members will do much to interest those who are just starting their practice programs.

Use Pictures

Pictures of outstanding projects posted in the agriculture room or in appropriate places are of interest to new members and visitors. Every boy likes to have his picture taken with something of which he is proud, especially if he has raised it. Only pictures of outstanding individuals' programs should be taken rather than taking a picture of every project. In other words, it should be an honor to have your picture taken.

Many supervised practice programs fail because they are too small to demand much time and attention of the student. The size of the program should be determined by the time, equipment, and money the student has available. On the



John Willoughby with his sheep

other hand, a supervised practice program consisting of large numbers always looks well on paper. Too many times they are merely farm account records kept on one of Dad's enterprises. This is one kind of a program which will help to get the boy to leave the farm.

Probably the majority of readers have read the poem, "Why One Boy Left the Farm." Nearly everyone admits that in most cases it is far better if the student owns his own livestock even if the number is small, rather than for him merely to keep records on some enterprise in which he has no financial interest. The ownership, profit, or loss of the supervised practice program should belong to the student. The size should be sufficient to challenge the student and demand the respect of his parents.

The lack of finances is usually a poor excuse for not having a good supervised

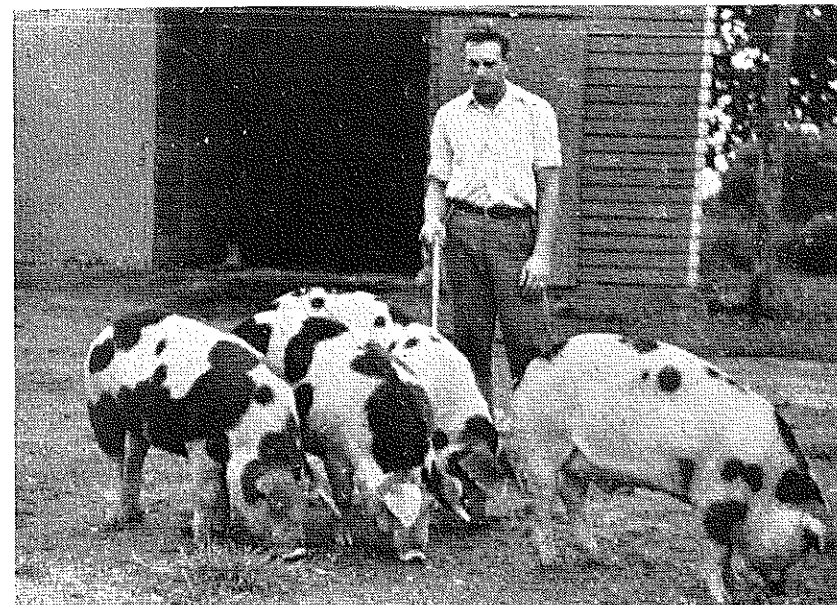
part of the responsibility. The members are likely to see that their programs do not fail.

Fairs

Illinois is very fortunate in having state funds appropriated for vocational agriculture fairs. Only students of vocational agriculture are allowed to make entries in these shows. This has done much to increase the number and improve the quality of the students' supervised practice programs.

Market graphs which are related to the students' supervised program help to maintain interest in marketing problems. These market reports should be taken from a daily market paper.

Undoubtedly, many schools do not spend enough class time in connection with their supervised practice programs. Surely one or two days each week is not



Robert Wildman looks over his hogs

practice program. Banks and Production Credit usually are willing to help finance a program for a worthy student. Many F.F.A. chapters provide loans for individual supervised practice programs. This is a good means of teaching credit and gives the students added responsibility.

Many times the F.F.A. can do much to encourage good supervised practice programs. When the members set up goals as to number, ownership, purebreeding, and the like, they are taking

any too much time to allow. The time can be used profitably in giving reports, suggestions, and checking records.

Many times students would do better work if they knew the things which were expected of them. Whatever you expect of them will in all probability have to be called to their attention several times before any results are noticed. Perhaps the same idea may be presented in a number of different ways. The following item placed on the bulletin board may help to produce some results:

How Will You Answer These Questions?

In Which Group Do You Belong?

NOW IS THE TIME TO CHECK YOURSELF!

- | Did You | or | Did You |
|---|----|--|
| 1. take care of your project by yourself? | | 1. leave the care partly to someone else? |
| 2. own your project? | | 2. merely keep records? |
| 3. keep your records accurate and up to date? | | 3. get a week or two behind? |
| 4. try to learn and show an interest in your work? | | 4. just try to get by? |
| 5. feed a balanced ration and minerals? | | 5. just feed? |
| 6. show and win a prize on your project? | | 6. not have anything worth showing? |
| 7. accomplish more than your aim? | | 7. fail to reach your aim? |
| 8. have more than one project? | | 8. carry only one short project? |
| 9. keep your project free from weeds and parasites? | | 9. give the weeds and parasites a chance? |
| 10. ever hear your teacher of agriculture say you had a good project? | | 10. see the teacher of agriculture leave without making a favorable comment? |

Book Review

An Introduction to *Breeding Farm Animals*, Laurence M. Winters, 250 pp., illustrated, published by John Wiley & Sons, Inc., list price \$2. This book was prepared in an attempt to present the more fundamental and pertinent facts of animal breeding and their applications in a manner understandable to the reader with no background of genetics or the physiology of reproduction. Purebreds, grading, inbreeding, crossbreeding, management are given adequate attention. The chapter on artificial insemination is of special interest. Record forms for securing improvement in herds are included in the text.—A. P. D.

Book Review

Field Crops and Land Use, Joseph F. Cox and Lyman Jackson, 473 pp., illustrated, published by John Wiley & Sons, Inc., list price \$3.75. It is the purpose of this book, dealing with crop production practices and land-use methods, to present the progress made to date in the great national program of efficient farming, agricultural adjustment, and conservation. Results of the work of the agricultural experiment stations, of the land-grant colleges, and of the United States Department of Agriculture in developing and improving crop varieties and in improving practices of crop and soil management are fully set forth. Particular attention is given to the presentation of the new opportunities offered to farmers to improve methods of crop production and marketing and soil conservation by co-operating in the local programs of the State Extension Services and the many new action agencies authorized by Congress to improve agricultural opportunities and conserve our soil. Chapters on "Home-Farm Food" and "Feed Supply" and "Growing Feed and Cover Crops for Wildlife" are interesting features of a text that covers a wide range of subject matter. "Field Crops" and "Land Use" should prove to be of value to vocational agriculture students and their teachers, to county agricultural agents, to farmers, and to all persons interested in improving agriculture.—A. P. D.

Cotton

Sea Island cotton has the longest and strongest fibers of any type, and has been used in the manufacture of balloons and parachute cloths, gas cells for dirigibles, and airplane wing coverings. New strains of Sea Island coming into production in 1942 have even longer and finer fibers, which makes them more useful in meeting war needs. The SxP variety of American-Egyptian cotton developed by the Bureau of Plant Industry and now in large scale production in the Southwest, is being used for making balloon cloth and inflatable rafts for seaplanes.

Farmer Classes

J. B. McCLELLAND

W. H. MARTIN

Adult Education in Agriculture, 1942-43

H. M. HAMLIN, University of Illinois

WE FACE a new era in adult education in agriculture. The war makes important changes necessary. We need and can expect a great expansion of evening classes. There will be difficult days ahead for our part-time classes because they draw upon young men of selective service age. We are guessing that these changes will be made in our adult work this year:



H. M. Hamlin

1. More classes will be held in each community in an attempt to reach many more people and to deal with as many as possible of the agricultural enterprises essential to the war effort.

2. More classes will be carried into outlying farming neighborhoods, particularly in communities where the territory to be served is large, to reach more people and to reduce the travel of those who attend. (I do not anticipate that attendance at evening schools will be reduced because of the rubber situation; the incentives arising from the war and the greater variety of offerings will probably be adequate to increase attendance at this winter's adult schools.)

3. More adult classes will be conducted on specific subjects related directly to the war effort.

4. More attention will be given to supervised practice and follow-up because this year we must get results.

5. We shall evaluate our adult classes to a greater extent in terms of outcomes, rather than of attendance.

6. We shall organize our classes for year-round activity.

7. Recognizing that people are in a mood to act, rather than to talk, we shall reduce the time we give to discussion and increase the "workshop" emphasis, including opportunities:

a. To do the things we are trying to teach.

b. To make the things they expect to use in carrying out our teachings.

8. Teachers will use farmers and mechanics as assistant teachers in order to handle a greatly extended program.

Regular Programs Continued

We can expect that the current-problems type of course, paid for from George-Deen funds, will continue in response to popular demand in 1942-43. Some of the subjects will be the following:

1. Increasing the production of pork, beef, eggs, milk, soybeans.

2. The farm-labor supply, labor saving.

3. Farm-machinery maintenance and repair.
4. Income tax reporting and farm records.
5. Wartime agricultural agencies and how to use them.
6. Shortages and how to adjust to them.
7. Gardening, fruit growing, and food preservation.
8. Accident and fire prevention.
9. War and postwar agricultural policies, particularly the prevention of inflation.
10. International relationships of agriculture.

Commodity Courses

Unit courses, encouraged by the new Federal legislation, will constitute the principal part of our adult-school program. They will deal principally with the production of certain farm commodities. These production courses, if they are effective, will follow a common pattern.

1. An accurate picture will be secured of the current situation in the entire community, or at least of the farms of the adult-class members, from data already available, from surveys, from council members, and from the adult-school membership.

2. Production standards will be set.

3. We shall work on the specific wastes and inefficiencies which keep the community from reaching the standard it has set for the production of a particular commodity.

4. Records will be launched to assist farmers in locating their individual difficulties and in determining whether they are making progress in removing them.

5. Every effort will be made to increase production without changing very much the numbers of livestock kept or the crop acreages.

Courses in Pork Production

We must have more pork this year. It is ordinarily rather easy to isolate the factors which will keep farmers from increasing their pork production. Usually one of the following is responsible:

1. Small litter size
2. High mortality
3. Low rates of gain

Marking the sows and weighing the litters at 56 days helps materially in locating the causes. When the causes have been detected, specific remedies may be applied. This approach involves much work with individual farmers on their home farms. Their difficulties will have to be diagnosed specifically and specific treatment will have to be applied. Recently Mr. P. J. Holand of Austin, Minnesota, spent a week with us. We were impressed that when he talked about

about his work with farmers on the farm, hardly mentioning his evening-school meetings. It is by his thoro follow-up that he is getting the outstanding results for which he is known.

We expect to provide "workshop" and field experiences of the following types for the members of these pork-production classes:

1. Making fall selection of gilts and sows.
2. Making an electric pig brooder.
3. Washing sows and disinfecting houses.
4. Selecting and making individual hog houses.
5. Acquiring the common farm skills—castration, ringing, marking, weighing.

We plan seasonal meetings. There will be meetings on gilt selection and on pastures. We hope to start our campaign for hog pastures early, so that farmers will have clean ground for their pigs when they arrive.

Milk Production

The approach in our courses in milk production will be much the same as in our courses in pork production:

1. Determine the results currently being secured.
2. Find the cause if the results are not satisfactory.
3. Work with individual farmers on their specific problems.
4. Provide a year-round improvement program.
5. Give the farmers experience in doing everything they will need to do to effect the results desired.

Beef and Poultry Production

We need evening courses, too, on beef production and on egg production. The procedures, it seems to me, would be about the same as for our pork-production and milk-production courses.

I asked an outstanding Iowa poultryman recently to indicate the records he thought the ordinary farmer should keep on his flock. He answered immediately and with conviction, "Two kinds only: production records and mortality records." These records, in his opinion, give the farmer the clue to his difficulties.

Perhaps we are on the verge of developing in connection with our evening schools' simplified farm records, which ordinary farmers will be glad to keep. Certainly they are an essential part of any adult-school program.

Soybeans

Coming from the soybean center of the United States, I cannot refrain from pointing out some of the possibilities in evening schools devoted to this group.

Beans and corn occupy approximately the same acreages in central Illinois. Several years ago the acreage of soybeans in Illinois passed the total acreage of all other legumes in the state. In spite of

our large acreages, we have an increase this year of 45 percent in soybean acreage in Illinois.

Even before the war created a need for more fats and oils, and soybeans became a "must" crop, some of our Illinois teachers were devoting an entire evening school to it. There are many problems involved in growing the crop, and there is a vast amount of scientific information available to solve these problems. I have recently seen one bibliography of soybean research containing 1,613 titles.

Farm Machinery

Courses in farm-machinery operation and repair are going to be very important in adult work during the war and thereafter. Mr. A. W. Turner, educational director of the International Harvester Company, has indicated that in spite of all the opportunities for vocational education in the United States, there is still no provision for those who wish to learn to operate and care for farm machinery. He adds that the machinery trade believes that vocational agriculture is the most likely of all agencies to meet this need.

We began last year in Illinois to see what could be done. Early in the winter we held a school for teachers of vocational agriculture, which was attended by 93 teachers. These men spent three days working with six types of farm machinery, a half-day on each. Two teachers of vocational agriculture were in charge of the work with each type of machinery. The staff of the Department of Agricultural Engineering, our teacher-training staff, and specialists from two farm-machinery companies assisted these teacher-leaders. The men who attended the courses were enthusiastic about it.

Four principal ideas about teaching farm-machinery repair have strong support among Illinois teachers:

1. That demonstrations should be provided in connection with relatively large adult classes.
2. That classes should be kept small so that everyone may participate.
3. That not much more is necessary than to provide a warm place for farmers to gather, repair their own machinery, and teach each other with relatively little assistance from anyone else.
4. That a few persons should be specially trained so that they may assist their fellow farmers or act as community servicemen.

Farm Accounting

The extension of income taxation to nearly all farmers gives us the best opportunity we have ever had for teaching farm accounting. For the past two years, the evening-class meetings devoted to income taxation and farm records have attracted the largest groups.

Perhaps the demands along this line are so great that they cannot be met by vocational agriculture alone. New agencies may be set up to assist farmers generally as our accounting routes now assist a few farmers. We should probably consider with farmers the desirability of providing such agencies.

Until they are provided, at least, we have in farm-accounting evening schools one of the best devices for teaching farm management. They give us year-round contacts with farmers. They provide a means of isolating the difficulties of in-

dividual farmers and correcting them. We could go on teaching courses based on farm records year after year to the same group of farmers with assurance that we were dealing with their principal needs.

New Problems

Many of the problems our small communities now face are related to world problems. Persons who wish to exercise community leadership had better get world-minded in a hurry, if they have not already become so. We face decisions which affect the fate of the world for a long time to come. Are we ready to make these decisions? What can be done thru our adult schools to get our people ready?

Some of the more obvious questions which would face an adult school organized along these lines are the following:

1. How are changes in tariff policy affecting our farming? What further tariff changes should farmers support?

2. How do our new relationships with South America affect our farming? What relationships with South America should we encourage?

3. What are the implications of "a pint of milk a day" for everyone in the world?

4. How can we make the distribution of food more efficient and economical during the war? What changes made for war purposes should continue after the war?

5. How should our agricultural agencies (e. g., the AAA) be adjusted on account of the war?

6. For what are we fighting? What sort of postwar world do we want?

7. Should we have more community planning? More agricultural planning? How should the two be organized in relation to each other?

While we deal more specifically than ever before with the improvement of farm practices, we must not forget the larger values of our evening schools for 1942-43. Let us note a few of them:

1. The preservation of morale and a sense of unity among those who attend, which is radiated from them to the community.

2. The development of a feeling that we are all sharing together in a great undertaking, that each is doing what he can, and that each knows exactly what he may contribute.

3. The preservation and extension of democracy, free speech, and discussion, and the privilege of assembly to the extent possible at a time when some democratic practices must necessarily be curtailed.

4. The development of an enlightened and effective public opinion. (Communities may count for much or little in these times according to their ability to organize and express themselves effectively.)

5. The maintenance of a favorable attitude on the part of adults toward the elementary and secondary schools at a time when these schools are sure to have hard sledding and appropriations for them will be difficult to get.

6. A major contribution to the development of a general program of adult education in the schools. (Teachers of agriculture need not and probably should not ordinarily direct this general program of adult education, but they are providing an inspiring example to teachers in other fields.) Unless the public schools get wholeheartedly into adult education,

they risk becoming the satellites of the main program of public education, which may be organized outside them for adults. Public adult education is getting a tremendous boost from this war. It is going to be provided somehow.

Maybe the schools will prove that they can provide it.

There are approximately 10 times as many adults as children in the constituency we might reach with vocational agriculture.

Increasing adult enrollment will compensate for the falling high-school enrollment resulting in many communities from lowered birth-rates and larger farms.

Our public schools may, if they will, become the principal centers of adult education in agriculture: They should not attempt to monopolize this field, but they should not hesitate to take the leadership in co-ordinating the efforts in adult education in agriculture in their communities.

Many changes in the total program of agricultural education are likely to result from the impending changes in adult education in agriculture. A \$3,000,000 Federal appropriation in 1917 put our high-school program on its feet; a \$20,000,000 appropriation in 1942 for adult education in agriculture is likely to have far-reaching, long-time effects.

It is gratifying but sobering to realize that in a time of crisis the American people have turned to us to perform an important task. We must not fail to justify the trust which has been placed in us. If we live up to our possibilities, vocational agriculture will have opportunities after the war of which we had hardly dared to dream. The job we have been given is definite and feasible. We should be able to come thru with flying colors.

Many years ago H. G. Wells said that there was a race on between education and catastrophe. If the race is still on, it is now between adult education and catastrophe. It is too late to bring up a new generation of children to solve our problems, even if we could educate children without educating adults.

Wells may have been right. Winning the war and establishing a desirable world order after the war both depend upon education; that is, upon bringing about quickly important changes in people.

The education of adults is critical in our military services and in civilian life; if we cannot change people fast enough and fundamentally enough, we are lost.

When society gets in a tight spot and educators get realistic, they turn to the education of adults. May they never return to the pleasant theory that all education can be accomplished in the first few years of a child's life.

Nothing is sounder or more essential than good adult education. Adult educators are in the front line.

Hemp

Several years ago the Bureau of Plant Industry began work in co-operation with a commercial concern to establish plantings of manila hemp in Central America. The planting was enlarged in 1940 and further increases are planned. Manila hemp is used widely for ropes on farms, in industry, and especially in the Navy. It has been imported from the Philippines.

Farm Mechanics

L. B. POLLOM

Relationships Between Teachers of Vocational Agriculture and Organizations Interested in Farm Equipment

D. C. SPRAGUE, Pennsylvania State College

THE possibilities offered by co-operative relationships between teachers of vocational agriculture and organizations interested in the application and maintenance of farm machinery and equipment are now of special interest to agricultural engineers because of the new enlarged and accelerated program of vocational education in agriculture. The results of such relationships in the past have been most gratifying. They have been of significant value to the teachers of agriculture, to the students and farm families served by vocational agriculture, and to the various industries or organizations co-operating. The new program—the Rural War Production Training Program for Out-of-School Rural and Non-Rural Persons—offers even greater possibilities. A willingness to co-operate in this endeavor is, in reality, a patriotic obligation.

An analysis of some of the methods employed in working with the teachers of vocational agriculture will prove helpful as a guide for similar efforts in the future. The consideration of past experiences should result in increased effectiveness of such programs. Also, a knowledge of the work which the teachers of agriculture are doing, and will do in the immediate future, will indicate the needs of the teachers and suggest ways in which the resources of the industries and organizations related to agriculture can best be applied in co-operative effort.

The Normal Vocational Agriculture Program

The normal program of vocational education in agriculture in rural high schools includes all-day instruction for high-school boys, part-time instruction for out-of-school farm youth, evening instruction for adult farmers, and day unit classes. For the five-year period following 1935 there has been an increase of over 73 percent in the enrollment in the Federal aid vocational agriculture schools in the United States.

State and Federal reports show that from 15 percent to 40 percent of the all-day students' time in school is devoted to the farm mechanics phase of the instructional program. Conversation with teachers in Pennsylvania indicates that an equal or even greater percentage of the time the teacher spends on farms in connection with project supervision work is devoted to mechanical problems. Also, many teachers are conducting evening classes in farm machinery, electricity, and other phases of farm mechanics. During the past year more than 175 different evening classes in Pennsylvania were devoted to farm machinery done in connection with the OSV mechanical courses

which numbered about 400 in Pennsylvania last year.

Aiding Teachers in Service

In the past, vocational agriculture teachers have been selected largely on the basis of their training in agriculture, rather than upon their mechanical ability and agricultural engineering knowledge. Many recent graduates, while probably well grounded in fundamental principles, find that information gained thru the so-called practical courses taken in college soon becomes obsolete or is forgotten. Too, they find themselves lacking in mechanical skills. Consequently, in order to teach the type of work needed in their communities and requested by their administrators, they must receive additional training from time to time after they become teachers.

In order to aid teachers in service, a program of itinerant teacher-training in farm mechanics was begun five years ago in Pennsylvania. This work is done co-operatively by the departments of Rural Education and Agricultural Engineering at the Pennsylvania State College. The agriculture engineer in charge of farm mechanics at the college devotes about one-fourth time to itinerant teacher-training work. During the fiscal year ending June 30, 1942, 18 meetings on farm machinery or electricity were held for vocational agriculture teachers in Pennsylvania. One of these was held at the Quakertown, Pennsylvania, vocational agriculture school farm. Teachers in this area assembled at the farm for one full week of instruction in farm machinery. Several three-day and Friday afternoon to Saturday night meetings were held for various groups. Another group met six times on Monday nights for instruction in both machinery and electricity. The average attendance was 16 for all meetings.

Instructors From Private Concerns

Because of the demand by teachers of agriculture for in-service training, and the fact that the itinerant teacher-trainer from the college cannot fill all requests, a number of groups of teachers have secured specialists from farm implement and utility companies to meet with them and give them instruction. The group of teachers which met at the Quakertown school for a week of farm machinery instruction last year wanted another week of instruction this summer. Their county adviser, Mr. S. L. Horst, arranged an excellent five-day program for them with representatives of various commercial companies giving the instruction

Teachers feel that to receive instruction in their own schools with the facilities, equipment, and tools available for them to use in their own work is more effective than to take similar training in a shop or laboratory which might be ideally equipped for the work to be done. There are arguments both for and against this plan. The chief point in its favor, probably, is that the work taught is more likely to be functional or practical from the teachers' standpoint. Also, it is easier and less costly for teachers to attend such training schools than it is to attend college summer sessions.

When teachers receive training during the school year, it is possible for them to teach the material to all-day and evening classes more or less concurrently as they receive the instruction themselves. This gives the teachers self-confidence to undertake the work which they otherwise would not do. Already this year the Adams County agriculture teachers have met for a five-hour session on plow hitching.

Organizing a Teacher-Training Meeting

Work in the field with Pennsylvania agriculture teachers is done at organized meetings held at the request of the county vocational agriculture adviser. Teachers of one or more advisory areas assemble at some centrally located school to receive the instruction. Arrangements are made with the local teacher and adviser to have the necessary equipment available for the meeting. The methods used and the organization of the meetings have changed as experience has been gained and as the teachers and school administrators have become acquainted with the program.

At first nearly all meetings were held on Saturday from 9:00 a.m. until 5:00 p.m. or later. Also, more than one meeting a year was seldom held for the same group of teachers. Now the teachers seem to prefer a series of meetings on the same subject, so that it may be covered more thoroughly. Three-day or full-week meetings in the summer are often requested, and school administrators are quite willing that teachers take time from their jobs to secure this instruction. During the time school is in session, all-day Saturday meetings are the most popular. However, some groups prefer to receive the instruction at the time of their regular county meetings, held monthly. In such cases the teachers generally meet for dinner, have a short business meeting, and then go to the local school shop for about three hours of instruction.

The subject matter, jobs and skills taught, and the teaching methods used in conducting a teacher-training meeting such as has been described should be those which the teachers in turn can and should employ with their students. To judge these accurately necessitates a knowledge of the teachers' pupil and community needs, the facilities and equipment available to the teachers for their work, and the amount of time and effort the teachers can devote to the work. Also, consideration must be given to the

teachers' backgrounds or qualifications to learn to handle the subject, or the possibility of their obtaining the assistance of another, as, for example, a specialist from a utility or an implement company. Altho it is necessary to explain techniques and discuss their application, lecture work should be kept at a minimum. Agriculture teachers believe in and practice the philosophy that "one learns by doing."

Equipment, such as mowers, plows, or motors, is generally obtained for use by the local teacher from farms in the community. Sometimes, however, it is supplied by the local implement dealer or power company.

The presence of commercial representatives at these teacher-training meetings, either as visitors or instructors, ordinarily proves helpful. They acquaint the teachers with latest developments in their fields, and with the most recent bulletins, charts, films, or other teaching aids available from their companies. Also, quite often, they arrange special services for the teachers, such as the loan of demonstration equipment, assistance in building a fair exhibit, or provision of a specialist to help the teacher present certain subjects to all-day and evening classes.

Effectiveness of Program for Up-grading Teachers

It is difficult to get an exact measure of the effectiveness of such a program. However, certain observations are available. The Vocational Agriculture Department of the Trinity High School, Washington, Pennsylvania, has built 70 electric chick brooders. At another school in Washington County, 20 such brooders were built during the past school year. Over 200 have been built in the county. Many of these were used by boys in their supervised farm practice poultry projects, while others were used by boys' parents. A one-day meeting on electrification was held co-operatively with utility and manufacturers' representatives for these teachers in March, 1939. In one area an evening meeting on electric motors held for teachers and also attended by the rural representatives of the local power company resulted in each school's motorizing one hand-operated machine and displaying it at a local fair.

Commercial Representatives as Teachers

Teachers of vocational agriculture have observed that in most cases commercial representatives, when appearing before classes in vocational agriculture schools, respect the school program and present their material in an educational manner, rather than in a mercenary way. These teachers likewise recognize most commercial representatives as specialists in their respective fields and regard them as qualified teachers of their subjects. Also, the teachers point out that representatives who come to the school for the purpose of exploitation and who present a high-pressure sales talk or demonstration invariably create an undesirable attitude toward themselves and their products, both on the part of the teachers and their students.

Value of Teacher and Commercial Representative Relationships

If commercial organizations did not

profit in some way by their work with vocational agriculture schools, it is doubtful if many would go to the expense and trouble of promoting such a program. I feel that these school-commercial relationships, as I have seen them function, are, in nearly all cases, legitimate and justifiable from both the standpoint of the public and the commercial companies involved. I, of course, cannot speak for the various companies concerned; however, I do wish to point out some of the possible benefits derived by the teachers, students, and organizations affected by such relationships. If a teacher can obtain up-to-date text material, charts, films, or personal assistance relative to a particular machine, product, or technique, he is surely in a better position to teach that subject. In fact, the availability of such teaching aids often determines whether or not he includes that subject in his teaching program. Good instruction, for example, in the application, use, adjustment, repair, and maintenance of a machine will result in greater satisfaction and profits from its use by the farmer and in a decrease in sales and service costs. To teach present and prospective farmers to recognize the opportunities, if any, for using the machine or product establishes potential purchasers. Commercial and vocational agriculture teacher co-operative relationships, as I have related, create good will for both the school and the commercial organization, and contribute to the effectiveness of the public school system.

Readjustments in Supervisory Programs

(Continued from page 165)

speakers who can really "deliver" is more and more difficult. Teachers still like to gossip about their personal experiences. There is a natural war tension and uncertainty which makes it difficult to get down to rock-bottom and reach a workable conclusion.

Brief Teaching Aids

We long held to the philosophy that it was a dangerous practice to hand a teacher a prepared answer to an agricultural situation or a prepared course of study because in our state no two communities are alike and we have nearly 200 commercially productive crops. We felt that it was more desirable that each teacher work out his own answers in terms of practices and conditions in his own community.

Right now, we feel that this theory, sound or fallacious, must go by the boards. We have undertaken to supply the teacher with "rules of thumb" for hog production, course of study material for Rural War Production Training Programs, short cuts in teaching. We have placed emphasis on skills because skills are necessary to get the job done.

Instead of suggesting that the teacher read a lot of books, bulletins, and magazine articles, picking out for himself information which might be useful to him in his particular section, we are trying to find a very few helpful tracts and recommend them specifically.

It must be remembered that during the war period, there will be a great lag

in the preparation of subject-matter material. People do not have time to write books. Experts who would normally be preparing bulletins have other war jobs.

All this means that the state supervisor's office must make an especial effort to supply the teachers with brief helps in teaching, quickly prepared to meet immediate needs. If the particular requirement is harvesting raisin grapes, we must start with the ripe grape; we do not have time to go back to the philosophy of what kind of root-stock to use. I do not mean that in our regular vocational agriculture classes we forget fundamentals; I mean these have to be temporarily laid aside in view of the immediate job to be done. The teaching materials and other aids from the state office must follow a similar pattern.

Deputize Work to Responsible Teachers

It is not probable that members of the state staff can attend as many local meetings as they once did. These include meetings of farm organizations, county war boards, salvage committees, farm labor planning groups, and other sectional or district gatherings.

Here a readjustment in supervisory methods may not only save time and travel, but may help bring one or several teachers closer to the administrative problems of agricultural education.

In our own state, we established a system several years before the war known as the "key teacher" system. This involved the selection by the teachers themselves of one man in each county, preferably the head of the vocational agriculture work in the high school at the county seat or near it, as "key teacher" or spokesman for the teachers in the county. This was to bring vocational agriculture into line with other agricultural and governmental agencies, each of which had a responsible representative at the county seat familiar with conditions in the county and able to speak for his agency within that area and to report to the rest of the group.

This plan proved to be very successful, and with the expansion of wartime agencies, has proved invaluable. Today, we have "key teachers" sitting in on county U.S.D.A. war board meetings, county farm labor meetings, war manpower commission meetings, county salvage drive meetings, and others of similar import. Now that an agency can contact a single teacher who has been delegated authority, in place of trying to round up as many as 15 or 20 men in a county, we find that vocational agriculture has achieved greater leadership than before.

The functioning of these "key teachers" has relieved the state supervisory staff of a great deal of routine attendance at such gatherings. Perhaps similar plans have been found effective in all of your states. If not, the idea is surely worth trying as a war measure.

Reorganize Travel to Increase Efficiency

Like the vocational teacher, the state supervisor and his assistants have increased demands on their time. The many local duties for the agriculture teacher are projected on a statewide basis for the state supervisor. In most states, supervisors have been asked to participate as members of various committees for the war program.

(Continued on page 175)

Studies and Investigations

C. S. ANDERSON

A Youth Survey Suggests Program Changes

R. L. AMSBERRY, Teacher, Harlan, Iowa

THREE outstanding changes in the existing educational set-up for the out-of-school youth of the Lohrville, Iowa, community need to be made in the near future, according to the results from a survey made by the author. The survey included 64 farm boys and 39 town boys, 17 to 25 years of age, inclusive.

Changes Needed

These suggested changes are:

1. The present type of young-farmer class may have to be dispensed with next year in this community, unless a high percentage of the boys graduating from high school this year wish to take the work, because a large number of the boys of the part-time school age have gone into the nation's armed forces or are working in defense and war industries.

2. A class for young married people, perhaps replacing the present young-farmer class, should be offered because such a large number of the rural boys and girls marry early.

3. Training classes in rural leadership and in the ability to lead activities of a community nature need to be developed in order to promote community recreation and entertainment at home and thereby conserve tire losses from driving greater distances for entertainment.

The study was made of 64 farm boys who lived within a radius of six and one-half miles of Lohrville and were between the ages of 17 and 25 years, inclusive. A comprehensive survey was made for the study. Completed surveys were filled out by 25 of the boys and personal data were gathered about the rest from several sources such as school records, day and part-time boys, and from individuals who are acquainted with the boys.

Some of the boys who did not complete the survey still live in the community, but a large number of them are away in the armed forces or working in war production and in defense industries. Others are away in college or in training courses.

A partial survey was taken of 39 town boys for the purpose of comparing the number of the town and country boys who are serving their country and finding out what percentage of the boys who had taken defense training are now working in war industries.

Analysis of Data

The status of the boys with regard to their military training changes so rapidly that many names had to be entered as in the armed forces after the study began. The data were compiled as of February 1, 1942. Several of the boys were married soon after that date.

Seventeen, or 26.5 percent, of the rural boys were in the armed forces. Nine were

in the army, one in the air corps, two in the marines, one in the coast guard, and four in the navy. Sixteen, or 38.8 percent, of the town boys were in the armed forces. Nine were in the army, four in the navy, and one each in the marines, the army air corps, and the Canadian air force. Altho the numbers of boys from the town and country who were in the armed forces were about the same, it should be noted that a higher percentage of the boys from town was in these forces.

Twelve of the farm boys were working in defense and arms plants in various parts of the United States, while only five of the town boys were so engaged.

Twenty-six rural boys had taken advantage of the defense training courses offered in Lohrville, whereas only seven of the town boys in this study availed themselves of the training. Several of the rural boys had taken more than one course in defense training. In fact, 26 of the boys had taken a total of 33 courses.

Only two of the farm boys were in college at the time of the study; seven of the boys had had some college training. To date, not one boy of this age group has completed four years of college training. The same can be said for the town boys.

Thirteen of the rural boys were married, whereas only three of the town boys were married and two of them had moved from the community.

The remainder of the study deals with a detailed study of the survey of the boys who handed in completed comprehensive surveys. The 25 boys traveled an average of four miles per boy to attend the Lohrville part-time school. The boy closest to town traveled two miles and the farthest from town traveled six and a half miles.

Educational Status

Twenty-three of the 25 boys completed their schooling at high-school graduation and one with two years of college. Only one stopped school at the eighth grade. The fact that the local school is consolidated may account for the large number of high-school graduates.

One-half of the boys surveyed had been out of school only one or two years, but included in the group are some for each year up to eight.

The Lohrville school is one of the largest consolidated high schools of the state and is located in the heart of the cash corn-raising area of the state. Livestock raising is gradually coming into prominence here, but the cash grains still predominate. The town, with a population of 775, is located on the prairies of north-central Iowa, in Calhoun County.

The boys ranked vocational agriculture (followed by general agriculture, mechanics, and manual training) as the

subject in school in which they were most interested.

Summary Statements

1. Unless a high percentage of the boys graduating from high school this year wish to take a part-time course in agriculture next fall, it seems that there will be little need for a part-time class because such a large number of the boys of the part-time age have gone into the nation's armed forces or are working in defense and war industries.

2. Because a large number of the rural boys marry at an early age, it seems desirable to hold classes for young married couples next fall, probably replacing the part-time classes.

3. Since there has been no definite, organized effort for leadership training and for training in social activities, it seems advisable to sponsor such training.

4. The number of boys between the ages of 17 and 25 years, rural and town, who had entered the nation's armed forces was 33 on February 1, 1942. Seventeen of these 33 boys were from the country and 16 were from town.

5. Twenty-seven rural boys between the ages of 17 and 25 had taken defense training courses and 12 of them were employed in defense work. Eight of the town boys of these ages had taken defense courses and five were employed in defense work at the time of the study.

6. Eight boys who had taken either vocational agriculture or young-farmer classes, or both, were established in farming for themselves as operators. Others were at varying degrees of becoming established in farming.

7. The total number of boys in the study who were farming for themselves was eight.

8. It took the boys from one to six years after graduating from high school to get started in farming for themselves. These boys estimated that it took from \$1,000 to \$3,000 to secure enough equipment and stock to start farming for themselves.

9. After farming as an occupation the preference of the majority of the boys was aviation, either as pilot or mechanic.

10. The boys were most interested in hunting, listening to the radio, in travel, baseball, dancing, reading, dates, and movies. They were somewhat interested in vocal music, parties, and basketball. Altho some of them like to go fishing, they would just as soon take their cameras along with them.

11. The boys received the greatest proportion of their income from farming—an average of \$368.57 from this source—but they also received an average of \$324.90 from non-agricultural labor. The average amount earned by the 19 boys reporting was \$525.76. However, the range was from \$20 to \$2,268. The returns from operating the farm were the greatest, of course. The boys had saved or invested an average of \$1,328.85.

12. The average size of farms from which the boys came was 235.4 acres.

What Becomes of Vocational Agriculture Students?

J. M. HILL, Teacher, Tulia, Texas

THE question is often asked, "What becomes of boys who study vocational agriculture in high school?" With this in mind it seems timely to pass on to others an accumulation of the records of the Vocational Agriculture Department of Tulia, Texas.

The Department of Vocational Agriculture in Tulia High School was opened July 1, 1923, with T. K. Morris as teacher. This is one of the oldest departments in the high plains section of northwest Texas and it has been in continuous operation since 1923. Mr. Morris served as vocational agriculture teacher for six years, 1923-29, and is today a successful and enthusiastic stock farmer near Waco. He was succeeded by Riley W. Carlton, who taught from 1929 to 1931. During the four years 1931 to 1935, D. H. Taylor was vocational agriculture teacher at Tulia. He was followed by C. J. Van Zandt, who taught until March, 1937. J. M. Hill, the present teacher, has been at Tulia since that time.

Boys in Farming

Records in the Tulia department show that 520 boys have taken vocational agriculture during the 19 years that it has been offered in the school. Of this number 136 young men have gone into farming for themselves after finishing high school, while 110 other boys have gone into farming with their parents, largely as partners under a definite agreement. This means that more than 47 percent of all boys who have studied vocational agriculture in Tulia are now farming. Also, 33 others have gone into occupations closely related to farming. A good number of these boys have continued their education in agriculture after finishing high school; this is borne out by the fact that 18 graduates are now enrolled in agricultural courses in several colleges.

Swisher County, of which Tulia is the county seat, has many fine herds of livestock of all kinds, including beef cattle, dairy cattle, hogs, sheep, and poultry. It also has an unusually diversified crop production, due partially to the fact that about 25 percent of the farms are irrigated from shallow wells. The principal crops are wheat, barley, oats, grain sor-

which is considerably above the 170-acre average for the community.

13. The boys were most interested in vocational agriculture, general agriculture, mechanics, and manual training. The academic subjects held the middle of the interest range, while foreign language was at the bottom of the list.

14. The outstanding plan and goal of the boys for the future was to own farms of their own and to stock them with good livestock.

The problems of the part-time school-age boy to get established in farming and the tragedy of the times are well brought out in the story of one of the boys. He rented some land and said, "By using Dad's equipment, I can get started at farming for myself on \$50." He is now in

ghums, cotton, alfalfa, and various pasture and truck crops. Most all of the crop land in the county is very fertile and nearly level, with an average annual rainfall of 22 inches. This farming background is one reason that the vocational agriculture students of Tulia have been able to develop and maintain thru the years an outstanding program of supervised farming which they carry on at home as a major part of their agricultural course.

F.F.A. Chapter

The Tulia Chapter of Future Farmers of America was chartered on April 10, 1930. It was the fourth chapter in Texas to be chartered, and maintains an active membership of about 60 boys. This organization has had a leading part in establishing and maintaining two annual county shows, the Swisher County Junior Livestock Show and the Swisher County Dairy Show. Many head of livestock projects are exhibited each year at these shows and a number of the better animals are taken to the regional shows thruout the country.

Outstanding Farmers

Former students of vocational agriculture in Tulia High School who are now breeders of Jersey cattle in Swisher County have had a great part in developing a dairy industry in this county. High production records and show-ring winnings of these purebred cattle have brought state and national recognition to Swisher County as a Jersey breeding center. The Swisher County Jersey Cattle Club has developed a co-operative testing association, bull circles, co-operative exhibition at fairs and shows, and a year-round educational program for its members. Among the members of this Jersey breeders association are 11 former vocational agriculture students of Tulia High School. Their names are as follows: Chester Elliff, Warren Orr, Clyde Wilkins, Dennis Wilkins, Al Wilkins, Travis Payne, Charles Payne, J. R. Sprawls, Volney Sprawls, H. G. Sprawls, and Ted Sprague.

Chester Elliff, who completed his three-year course in vocational agriculture in 1933, has made an outstanding success as a young farmer and Jersey breeder. Chester's herd began in 1932 with a purebred heifer as a project. This heifer, Gamboge Masterman Sue, is still in the Elliff herd. Old Sue, as she is known to Chester, has truly been the foundation cow in the development of this fine herd. Many of the 30 animals in the present herd are her descendants.

Develops Jersey Herd

Sue's best record was in 1938, when she produced 786.9 pounds of butterfat in 320 days. All producing cows in the Elliff herd have been on continuous tests in the Dairy Herd Improvement Association and in the Herd Improvement Registry since 1937. Now Chester is putting his better cows on Register of Merit

Model Girl, completed a register of merit test on April 17, 1942, at the age of 11 years, producing 759.35 pounds of butterfat in 305 days. She was awarded the Medal of Merit and Gold Medal by the American Jersey Cattle Club. Another cow, Frangipani Fawnette, recently produced 748 pounds of butterfat in 275 days on H. I. R. test. Chester's herd of 30 cows and heifers must produce to stay in his herd, and he has found that it does not pay to guess in determining the production ability of a cow. Last year the Elliff herd led all herds in the state of Texas for seven months in the D. H. I. A. program. For two of the other months, another former Tulia Future Farmer, Warren Orr, led the state. Chester had the highest producing herd in Texas under the H. I. R. program in 1939 and 1941. The herd sire on the Elliff farm is a four-star bull, Onyx Design Observer, bred by Crieve Hall Farm. Chester's herd has been officially classified by the American Jersey Cattle Club twice and their rating proves that these Jerseys uniformly have the desired type.

Many other former vocational agriculture students of Tulia are making a success not only with dairy cattle but with all other kinds of livestock and crops. These young men and many others all over the state have been largely responsible for the rapid growth of vocational agriculture in Texas.

Readjustments in Supervisory Programs

(Continued from page 173)

This means that, in addition to limitations of travel, there are limitations of time for the many important supervisory jobs to be done. The state supervisor cannot afford to lose contact with his teachers. No written directions can take the place of the friendly personal relationship which generally exists between the state office and the teacher in service. The problem is how to get around to all the state meetings and at the same time keep up the teacher contacts.

We have tried to meet this problem as much as possible by reserving certain weeks of the month for teacher meetings and keeping these weeks as free as possible from other conflicts. Of course, this does not work when the chairman of a statewide committee on which the state supervisor is serving calls a special meeting. But it is something for which plans should be made. Attendance at both kinds of meetings is valuable and necessary, but I do not believe that right now the state supervisor can afford to have a breach in the contact with his teachers, even tho it means an inconvenient travel schedule.

Summary Statement

I have discussed 10 items in which I believe readjustments must be made in the supervisory program to meet the war situation. All of you may not agree with these, and you may have other and better ideas. If the preceding suggestions have done no more than stimulate thinking along the lines of readjustments you might make in your own state, we will

Future Farmers of America

A. W. TENNEY

The Star Farmer of America

WITH an eye to the future and a firm faith in agriculture as a life's work, James Thompson of Salem, Oregon, has earned for himself the honor of becoming the "Star Farmer of America" for 1942.

James, who is 20 years old and married, hails from Salem, Oregon, and is a graduate in vocational agriculture of the Salem Senior High School.

Strong Supervised Practice Program

His supervised farming program presents real evidence of long-time planning. In 1930 his father gave him a registered Shropshire ewe lamb. He saved all of the ewe lambs from this foundation animal and built up a flock of 25 head of sheep. During these early years James became an ardent showman of his sheep at the county and state fairs, from which he earned nearly \$200 in prize money.

With this start in farming operations, James entered the vocational agriculture department at Salem in 1936. During his first year in vocational agriculture he was able to purchase two registered Berkshire gilts as foundation stock for a swine project with the money which he had saved from his sheep. During this first year he also leased six acres of land from his father on which he conducted a corn project. His labor income from his first vocational agriculture supervised farming amounted to \$114.62.

In 1937, with the money he had earned and saved from his previous projects and fair premiums, James purchased four grade Guernsey heifer calves from dams with a production record exceeding 350 pounds of butterfat.

Continuing to expand and reinvest his earnings in farming activities, he completed his in-school supervised farming program with a total of \$750.80 in labor income.

High-School Program

In retrospect, the following projects were conducted during his three-year in-school program: First year—6 acres of corn, 11 head of sheep, 2 gilts; second year—10 head of swine, 5 acres of wheat, 7 head of sheep, 4 dairy calves, 4¼ acres of oats, 2 acres of vetch, 10 acres of corn; third year—20 acres of wheat, 26 acres of oats, 8 acres of vetch, 20 head of sheep, 4 dairy heifers, 4 acres of walnuts, 5 sows, 7 acres of corn. To make available enough land for his expanding crop projects, he leased his uncle's farm of 50 acres during his second year in vocational agriculture. On October 20, 1941, he purchased this farm. Continuing his farming operations after graduation, he rented additional land until at the present he is owning or renting 160 acres. His present farming enterprises consist of 8 acres of wheat, 4½ acres of walnuts, 19 acres of vetch, 67 acres of oats, 20 head of sheep, and 9 head of dairy cows. At the present time

his farm equipment and machinery from his father. This is a brief story of James' farming program—from an investment of one Shropshire ewe lamb in 1930 to a present total farming investment of \$6,076.25.

Active F.F.A. Member

James has been active in the activities of the F.F.A., serving as a reporter, vice president, and president of his local chapter, vice president and executive committee member of the Oregon association, and chairman of the alumni association of his local chapter. He was a member of many local and State F.F.A. teams. His consistent exhibiting at the local and state fairs has won for him numerous high-ranking awards.

James is a strong believer in co-operative effort. While in school he purchased feeds, dairy animals, and seeds thru the F.F.A. chapter and was president of three of the F.F.A. co-operatives. He is at present affiliated with the Valley Farmers Co-operative, County Soil Conservation Association, of which is he secretary and field man, Bethel Farmers Union, and the Mount Angel Co-operative Creamery.

He is a regular member of the Salem part-time education class.

His leadership and co-operative activities have not been confined entirely to the F.F.A. He is a member of the American Berkshire Association, National Honor Society, several church organizations, and vice president of the Pratum Community Club.

James has followed a plan which provided for a continuous growth in the occupation of his choice and which included training in leadership and co-operation. He has not completed his plan but in the present accomplishments he is definitely established in farming, is in possession of a home of his own, and is an integral part of the community in which he resides.

Machinery Repair—a Basis for Improved Economy

J. H. POWNALL, Teacher,
Rush, Pennsylvania

MY FIRST evening class in agriculture was organized in the fall of 1940 to give instruction to a group of 20 interested farmers in the subjects they felt they needed.

Since this section of Pennsylvania is primarily a dairying section, naturally the men who came out for the organization meeting had problems dealing mainly with that phase of agriculture. The subject matter was decided upon and we

timely problems in dairying that these men had faced. During these two years we invited a veterinarian, the representative of a local Production Credit Association, the laboratory man of an Artificial Cattle Breeder's Association, and a few successful farmers in different phases of the dairy enterprise to attend meetings. These men discussed the problems of the class and answered questions in a casual, non-formal manner. From these discussions and those that I conducted myself, it was decided that many of the problems centered about three bottlenecks. They were: lack of diversification, inadequate home-grown dairy feeds and farm machinery in poor repair or a lack of some items altogether.

Need to Diversify

The absence of diversification often leads to serious maladjustment of the farm economy in this section. For instance, when the price of milk is unfavorable, many of these men have nothing else to which they can turn. From time to time we have discussed the advantage of carrying on at least one other enterprise with dairying in order to take up unexpected economic shocks. This is difficult to carry out because the region is not adapted to a large number of enterprises. The soil is heavy and suitable to grass crops, corn and oats, buckwheat and millet. Wheat, potatoes, canning corn, peas, and tomatoes are not well suited to the region. The terrain is favorable for sheep and poultry. More hogs could be raised if farmers could be induced to grow more ear corn. But there is the double bottleneck again. They cannot grow more ear corn because of a lack of machinery for the culture of that crop. Much corn is still planted with hand corn planters, and cultivation is still accomplished by a one-horse walking cultivator or not cultivated at all. Potatoes are still planted by plowing them in. Wheat, oats, and rye are still cradled by hand in places.

We must begin at the bottom and build up in order to show any real progress. First, we must make these men implement and power conscious. We must help them repair their ailing machinery and during the war even go so far as to rebuild it.

Our school does not have a separate shop room or building. Our classroom, with measurements of 22' x 24', must be converted for shop purposes, and then reconverted for classes. We are much hampered in our machinery repair program by this situation. Our board has only recently decided to provide a separate shop building.

In the present program it is assumed that we will have to teach farmers to weld, solder, do forging, and operate the speed drill and the metal lathe. While all of them will by no means become expert, some will approach that ideal.

In conclusion I would say: First, repair the machinery, then increase the home-growing of food and feeds, and

Chapter Profits With Pigs

FRANK A. BUCHANAN, Adviser, Mt. Jackson, Virginia

THE Massanutten Chapter of the F.F.A., located at Mt. Jackson, Virginia, serves one of the largest agricultural communities in Shenandoah County, with farm enterprises of crops, livestock, and fruit growing.

Selection of Breed

The Poland China breed was selected, with 32 of the 55 chapter members applying for a Pig Club contract. When the project was fully under way, the committee had selected 21 gilts from the best herds of Poland China hogs in the state.

The following results are from the first year's operation of this very successful chapter project:

As of March 1, 1942, this one chapter project had not only resulted in a net return to the chapter and members of over \$1,500 but it had greatly added to the future livestock value on the farms of the 21 members.

To make it possible for the members of the Pig Club to have the use of the registered Poland China boar owned by the chapter, a trailer was built in the agricultural shop of the school, and during the breeding season every project member could have the services of the boar. A small fee is charged for the service, which goes to the member who feeds and cares for the boar.

The chapter officers look forward to continuing this project as a source of regular chapter income and also to provide a definite means of adding each year

Determining Needs

In the fall of 1940 the chapter officers, in planning the objectives for the year, made a survey of the needs for improved livestock. It was determined from the survey that in the entire school district there were no purebred registered hogs, except for a few Poland China boars, on widely scattered farms. The need for better livestock gave the officers a goal for an objective.

The result was the formation within the chapter of the Massanutten F.F.A. Pig Club, controlled by a Pig Club committee of five, with one member from each school class and one member at large. Contracts were prepared to provide that each Pig Club member who received a registered gilt return to the chapter two sow pigs from the first litter resulting from the mating with a purebred registered boar of the same breed as the sow.

Table I. Investment by the Chapter

Number	Kind	Amount
20	Registered Poland China gilts	\$220.00
1	Registered Berkshire gilt	11.00
2	Registered Poland China boar pigs	27.50
Total original investment		\$258.50

Table II. Returns to Chapter and Members (including only first litters of gilts)

Kind	Number	Amount
No. gilts—farrowing (within year)	16	.....
No. pigs—farrowed	128	.....
No. pigs—raised	120	.....
Average size of litter	8	.....
No. pigs returned to chapter according to contract	30	.....
Inventory value of incomplete contracts	...	\$ 48.00
Inventory value of new contracts—1941-42	...	104.00
Contract adjustments—non-breeders sold	3	44.00
Sales value of chapter pigs—17 head, 1 boar	...	156.25
Value of pigs—owned or sold by members	90	720.00
Increase in inventory value of sows and boar	...	959.00
Gross returns and value	.....	\$2,031.25
Feed costs (18 head average, \$25.86)	.....	465.45
NET RETURNS ON PROJECT	.....	\$1,565.80

Table III. Chapter Financing of Project

Kind	Amount
Loan—from Shenandoah Production Credit Association	\$270.00
Returns: First Year of Project	
Sales of pigs and contract adjustments	200.25
Inventory value of chapter boar	40.00
Inventory value of new contracts	104.00
Inventory value of incomplete contracts	48.00
Total Chapter Worth of Projects	392.25
Payment on Loan 1941—\$125.00	
Balance due and interest	\$158.40

to the value of livestock in the school district.

Editorial Comment

(Continued from page 163)

these problems are very difficult, and many of them beyond the control of the teacher, yet in each case the failure of the teacher to do the things that will make it possible for each boy to secure the skills and managerial experience that are necessary for the boy to become established and develop proficiency in the farming business does nothing less than reflect the vocational aspect of our agricultural education program.

Much of the failure of our program to reflect the vocational aspect is not entirely the responsibility of the local teacher. It is my sincere belief that a very great deal of such responsibility falls on the college training program as well as on the local school administrative policies and practices. That is, colleges must revise curricula to meet more specific occupation requirements, and in a similar manner college course content must be reorganized to meet the needs of individuals for specific occupations. Likewise, local boards of education and high-school administrators must, if maximum efficiency is to be obtained, provide the most favorable working conditions for the vocational agriculture teacher and his activities.

To sum up my argument I shall list some very important factors to be considered in making possible a real vocational agricultural program in the local school and community: (1) the teacher must be trained better technically and professionally for such work, (2) he must have and maintain the true concept of vocational education, (3) he must be alert and have initiative, (4) he must maintain a professional attitude toward his work, (5) he must become thoroughly acquainted with his community and with each of his boys' homes and parents, (6) he must know the abilities and aptitudes of each of his students, (7) he must have a favorable class schedule, (8) his course of study must be largely individualized, (9) he must have facilities to make field trips and demonstrations, (10) he must be equipped with the necessary farm shop space and equipment that will make it possible to carry on a balanced program for the farming community.

Yes, our vocational agriculture program is increasing in popularity, but not because of its vocational aspects entirely. Vocational education has at present an opportunity to become truly vocational. I sincerely hope that we, as well as our teachers, will capitalize on this opportunity. However, until many of the above problems are solved, the primary aim as provided for in the Smith-Hughes Act will not be generally appreciated. In 25 years our program has made much progress, but in my opinion we have only scratched the surface in concept, practice, and scope. M.C.G.

Service to Educators

The Division of Educational Services, of the Office of War Information, is now organized to help teachers and pupils regarding materials for study and discussion groups, and for information for sub-literate, Negro, and religious groups.

Address letters to OWI, Fourteenth

Save a Life for the War Effort

HAROLD L. KUGLER, Adviser, Manhattan, Kansas

THE radio is constantly bringing news of loss of life thruout the world—ships torpedoed, docks and airfields bombed, civilian casualties from incendiary bombs, and soldiers frozen from over-exposure to cold. And right here in the United States, deaths occurring over the Christmas holidays totaled almost 500 lives, the most of which were due to accidents on the highways of the United States. Loss of life on the highway is on the increase, as evidenced by various state safety reports.

Because of this national problem of safety on the highways, the Manhattan Chapter of Future Farmers of America assumed the responsibility for conducting a better driver contest among the students of the Manhattan Senior High School, Manhattan, Kansas.

Approximately 650 students were reached thru this educational program, which was first carried out in each of the 20 home-rooms in the high school. Members of the F.F.A. safety committee met twice with the program chairman of each of the home-rooms for the purpose of studying safety program material, as well as methods of presentation. The educational material was organized in three units: (a) the facts about accidents; (b) physical laws regarding driving; (c) codes of the road. This material was presented in the form of objective tests with the students answering the test questions. At the close of each test correct answers were supplied by the program chairman. The information for these objective tests was gathered from various safety publications supplied by the state safety engineer and the state highway patrol.

At the completion of the home-room educational programs, a written test, supplied by the State Highway Department, was given each student for the purpose of selecting the best boy and girl driver in each of the 20 home-rooms. The test was divided into three parts: (a) questions over materials studied; (b) common sense questions; (c) discussion questions. Papers were checked by the home-room instructors, and the name of the best boy and girl driver from their home-rooms was submitted.

The 35 students selected, thru means of the written test, as best drivers from the home-rooms were given additional instruction by Mr. Dee Walker, state highway patrolman, and questions were answered concerning safe driving practices. The students making the best scores on the written tests were taken by bus to a point some four miles from Manhattan where Mr. Walker demonstrated the effect of speed upon braking distances. The students measured skid marks and then calculated the speed of the car at the time the brakes were applied. A demonstration car equipped with new tires was supplied by a local car dealer for use in making the brake test.

An actual driving contest was participated in by each of the 35 selected best drivers in an effort to determine the best boy and girl driver. Each student accompanied by a competent observer, drove over planned courses demonstrating his or her ability as to making a

traffic lights), observance of stop signs, turning around in a narrow street, entering and coming out of alleys, stopping on pieces of 2 x 4 lumber, backing on a 100-foot white line, parallel parking, stopping within 40-foot markers at a speed of 20 miles per hour, and driving between stakes set at 20-foot intervals. The students were scored by the observer on their ability to react to the problems of a driver. Six boys and girls were named by Mr. Walker as the best drivers and were awarded gifts for their cars by the Manhattan Junior Chamber of Commerce. John Bascom, a junior, and Miss Doris Kloeffler, a senior, in the Manhattan High School were named as the best boy and girl driver.

Members of the Manhattan F.F.A. Chapter were glad to have had the opportunity to provide educational opportunities for the future drivers of America so that they might become better acquainted with the problems with which they will be faced on the highways.

Many state officials claim that education for better driving is the only solution for safer highways and predict that educational driving courses will soon become a required part of the high-school curriculum.

A Pennsylvania Agricultural Teacher Cycles to Work

HARRY KNOX, teacher of agriculture in the Bellwood-Antis High School, is now cycling to work, according to his testimony in a letter dated May 25. He is enjoying it; he believes in it, sincerely, as a duty. And we would guess it will help dissipate a tendency we have noted in many a teacher of agriculture—neglect of physical exercise.

But let's let Harry put the case for the bicycle in his own words:

"I have just read Sherman Dickinson's article in the May A.V.A. Journal entitled, 'Supervision With Less Visitation.' His article presents a thoro thinking-thru of the problem of supervising projects in the face of tire and gasoline shortages. Personally, however, I question the necessity of any drop-in visits if teachers avail

themselves of the lowly form of transportation, the bicycle.

"Briefly, here's my experience:—Just before the freezing of bicycles April 1, I bought a heavy-duty man's bicycle. I attracted much attention at first, but frankly my act is now looked upon by many local citizens with mingled feelings of envy and of respect for good judgment. In fact, the janitor of the school, the assistant principal, two women teachers, and several boys have now followed suit.

"In a professional way I have been able to see, I find, as many projects as before. My farthest project from the school is seven miles. 'Good bicycle time,' I understand, permits 10 to 12 miles per hour. So, by carefully planning my circuits of visits, I can arrange to see a project every mile; many more frequently. Consequently, by riding perhaps a mile, then seeing a project, repeating this performance again and again, I do not find it tiresome. I start refreshed each of the mile-intervals; I ride rapidly for that distance, and ultimately see projects virtually as rapidly as I did when I used my automobile.

"A given day is carefully planned along this line: When fresh in the morning, I ride 'well-out' into the country to a far project, then work toward home at frequent intervals, perhaps seeing four or five projects before noon. After noon I plan on seeing projects close to town, or the 'in-town' projects. I find that country visits are more suitable in the morning than in hot afternoons, when farm boys are out in the field and prefer not to come in to the house. Town boys are late sleepers, or do their odd jobs in the morning, and loaf in the afternoons.

"By use of basket carriers, I carry along my bee-veil, smoker, and hive-tool; castrating knife; hog deworming outfit, and camera. They are neither bulky nor heavy. I have 10,000 additional miles in my car tires now and have a light trailer. Both the car and the trailer are available for special jobs, or for transporting equipment for use in our co-operative potato project. Consequently, by the use of the bicycle and by judicious use of my car, I am as well prepared for my job as 'Friend' Hitler is for his.

"One must bear in mind that it is quite possible to wear out one's legs by aimless and duplicated riding. In order to use a bicycle judiciously, one must know the location of his projects, keep an accurate record of the nature of such projects to determine frequency of visits, and then plan his trips in such fashion as to see as many projects in as little travel as necessary."

1942-43 National Officers of F.F.A.

For your information, the names and home addresses of the newly elected national officers of the Future Farmers of America are:

- President.....Harold H. Gum, Arbovale, West Virginia
- First Vice President.....Marvin Jagels, Buhl, Idaho
- Second Vice President.....W. David Walker, Farmville, Virginia
- Third Vice President.....Willard J. Visek, Elyria, Nebraska
- Fourth Vice President.....Norman A. Martin, Jr., Gorham, Maine
- Student Secretary.....Verl Hendrix, Fallon, Nevada
- Executive Secretary.....W. A. Ross, Washington, D. C.
- Treasurer.....Dowell J. Howard, Winchester, Virginia
- Adviser.....W. T. Spanton, Washington, D. C.

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- ds—district supervisors it—itinerant teacher-trainers rt—research workers
- cs—colored supervisors ct—colored teacher-trainers

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- rs—H. F. Gibson, Auburn
- rs—L. L. Sellers, Auburn
- rs—C. C. Scarborough
- rs—T. L. Faulkner
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- rs—W. R. Montgomery, Auburn
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- rs—H. B. Taylor, Lafayette
- rs—W. A. Williams, Lafayette

- ARIZONA**
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- s—L. D. Klemmedson, Phoenix
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- rs—J. R. Cullison, Tucson
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- s—C. R. Wilkey, Little Rock
- rs—T. A. White, Monticello
- rs—O. J. Seymour, Arkadelphia
- rs—J. A. Niven, Russellville
- rs—Earl G. Landers, Batesville
- rs—Keith L. Holloway, Fayetteville
- rs—Roy W. Roberts, Fayetteville
- rs—Henry L. Cochran, Fayetteville
- rs—J. C. McAdams, Pine Bluff

- CALIFORNIA**
- d—Walter F. Dexter, Sacramento
- 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—Walter F. Peters, San Luis Obispo
- rs—Harold O. Wilson, San Luis Obispo
- rs—S. S. Sutherland, Sacramento
- rs—George P. Couper, San Luis Obispo
- rs—J. I. Thompson, San Luis Obispo
- rs—C. O. McCorkle, San Luis Obispo

- COLORADO**
- d—H. A. Tiemann, Denver
- s—L. R. Davies, Denver
- rs—Alfred R. Banger
- rs—G. A. Schmidt, Fort Collins
- rs—Gilbert Betts, Fort Collins
- CONNECTICUT**
- d—A. S. Boynton, Hartford
- s—R. L. Hahn, Hartford
- rs—C. B. Gentry, Storrs
- DELAWARE**
- ds—R. W. Heim, Newark
- s—P. M. Hodgson, Dover
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- d—Colin English, Tallahassee
- s—J. P. Williams, Jr., Tallahassee
- rs—E. W. Garis, Gainesville
- rs—A. W. Toney, Gainesville
- rs—H. E. Wood, Gainesville
- rs—W. T. Lofton, Gainesville
- rs—L. A. Marshall, Tallahassee
- rs—C. W. Conoly, Tallahassee

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- s—T. G. Walters, Atlanta
- ds—George I. Martin, Tifton
- ds—C. M. Reed, Carrollton
- ds—J. N. Baker, Swainsboro
- ds—J. H. Mitchell, Athens
- cs—Alva Tabor, Fort Valley
- rs—John T. Wheeler, Athens
- rs—O. C. Aderhold, Athens
- rs—A. O. Dunnean, Athens
- rs—R. H. Tolbert, Athens
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- ds—W. W. Beers, Honolulu, T. H.
- s—W. H. Coulter, Waipahu, Oahu, T. H.
- rs—F. E. Armstrong, Honolulu, T. H.
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- ds—William Kerr, Boise
- s—Stanley S. Richards, Boise
- s—Elmer N. DeNap, Idaho Falls
- rs—H. E. Lattig, Moscow
- rs—H. A. Winn, Moscow
- rs—Carl Hennings, Weiser

- ILLINOIS**
- d—J. E. Hill, Springfield
- s—L. C. Cannon, Springfield
- rs—B. A. Tomlin, Springfield
- rs—D. G. Daniels
- rs—H. M. Hamlin, Urbana
- INDIANA**
- d—F. E. Moore, Des Moines
- s—H. T. Hall, Des Moines
- s—R. A. Towne, Des Moines
- rs—Barton Morgan, Ames
- rs—John B. McClelland, Ames
- rs—J. A. Starrak, Ames
- rs—T. E. Sexauer, Ames
- rs—A. H. Hausrath, Ames
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- d—C. M. Miller, Topeka
- s—L. B. Pollom, Topeka
- rs—C. V. Williams, Manhattan
- rs—A. P. Davidson, Manhattan
- rs—M. R. Wilson, Manhattan
- rs—L. F. Hall, Manhattan
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- ds—R. H. Woods, Frankfort
- s—E. P. Hilton, Frankfort
- rs—Carsie Hammonds, Lexington
- rs—Watson Armstrong, Lexington
- rs—W. R. Tabb, Lexington
- rs—J. J. Mark, Frankfort
- LOUISIANA**
- d—John E. Coxe, Baton Rouge
- s—S. M. Jackson, Baton Rouge
- ds—A. Larriviere, Baton Rouge
- ds—T. E. Kirkin, Baton Rouge
- rs—J. L. Davenport, University
- rs—J. C. Floyd, University
- rs—C. L. Mondart, University
- rs—M. J. Clark, Scotlandville
- rs—E. C. Wright, Scotlandville

- MAINE**
- d—Austin Alden, Orono
- s—Herbert S. Hill, Orono
- rs—Wallace H. Elliott, Orono
- MARYLAND**
- d—John J. Seidel, Baltimore
- s—H. F. Cotterman, College Park
- rs—J. A. Oliver, Princess Anne
- MASSACHUSETTS**
- d—Robert O. Small, Boston
- s—John G. Galvin, Boston
- rs—F. E. Heald, Amherst
- rs—W. S. Wells, Amherst
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- d—George H. Fern, Lansing
- s—Harry E. Nesman, Lansing
- rs—Luke H. Kelley, Lansing
- rs—Raymond M. Clark, Lansing
- rs—H. M. Byram, East Lansing
- rs—G. P. Dwyer, East Lansing
- rs—G. C. Cook, East Lansing
- MINNESOTA**
- d—Harry C. Schmid
- s—Leo L. Knuti, St. Paul
- rs—Harry J. Peterson, St. Paul
- rs—Felix Nylund, Virginia
- rs—A. M. Field, St. Paul
- rs—G. F. Ekstrom, St. Paul
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- d—H. E. Mauldin, Jr., Jackson
- s—A. P. Fetherree, Jackson
- ds—R. H. Fisackerly, Jackson
- ds—E. E. Gross, Hattiesburg
- rs—V. G. Martin, State College
- rs—N. E. Wilson, State College
- rs—D. W. Skelton, State College
- rs—A. E. Strain, State College
- rs—H. O. West, State College
- rs—V. P. Winstead, State College
- rs—W. A. Flowers, Alcorn
- rs—A. D. Fobbs, Alcorn
- rs—Robert Ross, Alcorn

- MISSOURI**
- d—Lloyd W. King, Jefferson City
- s—G. A. Woodruff, Jefferson City
- rs—M. D. Thomas, Jefferson City
- MONTANA**
- ds—Ralph Kenck, Bozeman
- s—A. W. Johnson, Bozeman
- rs—H. R. Rodeberg, Bozeman
- rs—R. H. Palmer, Bozeman
- MONTANA**
- ds—Ralph Kenck, Bozeman
- s—A. W. Johnson, Bozeman
- rs—H. R. Rodeberg, Bozeman
- rs—R. H. Palmer, Bozeman
- NEBRASKA**
- d—Sidney Owen, Lincoln
- s—L. D. Clements, Lincoln
- rs—H. W. Deems, Lincoln
- rs—H. E. Bradford, Lincoln
- rs—C. C. Minter, Lincoln
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- rs—W. C. Higgins, Reno
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- d—Walter M. May, Concord
- rs—Earl H. Little, Concord
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- d—John A. McCarthy, Trenton
- s—H. O. Sampson, New Brunswick
- rs—E. V. Bearer, New Brunswick
- rs—O. E. Kiser, New Brunswick
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- s—Frank E. Wimberly, State College
- rs—Carl G. Howard, State College
- NEW YORK**
- d—Oakley Furney, Albany
- s—A. K. Getman, Albany
- rs—W. J. Weaver, Albany
- rs—R. C. S. Sutliff, Albany
- rs—J. W. Hatch, Buffalo
- rs—R. M. Steward, Ithaca
- rs—E. R. Hoskins, Ithaca
- rs—W. A. Smith, Ithaca
- rs—Roy A. Olney, Ithaca

- NORTH CAROLINA**
- d—T. E. Browne, Raleigh
- rs—Roy H. Thomas, Raleigh
- ds—R. J. Peeler, Raleigh
- ds—F. N. Meekins, Raleigh
- ds—J. M. Osteen, Rockingham
- ds—T. H. Stafford, Asheville
- ds—A. L. Teachey, Pleasant Garden
- rs—S. B. Simmons, Greensboro
- rs—Leon E. Cook, Raleigh
- rs—L. O. Armstrong, Raleigh
- rs—J. K. Coggin, Raleigh
- NORTH DAKOTA**
- d—Edward Erickson, Grand Forks
- rs—Ernest L. DeAlton, Fargo
- rs—Shubel D. Owen, Fargo
- OHIO**
- s—Ralph A. Howard, Columbus
- s—W. G. Weiler, Columbus
- s—E. O. Bolender, Columbus
- rs—Ray L. Chappelle, Lubbock
- rs—W. F. Stewart, Columbus
- rs—F. D. Kenestrick, Columbus
- rs—C. E. Rhoad, Columbus
- rs—Ray Fife, Columbus
- OKLAHOMA**
- d—J. B. Perky, Stillwater
- s—Bonnie Nicholson, Stillwater
- ds—W. R. Felton, Stillwater
- ds—S. M. Croxnoe, Stillwater
- ds—Roy Craig, Stillwater
- ds—Edd Lemons, Stillwater
- rs—C. L. Angerer, Stillwater
- rs—Don M. Orr, Stillwater
- rs—Chris White, Stillwater
- rs—C. L. Angerer, Stillwater
- rs—D. C. Jones, Langston
- OREGON**
- d—O. I. Paulson, Salem
- s—Earl R. Cooley, Salem
- rs—Ralph L. Morgan, Salem
- rs—Kirby E. Brumfield, Salem
- rs—H. H. Gibson
- PENNSYLVANIA**
- d—Paul L. Cressman, Harrisburg
- s—H. C. Fetterolf, Harrisburg
- rs—V. A. Martin, Harrisburg
- rs—R. C. Lighter, Gettysburg
- rs—J. S. Champion, Pottsville
- rs—A. B. Young, Kittanning
- rs—A. V. Townsend, Bedford
- rs—E. W. Wood, Towanda
- rs—W. J. Tucker, Bellefonte
- rs—Norman Rachford, West Chester
- rs—J. Rex Haver, Lock Haven
- rs—Harry Everett, Bloomsburg
- rs—D. L. Crum, Meadville
- rs—Harold Park, Carlisle
- rs—C. J. Kell, Harrisburg
- rs—B. E. Decker, Erie
- rs—J. D. Martz, Jr., Indiana
- rs—F. C. Bunnell, Brookville
- rs—H. E. Newcomer, Scranton
- rs—J. H. Lebo, Lebanon
- rs—C. J. Carey, Williamsport
- rs—E. C. Wiggins, New Castle
- rs—A. C. Sprout, Mercersburg
- rs—W. B. Frisbie, Stroudsburg
- rs—S. L. Horst, Norristown
- rs—Derl Hess, Sunbury
- rs—H. W. Staiger, Connersport
- rs—G. F. Dye, Somersot
- rs—G. D. Derr, Montrose
- rs—T. W. Crittenden, Wellsboro
- rs—C. F. H. Wuesthoff, Warren
- rs—J. B. Park, Honesdale
- rs—R. E. Seamens, Greensburg
- rs—T. M. Malin, York

- RHODE ISLAND**
- ds—George H. Baldwin, Providence
- rs—Everett L. Austin, Kingston
- SOUTH CAROLINA**
- d—J. H. Hope, Columbia
- rs—Verd Peterson, Columbia
- ds—W. C. James, Columbia
- ds—W. M. Mahony, Anderson
- ds—R. D. Anderson, Walterboro
- ds—R. E. Naugher, Loris
- rs—W. G. Randall, Clemson
- rs—T. W. C. Bowen, Clemson
- rs—J. P. Monroe, Clemson
- rs—J. P. Burgess, Orangeburg
- rs—Gabe Buckman, Orangeburg
- SOUTH DAKOTA**
- d—J. F. Hines, Pierre
- rs—H. E. Urtou, Pierre
- rs—R. R. Bentley, Brookings
- TENNESSEE**
- d—G. E. Freeman, Nashville
- ds—G. B. Thackston, Murfreesboro
- ds—J. W. Brinn, Jackson
- ds—J. A. Carpenter, Knoxville
- rs—N. E. Fitzgerald, Knoxville
- rs—J. B. Kirkland, Knoxville
- rs—A. J. Paulus, Knoxville
- rs—E. B. Knight, Knoxville
- TEXAS**
- d—Robert A. Manire, Austin
- rs—J. B. Rutland, Austin
- ds—O. T. Ryan, Lubbock
- ds—C. D. Parker, Kingsville
- ds—C. B. Barclay, Commerce
- ds—B. C. Davis, Austin
- ds—J. B. Payne, Stephenville
- ds—R. A. Shaw, Nacogdoches
- ds—W. E. Williams, Alpine
- ds—T. R. Rhodes, Huntsville
- rs—Henry Ross, College Station
- rs—Malcolm Orchard, College Station
- rs—W. R. Sherrill, College Station
- rs—L. V. Halbrooks, College Station
- rs—J. L. Moses, Huntsville
- rs—W. F. Dieckill, Huntsville
- rs—S. V. Burks, Kingsville
- rs—Ray L. Chappelle, Lubbock
- rs—T. L. Leach, Lubbock
- rs—F. D. Shackelford, Kingsville
- rs—J. C. McAdams, Crockett
- rs—Gus Jones, Caldwell
- rs—E. E. Palmer, Tyler
- rs—E. E. Collins, Texarkana
- rs—B. S. Lutor, Prairie View
- rs—E. M. Norris, Prairie View
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- d—Charles H. Skidmore, Salt Lake City
- rs—Mark Nichols, Salt Lake City
- rs—L. R. Humphreys, Logan
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- d—John E. Nelson, Montpelier
- rs—W. Howard Martin, Burlington
- rs—Charles L. Park, Jr., Burlington
- VIRGINIA**
- d—Dabney S. Lancaster, Richmond
- rs—D. J. Howard, Richmond
- rs—F. B. Cale, Appomattox
- ds—J. O. Downing, Ivor
- ds—W. R. Hoge, Blacksburg
- rs—O. A. Salem, Winchester
- rs—Harry W. Sanders, Blacksburg
- rs—Henry C. Groseclose, Blacksburg
- rs—E. Y. Noblin, Blacksburg
- rs—C. E. Richard
- rs—G. W. Owens, Petersburg
- rs—J. R. Thomas, Petersburg
- rs—Roscoe L. Lewis, Petersburg
- WASHINGTON**
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- rs—E. M. Webb, Pullman
- rs—Bert L. Brown, Pullman
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- d—W. W. Trent, Charleston
- rs—John M. Lowe, Charleston
- rs—H. N. Hansucker, Charleston
- rs—M. C. Gaar, Morgantown
- rs—D. W. Parsons, Morgantown
- rs—A. D. Longhouse, Morgantown
- WISCONSIN**
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- rs—Louis M. Samsan, Madison
- rs—V. E. Kivlin, Madison
- rs—J. A. James, Madison
- rs—V. E. Kivlin, Madison
- rs—T. M. May, River Falls
- rs—Ivan Fay, Madison
- rs—Clarence Bonsack, Madison
- WYOMING**