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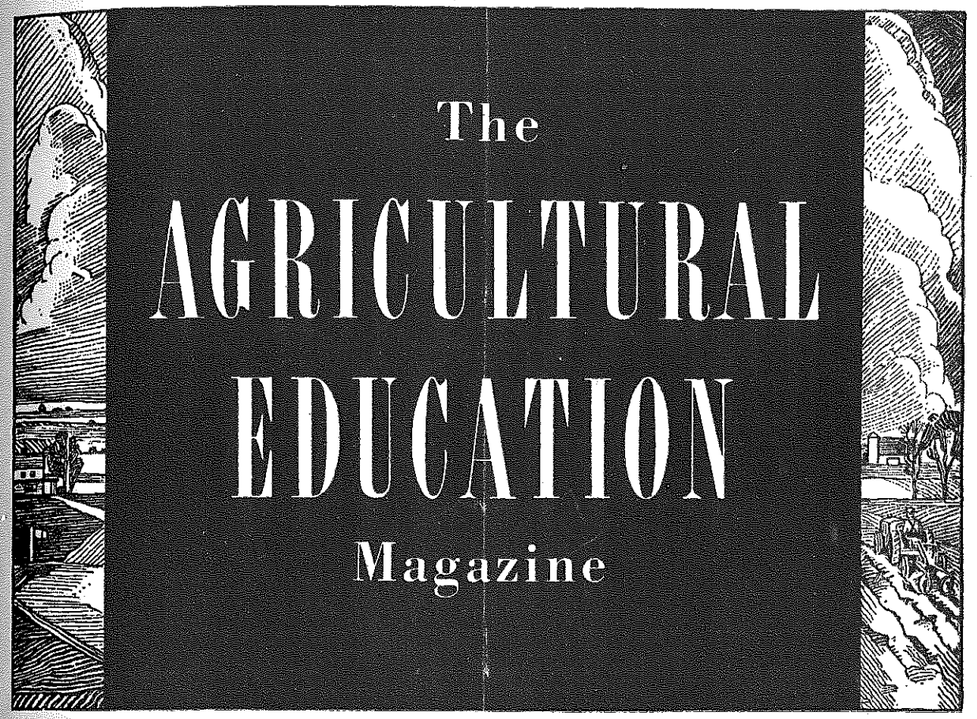

"I wholly disapprove of what you say and will defend to the death your right to say it."—Voltaire

VOCATIONAL AGRICULTURE
For
TEACHERS
Teacher-Educators
And Supervisors
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Editorial Comment

Mobility

Roy A. Olney

I RECALL rather vividly the following incident. A man appeared in the distance, traveling slowly along a dusty road toward our farm home. He apparently was carrying some sort of contraption on his back. As he came nearer, I distinguished the tinkling of a small bell. When he arrived at the back door and a pair of shears was brought out, I learned then that he was a scissors-grinder. A sense of watchfulness and suspicion prevailed as he worked. No friendly conversation took place. After receiving his small compensation, he disappeared down the road toward our neighbors, with the tinkling of the bell fading in the distance. Never again did he return. The family shears soon lost their edge. It was necessary, thereafter, on a trip to the small village, to take the shears to "Uncle Joe", as he was called by everyone. Tho peculiar in many ways, "Uncle Joe" had served well the community needs for many years in those skills in which he was proficient. By hard and honest work he had established himself and was respected by the people of the community.

Leaders in vocational education in agriculture place much emphasis on ways and means of developing outstanding programs of supervised farming; promoting impressive achievements thru the Future Farmer Chapter, assisting in community programs; working with young men out-of-school and many other similar activities, all centering in the ultimate goal of establishing in farming the pupils who came under the direction and supervision of the teacher of agriculture. Important as all of these things are, it would appear that there is a much more serious problem for all of us to consider: *Mobility of Teachers.*

How much can be accomplished in this important program of vocational agriculture, if teachers leave their positions every two or three years and go off "tinkling" down the road to other positions?

Long Tenure Helps

It is fortunate that we have many situations to which we may point with pride where the vocational agriculture programs in schools have contributed much to the local area and have received the sanction, approval, and confidence of the people. In some cases the program has been fought for when uniformed superior officers have attempted to curtail or eliminate such services. When closely investigated, the facts usually reveal that long teacher tenure was a predominating factor in the continuation of the program.

Too many teachers hold the opinion that, as soon as they are confronted with any one of a hundred or more different difficulties, such as small enrollment, too few farm boys, facilities somewhat inadequate, small salary increment, etc., that the only solution is to move to a new teaching situation, thinking that the old saying, "The grass is always greener on the other side of the fence," is true. However, the same or even more serious problems are common to all school situations. Mobility of teachers will not and cannot correct these difficulties nor attain our vocational objectives.

Time Is Lost

Teachers who move frequently will admit, no doubt, that they do not nor cannot promote the ideas and plans of the teacher whom they succeed, from the point where he left off. It is necessary for the newly employed teacher to establish himself in the school by much duplication of the former teacher's work with the people in the area before he can contribute much in advancing the agricultural program. With too many changes or "scissors-grinders," how can we as teachers ever hope to build up and receive the confidence and respect of an "Uncle

Well-Trained Teachers Needed

INFORMATION released by the U. S. Office of Education revealed that on October 1, 1943, approximately 57,000 teachers were teaching in public schools with emergency certificates. This means that about seven percent of the total number of teachers have completed less than the normal pre-service training program. Eleven percent of all teachers in rural schools hold substandard certificates. The data concerning the number of incompletely trained teachers of vocational agriculture are not available at present but it seems safe to conjecture that the percentage is comparable to that given for all rural public school teachers.

Causes of Increased Percentage of Incompletely Trained Teachers

Several factors have influenced the present situation in vocational agriculture. The most significant have been the decrease in civilian college enrollment, the entry of qualified prospective teachers of vocational agriculture into the armed services, the loss of experienced teachers to the armed services, other agricultural agencies, commercial and war industries, and farming.

During the five year period, 1937–41, inclusive, an average of approximately 1,400 new teachers of agriculture were qualified annually. Of this number approximately 1,000 were placed each year as teachers of vocational agriculture. During the war years of 1942 and 1943, a total of approximately 2,200 new teachers have been qualified, but only about 800 of this group were placed as teachers of vocational agriculture. During normal times this latter number is large enough to meet about 80 percent of the annual placement needs. Upon examining other releases, it may be seen that during these same years approximately 3,900 white teachers left vocational agriculture. Of this number over 52 percent entered the armed services. The material decrease in number of newly qualified teachers together with the high mortality among experienced teachers has resulted in the discontinuance of a large number of departments. Many departments have retained active status thru the efforts of teachers working in two departments in close proximity to each other. Other schools have been forced to use teachers possessing less than standard pre-service training in order to keep their departments functioning. There can be but little doubt that this situation has made it increasingly difficult for the states to maintain the desired type of instructional program.

Responsibilities of Teacher-Training Institutions

Upon the teacher-training institutions rests the responsibility of providing the type of in-service training needed to upgrade the professional and technical training of the incompletely trained and qualified teachers now on the job. In view of the heavy demands upon the teacher's time at the community level it seems that the members of the teacher-training institution should offer intensive courses off campus rather than expect the teachers to come to the institution for a period of two or three weeks during the summer. Since the teaching load is comparatively light in most teacher-training institutions this plan offers possibilities for teachers to enroll in both technical and professional courses.

The exigencies of the war have necessitated the use of a large number of special instructors. If the departments of vocational agriculture are to meet the instructional needs of all the farm people in the several communities, it will be necessary to continue the services of special instructors. There is sufficient evidence to conclude that the quality of the instruction provided in many of the courses taught by these special instructors needs to be raised. Teacher-training institutions should provide the type of instruction in the field which will develop the ability of the special instructors to use more effective teaching methods. Wherever special instructors manifest a deficiency in technical training, off-campus service courses should be organized to enable them to become better qualified for their job. It appears desirable to have teachers of vocational agriculture attend some of the meetings of such courses since they will be expected to

S. S. SUTHERLAND

Professional

HENRY S. BRUNNER

Our Own Procurement Problem

HENRY S. BRUNNER, Teacher Education, Pennsylvania State College

Henry S. Brunner

DATA included in Miscellaneous No. 3079, Teacher Training Release No. 4, from the U. S. Office of Education under date of November 10, 1943, showed that in the four-month period ending June 30, 1943, 697 white and 52 Negro teachers of vocational agriculture had left their teaching positions. This brought the total losses from the profession for the 1942–43 year to 2,115 white teachers and 218 Negro teachers, representing 27.9 percent of the 7,583 white teachers and 22.3 percent of the Negro teachers of vocational agriculture in the United States at the beginning of the year. This followed a loss of 1,744 white and 118 Negro teachers in the 1941-42 school year.

It would be reasonable to assume that a large proportion of the teachers who left vocational agriculture did so to enter the military services. On the basis of our immediate experience we would say, further, that a considerable number of them became commissioned officers. The Army and the Navy have Procurement Divisions responsible for securing civilians for commissions. When they need officers for a certain kind of work, they project and prosecute a "Procurement" policy, canvassing all possible sources for men and using all methods which are suitable to the occasion and which have proven effective in other instances, including advertisements, correspondence and personal interviews, the latter at central offices for volunteers as well as out in the field for persons who would not be persuaded otherwise.

Shortage Everywhere

Can there be any question that we have a "procurement" problem in education at present? In professional journals on every hand we read articles concerning the growing shortage of qualified teachers as a threat to the instructional service in the public schools. Quoting from Joy Elmer Morgan, Editor of the Journal of the N. E. A.*: "We face in education, in my judgment, the greatest crisis we have ever faced. We are asked to do more, we are given less to do with. We have made tremendous contributions to the war thru all these things: rationing, registrations, war bonds, the training of five or six million people for the war industries. Those are all wonderful, but we have lost 120,000 teachers out of the schools since Pearl Harbor for war reasons alone. Now 120,000 may seem to you just a figure, but back of that figure, back of every one of those teachers, are children. I've heard parent after parent and school board member after school board member say: 'I'd rather not have any school than to have the kind of a teacher we've been able to get.' There are 170,000 teachers in America who are new to their positions this year. There are 44,000 teachers in the United States who are paid less than $600 a year. There are 254,000 teachers in the United States who are paid less than $1,200 a year while the average wage in industry is between $2,100 and $2,200 a year. In other words, the average of our teaching profession, much better trained, is over $600 less than the average wage of the men and women in industry. It isn't just a question of getting something better for you and me. It's a question of holding the staff in the schools to do the job for American democracy. It can't be done without teaching, it can't be done with the 50,000 emergency certificates that will be issued this year. We have only 40 percent of the young people in the teachers colleges that we usually had, so that the picture as you look ahead grows darker and darker."

*From an address "Our Tasks as Teachers" made at the Harrisburg Convention of the Pennsylvania State

Very Few Prospects

All authors concerned with teacher-education usually add that the situation is aggravated further by the diminishing source of supply of prospective teachers. The supply of prospective teachers of vocational agriculture has certainly diminished—virtually to the vanishing point. Rural high-school seniors are not electing teaching as a career. Military service or large scale war-food-production enterprises are claiming priority rights and securing priority attention.

So, it undoubtedly behooves the services of agricultural education to give serious thought to the implications of this situation to the program of vocational education in agriculture, and to develop a plan of procurement or recruitment, first to meet present needs, and second, to be prepared for the great demand which will come with the cessation of actual war—teachers for the inevitable and unprecedented program of production of food for the world; teachers for a program of rehabilitation of servicemen into agriculture; teachers for a program of education for the transition of the social, economic, and spiritual thinking and attitudes of rural people, from a wartime to a world-wide peacetime basis; and finally, teachers for a postwar program of education based upon responsibility for the preparation of individuals to make a living in, and to contribute to the welfare of, a society of

Emergency Teachers

Reports from most states indicate that the present need for teachers of agriculture is being met insofar as possible by issuing war emergency certificates to farmers who are beyond the selective service age or who for some other reason are not eligible for military service. There has been an almost universal disposition on the part of school authorities to hold that persons so certified should have been graduated from a college curriculum in agriculture. While undoubtedly justified in the war crisis, such a program of special certification indicates a lowering of standards of professional preparation, and should be recognized *only* as an emergency procedure. The final procurement plan should be pointed toward an adequate supply of fully and properly qualified teachers for all positions.

Several other emergency measures being practiced in different states may have a more lasting effect than emergency certification. The accelerated programs in both colleges and high schools are making "earlier crops" possible. In some instances high-school seniors who have completed seven semesters of a four-year high-school curriculum or five semesters in a three-year senior high school may be admitted to college as freshmen if they are classified in the upper half of their high-school class and are recommended by their principals. Upon satisfactory completion of the first semester of the freshman year in college these students are graduated from high school. In many colleges accelerated programs, including summer semesters or quarters, offer students the opportunity to complete a four-year course in two and three-quarters or three calendar years. This acceleration of the program of preparation should prove very attractive to competent farm boys if the long-time advantages can be brought to their attention thru the proper channels.

Recruitment Necessary

Dr. Henry Klonower, Director of Teacher Education and Certification, in the Department of Public Instruction, Harrisburg, Pennsylvania, reports* the appointment of a special Committee on Recruitment under the auspices of The Co-operative Commission on Teacher Education in Pennsylvania. It is believed "that active steps must be taken at once to bring to the attention of secondary school and college students the patriotic service that can be rendered by teachers in the public schools," and "that the many varieties of challenging experiences and the diversified types of activities that public school teaching presents should be brought to the attention of secondary school and college students." The Committee on Recruitment has prepared a check sheet which it is suggesting every school administrator should place before his faculty to serve as the basis for a faculty meeting. The following is their check sheet, developed for general education in a particular state and distributed with the note that a school placing six checks in the high column is conducting a creditable recruiting program.

*Klonower, Henry—"Recruitment in Teacher Education" in the Pennsylvania School *Journal, Vol. 92*

Check Sheet for Teacher Recruitment

For Use by Secondary Schools and Colleges

What specific steps have we taken, as a school, to direct the attention of pupils to the need for teachers?

	Rate High	Rate Low
1. How enthusiastic are we about stressing the opportunities in teaching?	.....	.....
2. Have we prepared a syllabus on the needs and opportunities in the teaching field to be used in connection with a course of Occupational Information in the 8th and 9th grades?	.....	.....
3. Have we assembled materials on teaching opportunities?	.....	.....
4. Are these materials readily available to all students?	.....	.....
5. How often have we presented visual aids on teaching thru films or display material on our bulletin boards?	.....	.....
6. Have we ever invited someone from teacher-education institutions to present the needs in teaching?	.....	.....
7. Have we ever planned visits to our teacher-education institutions for students interested in teaching?	.....	.....
8. Have we ever used the radio as a means of informing students and parents of the place and purpose of teaching as a profession?	.....	.....
9. Have we used the service of the Future Teachers of America Organization sponsored by the National Education Association?	.....	.....
10. Have we organized a local chapter of Future Teachers of America in our school?	.....	.....
11. Have we included a unit on "The School and Its Opportunities for Improving Living" as an imporant part of the Senior Course in Problems of Democracy?	.....	.....
12. Have we used the resources suggested in the recent publication of the Department of Public Instruction, "Enlist in the Forces of Education," Bulletin 160, issued jointly by the Department of Public Instruction in co-operation with the Wartime Committee on Teacher Education, the Association of College Presidents of Pennsylvania, and the Board of Teachers-College Presidents? (copies available on request)	.....	.....
13. Has a general curriculum committee (or curriculum committees in the several subject fields) been appointed to prepare units or suggest changes in course content so as to incorporate materials relating to needs and opportunities in teaching?	.....	.....

It would certainly not be difficult to revise this list to adapt it to any other state or to any particular school situation, for general education or for vocational education in agriculture. No effort will be made toward such an adaptation here. Suffice it to say that, to apply to vocational agriculture, the list would have to include questions concerning, at least, contacts with rural homes and both community and state agricultural organizations.

Ours is a procurement problem fundamental to a continuation of education for rural people. The longer and more difficult the war, the greater the need for education—for a system of education which will perpetuate our faith in, and our practice of, the golden rule and the brotherhood of man. Our civilization is based upon those great ideals, and its growth must come thru education in the home, in the school, and in the church. We cannot afford to permit a lapse in our own part of that whole program on account of a failure to recognize the importance of providing suitable teachers. The qualified men returning from the armed services, will teach vocational agriculture upon returning to civilian life, teacher-training instututions should be ready to offer the type of instructional programs needed to equip these men to effectively do the job which they have selected. Even tho this group possessed the necessary qualifications for, or were actually employed as teachers of vocational agriculture before entering the armed services, it seems desirable to offer supplemental training. The instruction might be given thru intensive refresher courses offered either at the college or to groups on the job.

Flexibility Needed

The institution should provide enough flexibility in its training program to enable those students who entered the armed services with a deficiency of one or two quarters work, to complete their training program in the shortest possible time. It may be possible for such students to complete some of the required courses after going on the job. This plan is feasible when the supply of experienced teachers is inadequate. It seems desirable, however, for these students to pursue course work on the campus for at least one quarter before assuming the responsibilities of a teacher of vocational agriculture.

Each teacher-training institution should maintain a subject matter specialist to prepare and distribute the type of subject matter needed by the teachers on the job. Provisions should be made for the subject matter specialist to contact the teachers on the local level to ascertain their subject matter needs. Likewise, provisions should be made for the specialist to present the subject matter to teachers in group or district conferences and to suggest possible uses of the material. He should follow up the material distributed to determine what changes should be made in preparing similar material in the future in order to make it more effective in meeting the instructional needs of the teachers. Supervisors should acquaint the subject matter specialist with the problems encountered by teachers in using the material, weaknesses in the material prepared and future subject matter needs.

Supervisors should be alert to recognize weaknesses and problems of men on the job and inform teacher-trainers of these problems and deficiencies so that they may make the necessary adjustments in the training program to minimize or eliminate such difficulties. Supervisors should have an active concern for the professional and technical upgrading of every teacher on the job and should encourage teachers to take advantage of the opportunities provided for professional improvement.

If vocational agriculture is to attain its purpose and maintain its position of having the best qualified teachers in the public school systems, let's begin now to make plans for upgrading the teachers now on the job, improving the teaching methods and technical training of special instructors, providing refresher and supplemental courses for the inexperienced, qualified teachers and the experienced teachers when they return from the armed services, and make the necessary adjustments in the training program to adequately prepare the regular students for teachers of vocational agriculture in

carry on much of the expansion that will undoubtedly occur in the great agricultural boom immediately after the war. Our procurement plan must provide for persuading as many as possible of those men to return to the profession so that their broadened horizons and interesting experiences may serve to build the good things of our civilization and of life, in defense of which they are now at battle stations. Other men must be found to carry on *now* and to be ready to work with the ex-servicemen in an ever growing and on-going education for the business of farming.

Well-Trained Teachers Needed

(Continued from page 223)

supervise and follow up the instructional program conducted by the special instructors in their respective communities.

If it is assumed that a reasonable percentage of the newly qualified teachers and experienced teachers of vo-

Methods of Teaching

G. P. DEYOE

Using Job Instruction Techniques in Teaching Farm Mechanics

S. S. SUTHERLAND, Teacher Education, Davis, California

S. S. Sutherland

INTEREST is growing rapidly in the so-called Job-Instruction Technique which has been used effectively in war industries to give on-the-job training to new workers. Recently, in many sections of the United States, this method has been taught to farmers and foremen who employ or supervise farm workers by teachers of vocational agriculture who have received special training in job instruction methods. It is probable that during the next 12 months hundreds of additional teachers of vocational agriculture will be given an introduction to this training technique.

What Is Job Instruction?

Basically, job instruction is an application, an adaptation, and a refinement of the four formal steps in teaching—preparation, presentation, application, and testing, which, in "job instruction" terminology, have become: "prepare the worker"; "present the operation"; "tryout performance"; and "follow-up." In some versions the wording has been changed somewhat, but the implications are about the same in all adaptations.

Teachers of vocational agriculture in California have already conducted more than 300 courses under Course No. 19 of the Food Production War Training Program in which some 3,000 farmers were given "job-instruction training." They use the card which is reproduced below as an outline of these four steps.

HOW TO INSTRUCT

STEP 1. Prepare the worker
- Put him at ease.
- Find out what he already knows about the job.
- Get him interested in learning job.
- Place in correct position.

STEP 2. Present the operation
- Tell, Show, Illustrate and Question carefully and patiently.
- Stress key points.
- Instruct clearly and completely, taking up one point at a time—but no more than he can master.

STEP 3. Tryout performance
- Test by having him perform job.
- Have him tell and show you:
- Ask questions and correct errors.
- Continue until you know HE knows.

STEP 4. Follow-up
- Put him on his own. Designate to whom he goes for help.
- Check frequently. Encourage questions.
- Get him to look for key points as he progresses.
- Taper off extra coaching and close follow-up.

If the Worker Hasn't Learned
The Instructor Hasn't Taught

While there is nothing basically new in the principles involved, and while the job-instruction technique is designed specifically for giving on-the-job training to new or inexperienced workers, the methods may be successfully adapted to giving instruction in the more common farm mechanics jobs and operations taught in the farm mechanics shop.

Certain farm mechanics' "skills" or operations are so fundamental and it is so vital that every pupil be taught to do them well, that any device which will serve to improve the methods used in instructing pupils in these skills is at least worth considering. Farmers and labor supervisors who have used the technique outlined below in instruction groups of inexperienced farm workers, testify to the effectiveness of this method, and a few teachers have used it with first-year pupils in farm mechanics to good advantage.

Instruction Procedure

Let us assume that the teacher has 15 first-year pupils in his class and that he wishes to teach every one of them to do a good job of squaring the end of a board—marking it and cutting it off "square." This is a rather important and fundamental "skill." There are many others. Following is an instruction procedure that has given excellent results:

1. *Prepare the class, as a group, to receive instruction.* See that they are comfortable, and can all see what is to be demonstrated. Show them the importance of the job or operation, and get them interested. *Find out what each one knows about marking and sawing a board*—how much experience and training each has had. Make a mental note of those who claim to know something about it. You'll need them later. (Nothing much new so far, except the emphasis on finding out what each knows.)

2. *Demonstrate the operation to the class.* Do a thoro job; demonstrate slowly, carefully, one step at a time, questioning to

operation. (Nothing new here)

3. *Select one of the pupils who claims to have had some experience.* Have him do the job demonstrated, while the rest watch, and while you check to see that he does it exactly as demonstrated. Have him do it again, and explain to you as he does it. Continue until you are satisfied he can do it and that he understands it thoroly, then—

4. *You and he try out two more of the remaining pupils*—each checking one pupil, while the rest of the group watch. This gives you three assistants or "checkers" whom you know can do this job satisfactorily and who understand it well enough to test or try out the rest of their classmates.

5. *Have each one of these three check another pupil*, while you watch your assistants to see that they are doing a thoro job of trying out the pupils they are checking.

6. *Have these three continue to check* the rest of the class individually, sending the pupils to you as they OK them.

7. *Put these pupils to work* as they are passed by your assistants, either on a project involving this skill or on regular projects on which they may have been working. In all future projects involving this skill—marketing and squaring—insist that pupils do as they have been taught.

Note that Steps 1 and 2 in the above procedure correspond with Steps 1 and 2 on the "How to Instruct" card. Steps 3, 4, 5, and 6 in this procedure are all a part of Step 3 in the job-instruction method, and Step 7 above corresponds to Step 4.

Probably the primary difference between this method and the methods most of us ordinarily use, is the emphasis on an *immediate* and *thoro tryout* of *each individual* to make sure he can do the job and that he understands it. It may take a little more time, but the net result is more thoro instruction. Probably your most common mistake, and mine, has been our tendency to slight the "tryout" or "application" step in the teaching process. Experience with the job-instruction method seems to indicate that it is one of the most important, if not *the* most important step in teaching.

Making Job Breakdown

Another job-instruction device which should serve to improve our instruction is the method used in analyzing a job or operation preparatory to teaching it. This is called making a "job breakdown," and consists of breaking each job down into its component "steps," and determining for each step the "key points" or important knacks, short-cuts, special bits of information, etc. which will make that step easier to do. In brief, a "step" is what you *do* in performing this operation; "key points" describe *how you should do it*.

Following is a job breakdown of the

"Job Breakdown" of Teaching Basic Farm Mechanics Skills

IMPORTANT STEPS (What you do)	KEY POINTS (How you do it)
1. Prepare class to receive instruction.	1. As a group—not individually. 2. Find out what each knows about the job. 3. Pick out future "assistants." 4. Show importance; get interest. 5. Be sure they can all see.
2. Demonstrate the operation or skill.	1. To entire class. 2. Slowly—thoroly. 3. Make sure they understand.
3. Try out your first assistant.	1. Pick the best and most experienced boy. 2. Have him do and explain job until you know he knows and understands. 3. Have rest of class watch.
4. Try out two more pupils.	1. Pick out best, most experienced pupils. 2. You and "assistant" each check one boy. 3. Tell them they are to be your assistants, too.
5. Have your *three* assistants try out three more.	1. Check your assistants to see that they check thoroly. 2. Have them send pupils to you when they "pass" them.
6. Have your assistants try out rest of class.	1. Each checking one at a time. 2. Sending pupils to you as OK'd.
7. Put pupils to work.	1. On projects involving this skill, or on regular projects. 2. Put assistants to work when they finish checking.

Job Breakdown Useful

It will be noted that this is just a two-column analysis of this teaching "job" but that it does serve to systematize the procedure and to make the "steps" stand out more clearly. Perhaps its greatest value is the fact that it requires the instructor to *think thru* the job thoroly before he attempts to teach it, and that it requires him to pick out the special knacks, tricks, and information that students must acquire to do the job well.

A breakdown of the job or operation of whetting a plane bit—a common skill in farm mechanics—might read as follows:

ENTERPRISE: Sharpening farm shop tools—JOB: Whetting a plane bit

IMPORTANT STEPS (What you do)	KEY POINTS (How you do it)
1. Prepare whetstone.	1. Wipe with waste or rag. 2. Put on 3–4 drops light oil.
2. Place bit on stone.	1. Fingers on corners. 2. Hold firmly. 3. Bevel flat on stone-rock and watch oil. 4. Tilt forward 1″.
3. Start whetting.	1. Circular or figure 8 motion. 2. Keep same angle. 3. Medium pressure on stone.
4. Whet flat side.	1. Bit flat on stone. 2. 2–3 strokes-straight, not circular.
5. Test.	1. On thumbnail or ball of thumb. 2. Watch hazard of cutting. 3. Feel for "wire edge"—roughness.
6. Continue whetting.	1. Reduce pressure on bit gradually. 2. Turn frequently—more often as you progress. 3. Test as above. 4. Continue until wire edge is gone.
7. Finish and make final check.	1. Strop on hand or shoe. 2. Turn hand—not blade. 3. Watch danger of cutting hand. 4. Test by shaving arm—wet hair.

The best job breakdowns, and the ones which are of most value to the instructor, are those made *while the instructor actually does the job* being analyzed. It is quite probable that another breakdown of the job of whetting a plane bit, might list five, six, or 10 steps instead of the seven listed above; his "key points" might be stated differently; method of doing the job and the way he wants his pupils taught to do it. It would be *his* outline for demonstrating this job to *his* pupils.

Breakdowns are easy to make and require a minimum of pencil work. A file of breakdowns for the important farm mechanics skills to be taught would be a valuable teaching aid for any in-

Mobility

(Continued from page 223)

Joe" in any community for our program of vocational agriculture? We may put the community "on edge" rather quickly, but can we and do we stay long enough to keep this "edge" in working condition and functioning for the best interest of the community, or do we leave, and have the "edge" changed to another angle by a new teacher?

Every teacher of agriculture who is promoting a satisfactory program in a community should give the most careful consideration to the question of making a change when offered a new position or encouraged to do so by superior officers. Such a change involves much additional work. Will this work lead to a better position in the long run, over the present situation which he now has underway, if he should expend the same amount of effort on it? On the other hand, the teacher who has not demonstrated or attempted to improve in his present job should neither receive support nor help in relocating in another position which he may think is a better one.

Longer tenure in any given situation should prove of more value to the community and should be more satisfying to the teacher. The teacher is usually rewarded for his efforts in some manner, provided there is *mobility within* him to do better the things that make for a more progressive program of vocational agriculture in the school and community.—R.A.O.

A Project in Co-operation

The Iowa Falls Chapter Duroc Breeders' Association now owns co-operatively eight herd boars and more than 200 bred gilts. They are planning two bred gilt sales this year. These sales rank high among the swine sales of the State, many buyers coming from adjoining states. No better situation can be provided for the study of the advantages and difficulties of co-operative effort than such a project as this livestock co-operative. Many chapters carry on co-operative activities. However, not all teachers use the situation as an opportunity for good teaching—a thoro study and discussion of co-operative effort. How are you using your opportunity?

The well being of a people is like a tree, agriculture is its root, manufacturing and commerce are its branches and its life; if the root is injured the leaves fall, the branches break away, and the tree dies.—A Chinese Philosopher.

He who looks with contempt upon the farmer's pursuit is not worthy of the name of a man.—Beecher

Farming Programs

C. L. ANGERER

A Measurement of Swine Management in the Montpelier, Ohio, Community

TEACHERS of vocational agriculture in Ohio are familiar with the article, "Measuring Agricultural Progress in Swine Management," and with the report submitted by W. H. Bruner of the Montpelier department at the Annual Conference. It is a pleasure to submit to the teachers a statement of his findings. The tabulated data and the letter are typical of what any teacher might use in presenting his findings to his farmers.

A few observations and experiences are worthy of mention. The most careless farmer cannot but be interested in viewing the tabulated results of this study, and even the least interested teacher can see some teaching material in the same table. But to each farmer who co-operated in this survey, there must be a persistent challenge in these results, and the progressive teacher can see among these facts innumerable problems, the solution of which constitute the best basis for an improved program of swine management.

The value of the survey may be said to be somewhat proportional to the number of farmers participating. Twenty-five farmers make a better study than five; 75 are better than 50. The farmer who is first in a survey of 75 farms feels more honored than he does if first in a survey of 25 farms. Likewise he who is last in a survey of 50 farms is challenged more than if he is last in a group of 20.

Annual Comparisons Possible

The teacher must make certain that his file-copies of the surveys contain the names of all the farmers co-operating, not merely their rank number, so that, as later surveys are made, the progress of individuals may be noted as well as the progress of the community.

The file card is repeated here:

....

Name.................... Phone....

Sow No.	Farrowing Date	Farrowed Alive	Farrowed Dead
1			
2			
3			

Number of pigs at 8 weeks.... ......
Number of pigs at 180 days.. ......
Weight of pigs at 180 days.... ......
Pounds of pork per brood sow.. ......

....

Last month Dr. Hamlin presented his point of view with reference to the evaluation of a department's program—a clear, logical presentation of this important phase of a successful departmental program. The discussion lacked illustrations to make clear its operation.

The accompanying article illustrates a procedure in measuring one enterprise. It was written 15 years ago upon the completion of the first enterprise measurement in Ohio based upon the same techniques as are advocated by Dr. Hamlin. Mr. Bruner, the teacher, has long since left the teaching field. The community surveyed was not a strong hog-raising community as the number of litters shows. Nevertheless, the report does illustrate clearly and forcefully the possibilities of this procedure. Note that there are only seven items of data called for—a *simple* survey. Also six of these are objective and the seventh (weight of pigs at 180 days) may be—a *reliable* survey. And, finally, the letter which Mr. Bruner mailed to his co-operators discloses much of the genuine teacher who uses an opportunity to its maximum as a teaching device—*a stimulant to improved practices*. The data when assembled constitute a source of the best possible problems in teaching all-day, young farmer and adult classes in swine management—*an excellent teaching device.*

Because I feel deeply that the project has merit and because it illustrates appropriately Dr. Hamlin's recommended procedure, it is printed for your review and appraisal. To each supervisor, why not adopt the measurement of selected enterprises as a state-wide project; to each teacher, why not use the measurement of one or more enterprises as the basis of your community improvement program?—W.F.S.

Mr. Bruner reports interest on the part of his pupils who assisted in conducting the survey. Undoubtedly, this will increase as they become more familiar with the data and the possibilities involved. The task of obtaining the final weight on scales rather than by estimates was his most difficult problem, according to Mr. Bruner. At that he had to resort to judgments or estimates in some cases. Probably the best judgment is that of a regular buyer of livestock. If such a person is not

three experienced men is a reasonably reliable judgment.

Test the Project

A final critical review of the project should consider to what extent the measurement actually served as a basis for the goals stated in the plans of the project. The following questions test those goals:

1. Does Mr. Bruner have in these results the swine management enterprise on the farms surveyed?
2. When Mr. Bruner completes two or more surveys in this community, will a comparison of each with his first one, show to what extent progress in swine management has been made in the community?
3. Does Mr. Bruner have in these results sources of good problems, true-to-life, interesting, and involving sound thinking—which both all-day and evening classes may study with profit?
4. Does Mr. Bruner have, as a result of this survey, more definite objectives to strive for in those of his community activities which are directed to an improvement in swine management?

To the extent to which these questions may be answered in the affirmative, to that extent is the project justified in itself. To the extent that this project answers these questions more completely than does any other procedure a teacher might carry on, to that extent does the survey justify its receiving precedence over other possible procedures.

MONTPELIER HIGH SCHOOL
Department of Vocational Agriculture,
Montpelier, Ohio

To the Farmers of the Montpelier Community:

Accompanying this letter is the summary of the data obtained under the direction of your Department of Vocational Agriculture from 24 farmers in our first survey which we have chosen shall be known as a *measurement* of the *swine management ability of our farmers*. The report is intensely interesting. It is full of problems which we may profitably study in order to make improvement.

To begin with, I believe no one will question seriously our decision to measure our status as swine farmers by means of the unit, the pounds of pork per brood sow kept. This is a measurement quite freely accepted by specialists in swine management. Combined with economic gains, it should be the goal of every swine farmer. The table has been prepared by ranking the farmers co-operating in this study according to their ability in securing pounds of pork per brood sow kept. Your rank is indicated by a check opposite your record. There is cause for a great deal of satisfaction in many features of the report but, of course, our concern is to improve on this year's achievement, so I ask you to note a few facts and questions to that end.

Good Questions

The average number of brood sows per farm was only 2.25. Should we keep more sows than that on our farms?

The average number of pigs farrowed alive was 8.31. The best farmer averaged 10.5 pigs farrowed alive. What was *your* average litter? What can *you* do to increase this number?

The average number of pigs farrowed

A Measurement of Swine Management in the Montpelier Community—1928

Directed by the Department of Vocational Agriculture,
Montpelier High School
W. H. BRUNER, Instructor

Note: A check opposite a number in Column 1 indicates YOUR rank.

Rank of Farmer	Number of Litters	Number of Pigs Farrowed		Number of Pigs at Weaning	Number of Pigs at Six Months	Weight of Pigs at Six Months	Pounds of Pork per Brood Sow
		Alive	Dead				
A	6	63	0	63	63	12,600	2,100
B	1	12	0	10	10	2,000	2,000
C	5	65	3	49	49	9,900	1,980
D	4	37	5	37	37	7,480	1,870
E	3	26	2	26	26	4,940	1,650
6	3	26	2	26	26	4,900	1,630
7	3	22	4	22	22	4,400	1,470
8	1	7	0	7	7	1,400	1,400
9	1	7	4	7	7	1,400	1,400
10	1	9	0	9	9	1,375	1,375
11	2	15	1	15	15	2,400	1,200
12	2	16	8	16	16	2,380	1,190
13	1	7	5	7	7	1,190	1,190
14	3	17	1	17	17	3,240	1,080
15	1	8	0	8	8	1,000	1,000
16	2	15	2	14	12	1,920	960
17	2	15	6	15	11	1,900	950
18	2	12	0	12	11	1,800	900
19	1	4	0	4	4	860	860
20	2	18	2	11	11	1,700	850
21	2	10	4	10	10	1,545	775
22	1	8	0	3	3	580	580
23	2	8	8	8	8	1,095	550
24	3	22	7	7	7	700	230
Total	54	499	64	403	396	72,705	.....
Average	2.25	8.3	1.2	7.46	7.33	184	1,345
X	5	49	9	48	......	......	.....
X	2	19	1	18	......	......	.....
X	2	17	2	15	......	......	.....
X	1	9	1	8	......	......	.....

farrowed dead was four. Eight farmers reported no pigs farrowed dead. The number farrowed dead was 12.5 percent of those farrowed both alive and dead. What was *your* record? What can *you* do to decrease this loss?

The average number of pigs raised to weaning was 7.46. Eighteen farmers raised to weaning all the pigs farrowed and 16 farmers raised to six months all the pigs farrowed—*an excellent record.* How many did *you* raise to weaning? What can *you* do to reduce the losses and to increase the number saved? Only seven pigs were lost after weaning. What can *you* do to reduce this still further?

The average weight of pigs at six months varied from 215 pounds to 100 pounds, the average being 184 pounds. What did *your* pigs average? What can *you* do to make greater gains?

The average litter weighed 1,346 pounds at six months. The litters of the best farmer averaged 2,100 pounds. What did *your* litters average? What combination of practices can *you* use to increase this record?

The survey covers only the spring litters. It should be based upon both spring and fall litters. If so, would *your* rank be raised?

May we not, one and all, who are interested in swine management, study this report and make definite plans to decrease the losses and increase the gains in order that our later surveys may show that we are better farmers in the swine enterprise than that shown by our record this year? If our survey next year or year after should show that we have increased our average litter 50 to 100 pounds,

used better practices and become more efficient farmers? I can assure you that your agricultural department is interested in this very thing and is at your service in helping to bring about better results. Shall we not have two or three times as many farmers giving data on their results this next year?

This is the first attempt in Ohio where a department of vocational agriculture has co-operated in measuring an entire enterprise on any considerable number of farms in a community. We are pleased with the response and, now that we see it is good business, we are hopeful that each succeeding year may find a larger number of farmers co-operating. I believe that you should share with me the satisfaction of having participated in this first survey which may serve as an incentive to other communities to profit from our example.

Very truly yours,
W. H. Bruner, Instructor in
Vocational Agriculture

Thrice blessed is the man who has the ability to work, the desire to work, and a job he likes.

The Editor Suggests

Effective Teaching During a Farm Visit

Every vocational teacher should be a TEACHER when he visits a farm home where high-school boys, young farmers and an adult class member live. Who will write of an exemplary experience in this

A Budding Project

J. B. WOODFORD, Teacher,
Myerstown, Pa.

THE class project now being conducted by the Myerstown Chapter is the outgrowth of a fruit-growing project started in 1935. Altho the chapter's present apple orchard is smaller in acreage and in number of trees, more time is now being spent on a project that is rendering our community a greater service.

The F.F.A. boys now manage a 50 tree apple orchard on the edge of town. All of the jobs related to the orchard management are done by the boys themselves—pruning, spraying, thinning, fertilizing, grafting, planting, picking, grading, packing, and marketing.

People visiting the project over a period of three years have seen the results of good orchard management. They have seen nonbearing trees brought into bearing. Poorly trained trees have been pruned and developed into well-shaped trees. They have seen the results of proper pruning, fertilization, and a systematic spraying schedule. The quantity as well as the quality of the apples has been greatly improved.

When the people of the Myerstown community saw what could be done by proper management, they began asking that the trees in their back yards and lots be given the same treatment thru the services of the F.F.A. Chapter, and at a reasonable cost. We started out on a small scale, spraying and pruning only for patrons living in the borough. The second year the demand was so great for this service that we had to limit the number of patrons. During our first year of custom work we were using a hand-operated sprayer. Due to the inefficiency of this equipment, we were greatly limited in the amount of spraying we could do. So two years ago this past summer, we purchased, thru the help of our Board of Education, a 50-gallon power sprayer. It should have had double or even triple that capacity as the demand for spraying increased by leaps and bounds.

In 1942 we sprayed 960 trees for 59 patrons. In 1943 we sprayed 1,561 trees for 84 patrons.

This year the boys did their part in relieving the food shortage by increasing fruit yields so that more fruit was available for our Armed Forces and Lend-Lease. Previous to the time that we gave this service people were buying their fruit canned even tho they had the trees in the back yard. Now, as a result of our Orchard Service Ring, they are harvesting their own crop.

Education for Civic Needs

The Sugarcreek Township Chapter in Ohio took samples of water from each of the dug wells in the community and sent them to the State Health Laboratory for examination. Only one sample was reported to be infected. The farmer was notified and the well either cleaned or filled. The boys felt that they had made a definite contribution to civic health by this project and were highly commended by community leaders for their interest and leadership. What project in the improvement of community conditions has

WATSON ARMSTRONG

Farmer Classes

W. H. MARTIN

Adult Classes Serve War Effort in Kentucky

E. P. HILTON, Supervisor, Food Production War Training, University of Kentucky

E. P. Hilton

THE work of the teachers of vocational agriculture, thru the regular program and the War Production Training Programs, has done much to help Kentucky meet the food crisis. When the Rural War Production Training Program was announced in 1942, a representative group of vocational agriculture teachers met with the state supervisors and teacher-trainers and made plans for carrying out the program.

A few of the decisions made and points of view held by the group were that:

1. The Rural War Production Training Program should in no way take the place of the young farmer or adult farmer programs, but should supplement them.
2. The funds made available thru the Rural War Production Training Program would permit the teacher of vocational agriculture to do many things he had never been able to do because of lack of funds.
3. The regular teacher of vocational agriculture should not himself teach the Rural War Production Training Classes but should give all the time possible to organization and supervision of the program, thus making it possible for more people to be served.

Highly Commendable Record

A total of 3,099 classes were organized and completed, with an enrollment of 74,766 persons, for the year 1942–43. The type of classes organized and the enrollment for each type were as follows:

Course	No. of Classes	Enrollment
Shop (Auto-Mechanics, Metalwork, Woodwork, and Elementary Electricity)	182	3,029
Farm Machinery Repair	946	17,776
Food Production and Conservation	962	33,092
Other	1,009	20,869
Total	3,099	74,766

More than 160,000 farm implements have been repaired or serviced in farm-machinery repair classes by the farmers themselves under the guidance and instruction of the "special" teachers. One hundred and twelve community canneries have been equipped and operated as a part of the Food Production and Conservation program. Over 2,000,000 cans of food were processed by Kentucky farm families for home use in these canneries in 1943, and it is expected that more than 5,000,000 cans will be processed this year. Egg production per hen has jumped as much as 50 percent in some communities as a result of the egg-production classes. Other classes have shown equally satisfactory results.

The young farmers, or part-time programs and the adult farmers or evening school programs have not been neglected in carrying out the Rural War Production and Food Production War Training Programs. Seventy-three percent of the teachers of agriculture taught adult farmer classes in 1942–43 as compared to 71 percent in the preceding year, and 50 percent of the teachers taught young-farmer or part-time classes during the past two years.

Help Special Teachers

Careful planning by teachers of vocational agriculture is necessary to carry out the program outlined. Just as the state staff called on the teachers of agriculture to help in planning the Rural War Production Training Program, the teacher of agriculture calls for help from people in his community. Leading businessmen, agricultural and community leaders, and others are called upon for advice. They are brought together, the program is explained, and plans are made for organizing and conducting the courses. This group also helps select centers, suggests possible teachers, and assists in getting the organization set up in the local communities. In most instances the entire program for the county is planned early in the year. As soon as the program is planned and teachers are selected, a teacher-training program is put into effect.

For the most part the teacher of the farm commodity courses and the production phase of the food courses are farmers, and the teachers of shop and machinery-repair courses are mechanics or blacksmiths. Very few of these persons have had any teaching experience. Many methods are used in training these teachers. Some methods that seem to give the best results are as follows:

1. All special teachers are brought together for a short training period before starting the classes. Some of the things attempted in this training are:
   a. Course outlines are discussed and teaching materials are selected.
   b. Teaching techniques are discussed. It is stressed that the special teacher is not an *authority* on the subject and so is to use the conference method of instruction rather than lecture to data and experiences of successful farmers in helping farmers decide on improved practices to adopt are emphasized. The importance of something definite being accomplished at each meeting is stressed.
   c. Ways and means of getting improved practices carried out are planned by the group.
2. Many of the teachers of vocational agriculture teach an adult class with the special teachers enrolled along with other farmers. Before each class session, the teacher of agriculture discusses teaching materials and teaching techniques with the special teachers. After the class meeting, the results obtained are also discussed.
3. Training of special teachers on the job is given:
   a. Many teachers of vocational agriculture call all the special teachers together at least once each week to discuss the difficulties encountered with their classes. If a special teacher has used a teaching technique that is especially helpful, he passes it on to the group.
   b. The teacher of agriculture visits the classes taught by the special teacher as many times as possible. He is present at the first meeting to explain the course, organize the class, and get the special teacher started. He also tries to be present at least twice after the first meeting. It is often desirable for the teacher of agriculture to be present at about the third meeting to see how things are going. Visits to the class enable him to keep in touch with the persons attending the classes, and to be in a better position to supervise the farming program the remainder of the year, as well as to help the special teacher with his teaching problems.

Joint Effort in Courses

The success of Course 15—"Production, Conservation, and Processing of Food for Family Use"—has been due to the co-operative efforts of the teacher of vocational agriculture and teacher of home economics. Jointly they supervise the planning and production phase of the course, and the teacher of vocational home economics teaches the processing phase during the summer months. In communities where school-community canneries are located, the teacher of agriculture supervises the construction of the cannery and sees that equipment is kept in working order. He may also help with the instruction when in the cannery. Unless an emergency arises, with good organization, the teacher of agriculture spends not more than one to two hours per day in the cannery.

The teacher-training and supervisory staff in home economics and in agriculture provide a short training course for teachers of home economics and teachers of agriculture who are conduct-

A Message From Your Business Manager

G. F. Ekstrom

THE summer season is the period when state conferences of teachers of vocational agriculture are held. This, then, is the ideal time to talk about subscriptions because most states demonstrated that subscriptions are collected with the least trouble and with the greatest success as a part of the annual dues of the teachers of vocational agriculture, collected at the annual conferences. As a basis for your action either to continue the good work you are doing or to improve your record, I submit statistics concerning subscriptions to the magazine as of January, 1944. Remit subscriptions to L. L. Anderson, the Meredith Publishing Company, Des Moines 3, Iowa.

May I repeat the request that you purchase your binders for filing the magazine from the Meredith Publishing Company at 50c each, postpaid. Also from the same source, copies are available of the booklet CONTRIBUTIONS OF LEADING AMERICANS TO AGRICULTURE. The cost is 15c per single copy, or 10c in lots of 20 or more.

From the business manager, there are also available a few copies of the booklet WHITHER AGRICULTURAL EDUCATION—terms the same as for CONTRIBUTIONS.

Adult Classes

(Continued from page 230)

course in connection with a school-community cannery for the first time.

The Rural War Production Training Program has laid a pattern for adult education in Kentucky. The community has become school-centered. The school has provided needed training for adults during the war emergency. People have learned to come together and to look to the school for help in solving their problems. The Farm Shop and School-Community Cannery will not be closed when the war is over. These are only two of the school facilities that will be available for an adult education program. Teachers of vocational agriculture and of vocational home economics, by school-centering the community and helping the people to solve their own problems thru systematic group instruction, have established a program that should grow in effectiveness as the postwar adjustment period brings new problems to rural people.

No nation has ever achieved permanent greatness unless this greatness was based on the well-being of the great farmer class, the men who live on the soil, for it is upon their welfare, material and moral, that the welfare of the rest of the nation ultimately rests.—Theodore Roosevelt.

A man can make up his mind quickly if he has only a little to make up.—Will

Subscriptions to the Agricultural Education Magazine as of January, 1944

State	Number of Teachers[1] White	Negro	Total	Subscriptions	Ratio Percent
United States Total	6,725	927[2]	7,652	6,126	80.1
North Atlantic Region					
Connecticut	18	....	18	3	....
Delaware	14	4	18	13	....
Maine	39	...	39	33	....
Maryland	41	13	54	13	....
Massachusetts	30	...	30	27	....
New Hampshire	15	...	15	0	....
New Jersey	39	...	39	34	....
New York	299	...	299	378	....
Ohio	249	...	249	250	....
Pennsylvania	294	...	294	236	....
Rhode Island	11	...	11	2	....
Vermont	27	...	27	42	....
West Virginia	79	5	84	96	....
Regional Total	1,155	22	1,177	1,127	95.8
Southern Region					
Alabama	205	39	244	247	....
Arkansas	172	62	234	92	....
Florida	83	31	114	120	....
Georgia	265	99	364	364	....
Louisiana	203	79	282	166	....
Mississippi	231	107	338	147	....
North Carolina	332	89	421	126	....
Oklahoma	163	23	186	178	....
South Carolina	214	116	330	214	....
Tennessee	183	35	218	194	....
Texas	553	158	711	410	....
Virginia	186	52	238	269	....
Regional Total	2,790	890	3,680	2,527	68.7
North Central Region					
Illinois	359	...	359	201	....
Indiana	246	...	246	252	....
Iowa	155	...	155	169	....
Kansas	134	...	134	137	....
Kentucky	188	11	199	213	....
Michigan	208	...	208	209	....
Minnesota	130	...	130	148	....
Missouri	201	3	204	254	....
Nebraska	90	...	90	96	....
North Dakota	24	...	24	33	....
South Dakota	30	...	30	40	....
Wisconsin	197	...	197	174	....
Regional Total	1,962	14	1,976	1,926	97.5
Pacific Region					
Arizona	24	...	24	48	....
California	230	...	230	97	....
Colorado	40	...	40	45	....
Idaho	36	...	36	49	....
Montana	44	...	44	9	....
Nevada	9	...	9	13	....
New Mexico	34	...	34	32	....
Oregon	47	...	47	8	....
Utah	60	...	60	56	....
Washington	116	...	116	103	....
Wyoming	22	...	22	27	....
Regional Total	662	...	662	487	73.6
Miscellaneous Subscriptions					
District of Columbia				17	
Alaska and U. S. Possessions				27	
Foreign and Miscellaneous				15	

[1]Unofficial data furnished by the U. S. Office of Education based on teacher lists submitted from the different states, Fall, 1943.

Farm Mechanics

R. W. CLINE

Adult-Farmer Class in General Shop Work Helps Meet Wartime Needs

E. J. WILMS, Teacher, Minburn, Iowa

THE farmers of Washington Township Consolidated School in Minburn, Iowa, have come to know the value of having a fine farm shop. If any of them were in doubt of this before the current year, to be convinced, they have only to ask their neighbors who attended the OSYA classes in "Repair, Operation, and Construction of Farm Machinery and Equipment." The school is located eight miles from the nearest shopping center and is the logical meeting place for the community it serves.

E. J. Wilms

Farm Visits Pay

When the instructor visited a number of the farms to see if the farmers would be interested in a class in machinery repair and equipment construction, he was greeted with considerable enthusiasm. It soon became apparent that one class would not accommodate the number of men who wanted to enroll for the work. To meet this situation, it was suggested that the class be divided into two groups, each group meeting two nights a week. The nights selected for one group were Tuesday and Thursday, leaving Wednesday and Friday nights for the other group. It was suggested that, if a member could not attend either of his regular nights, he might attend one of the other meetings. Members with shop projects of their own were encouraged to be present each night while the project was under way.

The farmers were given their choice as to the nights they wished to attend. Most of the members had no particular choice of nights, so, to conserve travel, an effort was made to group men of the same neighborhood in the same class.

Welding Popular

The major question during the enrollment drive was, "What are we going to do in the shop?" When the farmers were advised of the different things that could be done, the same answer, in one form or another, was heard 21 times. "I need a wagon box." Second was, "I'd like to learn something about welding." So a course was set up around woodworking and welding. Woodworking helped keep the large enrollment busy all the time they were in the shop. While machinery repair was considered vital, it developed early in the year that much delay could be expected in obtaining the necessary repair parts.

To teach welding, a man was employed who had at one time been a farmer and was now operating a blacksmith and repair shop in a community near by. His work gave the members confidence in his ability. It was not the purpose of the course to make expert welders of the members, but to give them an understanding of the principles of good welding, to teach them what to do to obtain good simple welds, and to help them recognize a good weld. To encourage practice in welding, the welding instructor had charge of the first, fifth, and ninth meetings of each class, with the weldin equipment at their disposal the remaining nights to practice the techniques. Both electric and acctylene welding equipment were available in the shop.

In wood construction, wagon boxes were the major item. Eleven flare-top boxes were built during the courses. Paint, hardware, and lumber were bought in quantity at a considerable saving. Flare-box irons could not be bought, so salvage materials from the farms were used. The shop forge and welding equipment aided materially in shaping the irons. The total cost of materials for the first wagon box was $30.11. Each man who made one for himself vows firmly that he would not trade it for any commercial box.

Hayracks were next to wagon boxes in demand, four of which were constructed. One rack was built by seven men in 90 minutes. Power tools and a good supply of hand tools made this possible. Hay bunks, a feed bunk, a self-feeder, and a gambrel-roof brooder house were built by other members to complete the woodworking projects.

Four metal hog waterers and chicken feeders were constructed. Two farm trailers were built and four others were repaired. At least 33 welding, forge, and general metal repairs were made on pieces of farm machinery and equipment.

Unique among projects completed was a power-hoisted buck rake for the front of a Farmall tractor. All the welding, drilling, and cutting of the metal frame was done or supervised by its owner. Another project was a 1930 Model-A coach which was converted into a small farm pickup truck. To do this, the owner cut the rear part of the body from the chassis just behind the door posts. He then cut the rear part from this section and welded it onto the front half of the body. A box-and-stock rack was built on the rear part of the frame.

Regular Attendance

Of paramount importance in enabling these two classes to turn out such a large amount of material and equipment was the willingness of members who were

Continuous Part-Time Vocational Education in Agriculture

A. G. JENSEN, Teacher, Effingham, Kansas

ALTHO adult-farmer schools and young-farmer classes have been held in Kansas for a number of years, the continuous part-time program in Vocational Agriculture as now set up is comparatively new. This program is chiefly concerned with continuous work with former all-day students, in aiding them to become established in farming and in helping them with their problems. Of course, other out-of-school young men are welcomed and urged to attend the meetings.

A. G. Jensen

Before coming to my present position, I served as the teacher of vocational agriculture at Concordia, Kansas, for 14 years. The schools for adults and for out-of-school youth that had been held were fairly successful. When the new-type work was set up in Kansas, Professor H.

(Continued on next page)

having equipment constructed to come to the shop during the day to prepare their work so that several could be kept busy on it during the evening meeting of the class. Some afternoons as many as eight to 10 men would work in the shop. This did not conflict with the all-day shop class, for the second semester schedule provided for this class the first two periods in the morning.

Enrollment for the two classes numbered 60 men and six women. Attendance records showed 1,485 trainee hours. The value of repairs and equipment was estimated at $1,685 for the combined classes.

"An asset which cannot be measured in dollars and cents is the spirit of cooperation and the neighborly feeling these War Production Training Classes in the shop have created among the members and the community in general," states the president of the board of education, who was one of the active members of the class.

At the close of the meetings, the farmers entertained their wives and families at a potluck supper in the school gymnasium. Over 100 persons were present.

The department of vocational agriculture in Washington Township is now in its fifth year. Its present instructor has been on the job only one year, so credit for the enterprise can't be wholly attributed to him. "The spirit of co-operation and neighborly feeling" did the job.

H. Brown, of the teacher-training department at Kansas State College, helped outline the program. He suggested that this plan be tried out at Concordia as one of the testing points in Kansas and asked for our co-operation in giving the program a trial.

The subject was discussed at an F.F.A. meeting and the members agreed to co-operate in the activity. These all-day students were of much help in contacting prospective members for the new class. Letters with return postal cards were sent to a selected group, and articles in the local papers were used. However, personal contacts and the help of F.F.A. members met with more success.

Finding Needs

The first meeting was devoted to a discussion of the needs and wishes of the group as to future meetings. Since we had more than thirty present, there was considerable variation in their interests and desires.

Many of the young men were interested in farm mechanics such as repairing farm machinery and the construction of equipment for livestock enterprises. Our schedule was arranged so that we would meet one night each week, with the first meeting each month devoted to a discussion of current problems and the other nights to shop work. These discussion meetings were also scheduled to deal with various enterprises as requested by a majority of the members.

The meetings were called at 7:30 p.m. and were to dismiss at 11:00 p.m., but many meetings lasted until midnight. Even then, some of the fellows left rather reluctantly. Notices in the papers and co-operation of F.F.A. members kept these out-of-school members reminded of the time and type of meeting. A schedule of meetings was also posted in the classroom.

Welding Popular

An acetylene welding outfit in the shop was of especial interest to many of the young men. Several of them got the initial training and inspiration that encouraged them to go on for more training, and a few eventually qualified for defense jobs. Many of the young farmers repaired or rebuilt their machinery so that it is still doing its part in producing food for victory. Others constructed new equipment because they liked to work in the farm shop where it was warm and where good equipment was available. Some of the young men got the inspiration to repair and recondition their tools so that work could be done at home.

The classroom for agriculture was the meeting place for the discussions. The meetings were informal. The discussions were left to the young men, as far as possible, so that their own experiences were considered with only occasional suggestions from the instructor.

Summer Meetings

Visits to the homes of the young men were usually made when supervisory visits were made to my all-day students. Most of the young men kept records of their farming programs and some meetings were devoted to these records. Some of the fellows kept inventories only so as to arrive at the increase in their net worth.

During the busy summer season, the

A Rural War Production Program in Action

GUS T. CAGE, Teacher, Cuero, Texas

DEMONSTRATIONS in classrooms and on field trips to farmers' homes were probably the most effective means of carrying out a Rural War Production Training Program in this community in 1942–43.

Gus T. Cage

The program in Cuero Center was successful because we selected good teachers in whom the people had confidence, teachers who had experience in the field in which they were to teach, and who taught well-rounded courses which met the farmers' needs. As supervisor, I have come to believe that if these training programs give the farmers what they need, they will accept them wholeheartedly. With this fact in mind, we are going forward in 1944 with a slightly different program, but one which likely will prove as successful as last year when 2,400 persons attended 68 courses. One of the greatest factors contributing to the success of our program was careful planning. Surveys were made in each community to determine what production training was needed most. This was necessary since the chief purpose of the training program was to help farmers increase their production.

However, many of the young men stopped at my home for a discussion of some problem or to ask for an opportunity to do some special work in the shop. Telephone calls and meetings on the street also offered an opportunity to discuss pertinent problems.

During the spring of 1942 and the following year, some of the young men left for military service or to work in defense areas, so our class gradually grew smaller, but the meetings continued because many of the young men still had problems to discuss or work to do in the shop. Especially during the summer, when repairs were hard to secure, the fellows liked to use the shop. Often work was done at other times than at a scheduled meeting.

After my coming to this department (a county-community high school), the question of part-time work was discussed with the principal. The answer was, "Some work has been done here in the past and, if it will help the community, I am for it."

The same procedure was followed here for enrolling a class. The first meeting was held in December. We did not have as large a group present with so many of the younger men away, but we were glad to have a dozen present and interested. We have been meeting one night a week with a gradual increase in members and have a fair group present even when a basketball game or a stormy night and bad roads interfere. The young men group up and "get there" some way. Interest is greater in the farm-shop work, with repair work coming first, but some of the young men are constructing new wagon boxes and hayracks. In the discussions, feeding problems have been foremost since some feeds are scarce and quite expensive. Who knows how much good these discussions may do in helping some young man get started on the right road or how much time a little repair work may save this coming summer in growing or harvesting needed food? There is satisfaction in doing a little more teaching than merely what the

Advisers Helped

After the survey, I contacted a "key" man in each community, obtaining his advice and approval. Then I contacted three or four more persons, telling them the course was scheduled, asking their support, and making them feel they had a part in the program.

The school board was consulted and arrangements were made for the use of school buildings for the classes. In most cases the classes were held in rural schoolhouses.

Names and addresses of farmers in the community were obtained from the key man. Letters were sent to each man, explaining the program—the when, the why and the where. These letters were franked thru the County War Board and sent under the signature of the chairman of that board. This franking privilege was of much help in developing the program in the communities.

There were no failures. The farm people turned out for the weekly classes on the same night each week for seven weeks because, we like to believe, they felt they were learning something that would help them.

As mentioned at the outset, we demonstrated. For example, we didn't tell them how to cull hens or how to vaccinate them. We showed them how, let them do it themselves under our supervision. They learned by doing.

I taught the first two courses from the Cuero Center and then employed competent teachers and supervised their work. Monthly reports to the state office were filed on attendance and accomplishments. Financial reports were also made.

Variety of Courses

The courses taught in 1943 were in production, conservation, and processing foods; increased egg production; increased peanut production; farm-machinery repair and equipment construction; increased poultry production (meat); increased vegetable production; and increased milk production. These were selected as the courses most needed.

Results? The peanut production in the communities was doubled last year. After the classes were under way, many improved practices were in evidence especially in poultry production and dairying. Farmers also saved valuable time and money in the repair of their own equipment. Good results could be seen on all sides.

Not least, in my estimation, was the amount of goodwill and friendship developed among the farmers and their neighbors. Such an intangible result, of course, cannot be measured in dollars

Studies and Investigations

E. B. KNIGHT

Some Differences Between Farmers With and Without Instruction in Vocational Agriculture

J. A. STARRAK, Teacher Education, Iowa State College

THE subject matter of this article was obtained in an investigation in which 504 farmers of Iowa, who had begun farming as independent operators since 1930, were interviewed. The field work was completed in the summer of 1939.

J. A. Starrak

The primary purposes of the investigation were: first, to identify the major problems encountered by the beginning farmers in Iowa; and, second, to ascertain the nature and extent of the progress made by them in solving these problems. A secondary objective was to ascertain the adequacy of the formal education of farmers and to suggest modifications and extensions of the same. The comparison of those who had received instruction in vocational agriculture with those who had not, for the purpose of ascertaining the influence of such instruction, was not included in the original objectives. Of the 504 farmers interviewed 157, or 31 percent, had studied vocational agriculture in high school, while the remaining 347, or 69 percent, had not been so fortunate.

Numerous differences of varying magnitudes were found to exist, and it is reasonable to assume that the readers of this magazine would be interested in them. The obtained differences, when subjected to statistical analysis, were found to vary considerably in statistical significance. In the discussion which follows the differences are grouped into three classes: (1) those differences with a critical ratio of 3.0 or greater, which, of course, approaches closely the 100 percent level of certainty; (2) those with critical ratios from 3.0 to 2.0, or down to the 95 percent level, and (3) those with critical ratios less than 2.0.

Differences With Critical Ratios of 3.0 or Greater

In only three items did the obtained differences between the vocational and nonvocational groups have critical ratios greater than 3.0. They are:

1. *Relationship of tenant farmers to the owners of the farms they operate.* Forty percent of the renters with vocational education in agriculture and 24 percent of the nonvocational group were related to the owners of their farms. This fact is mentioned here, not because it could be regarded as being based upon a comparison of these two types of instruction in agriculture, but because it is one of several facts which when taken together indicate quite clearly that those who had studied vocational agriculture came from homes with a somewhat superior economic and social status than those in the nonvocational group. This is a factor which must be always kept in mind as we proceed with our comparisons.

2. *School subjects found most helpful in farming.* The only school subject in which any highly significant difference was found between the two groups was agriculture. Here the difference was very pronounced (CR=10.0). Eighty-two per cent of the vocational group reported agriculture as the school subject of greatest value to them as against 16.2 percent of the nonvocational group. It should perhaps be explained that in Iowa schools two types of agricultural instruction are offered; i.e., vocational and nonvocational, or general. The obtained difference of 66 percent might therefore be regarded as being based upon a comparison of these two types of instruction in agriculture.

3. *Church attendance.* Certain data were secured regarding the personal and social adjustment of the farmers interviewed. The only highly significant (CR=3.0) difference in this area was in the matter of church attendance. Only 50 percent of the vocational group reported attending as much as 50 percent of the church services, while 33 percent of this group never went to church. The corresponding percentages for the nonvocational group were 83.5 percent and 0.5 percent respectively.

Differences With Critical Ratios from 2.0 to 2.9

Several item's differences possessing considerable statistical significance were found. The following are perhaps worthy of mention:

1. *Farming experience as a family member after quitting school.* The term "family member" refers to one who stays home and helps with the farm work but does not receive any definite amount in wages or allowances. Seventy-four percent of the nonvocational and 63.8 percent of the vocational group reported this experience. This difference might be due to the vocational training one group had received.

2. *Quality of soil in the farm operated.* The standard employed in rating the quality of the soil was the opinion of the farmers, checked to some extent by the observations of the investigator. Sixty-four percent of the vocational group rated the soil compared to 48.9 percent of the nonvocational. This difference might have resulted from the greater ability of the vocationally-trained farmers to evaluate the quality of land.

3. *Use of improved agricultural practices.* While the percentages employing improved agricultural practices were greater in the vocational than in the nonvocational group, in only two practices did the obtained differences have critical ratios as large as 2.0. One of these was in the use of protein supplement, where the difference in percentage was 13.0 percent (76 percent–63 percent); while the other was in the use of purebred sires which 11 percent more of the vocational group practiced.

Of the 13 different practices reported only three were practiced by a larger percentage of the nonvocational group. These three were (1) co-operating with the AAA, (2) spraying fruit trees and (3) vaccinating hogs. In both groups the number employing improved practices was not as great as we would hope for, the comparatively small difference between the two groups in this respect being somewhat disappointing to one engaged in agricultural education.

4. *Evaluation of part-time instruction in agriculture.* Relatively small percentages of both groups reported participation in part-time instruction in agriculture. Evidently instruction in agriculture received in high school had made those in the vocational group more critical since only 15 percent of this group rated the instruction in part-time classes as very good as compared to 55.6 percent of the nonvocational.

5. *Period between leaving school and establishment in farming.* The mean length of this period was 6.3 years for those in the nonvocational group and 4.1 years for those who had studied vocational agriculture. The difference of 2.2 years may not be due entirely to the influence of the agricultural instruction received since other factors affecting the length of this period may have been operative. However, the critical ratio indicates that in 95 cases out of 100 those who have studied vocational agriculture in high school do become established in farming more quickly than do those without such instruction.

6. *Current ages of farmers.* The mean ages of the farmers at the time of the investigation was 27.5 years for the nonvocational group and 24.9 for the vocational. It will be noted that this difference in current ages is in line with the difference referred to in the preceding paragraph and probably the result of the same factors.

7. *Marital status.* Sixty-nine percent of the nonvocational and 56 percent of the vocational group were married. This difference of 13 percent is probably due to the older age of the nonvocational group, since those in the vocational group seem to marry at a slightly younger age. The latter group seems to have one advantage in this connection—none of them has to live with "in-laws." This may be perior economic and social status of the vocational group.

8. *Educational status.* In respect to the extent of formal education received, those in the vocational group have the advantage of one and one-half years. The mean number of years of schooling reported by those with vocational agriculture was 12.0 as contrasted with 10.5 for the nonvocational group. This is probably additional evidence of the superior economic status of those in the vocational group.

9. *Relationship to owners of farms being operated.* Sixty-one percent of those who had studied vocational agriculture are related to the owners of the farms they operate, whereas only 43 percent of the nonvocational group are so fortunate. This fact is in harmony with several others we have referred to as indicative of the advantageous economic position of those in the vocational group, resulting from the accident of birth rather than from the instruction received in agriculture.

10. *Production problems encountered.* Whatever may be the explanation of the fact that 62.5 percent of the vocational group reported having encountered difficult problems in the production of crops and animals as contrasted with 48.2 percent of the nonvocational group, the fact itself is a rather interesting one. Could it be that the instruction which the former had received had made them more able to identify and appreciate such problems?

11. *Participation in recreational activities.* While in general the members of the vocational group reported more active participation in recreational activities, only in frequency of attendance in motion pictures did the difference between the two groups approach statistical significance. Here 79 percent of the vocational and 66 percent of the nonvocational group reported frequent participation in this type of recreation.

Differences With Critical Ratios of Less Than 2.0

In addition to those already discussed numerous smaller and less significant differences were disclosed which are of interest to those engaged in agricultural education. The majority of these differences "favor" those who had studied vocational agriculture, in the sense that they indicate a more advantageous parental home situation and/or a wider use of approved agricultural practices in this group than in the other.

As indicative of a more advantageous home situation insofar as establishment in farming is concerned, the following data are submitted.

Item	Nonvocational	Vocational
Farming in same county as reared	74.9%	83.3%
Number of brothers in family	2.1	1.5
Education of brothers	10.4 yr.	11.1 yr.
Education of sisters	11.4 yr.	12.0 yr.
Fathers owners of farm from beginning	18.4%	21.0%
Fathers retired	15.9%	19.3%
Non-farm experience	26.9%	33.7%
Experience as hired hand (Mean)	3.6 yr.	2.0 yr.
Own farm enterprises at home	31.1%	40.1%
Work at home for wages	12.1%	17.2%
Partnership at home	12.2%	19.2%
Mean income from partnership	$379.00	$711.00
Age at leaving school	17.0 yr.	17.8 yr.
Borrowed money from relatives	12.2%	15.5%

Another list of obtained differences throws some light on the comparative occupational efficiency of the two groups. Lest we are too quick to claim that these differences are the result of instruction in agriculture received by the vocational group, it should be noted that the differences in the preceding list strongly suggest the existence of more favorable social and economic conditions in home situations of this group. Whatever may be the explanation the following differences are perhaps worth noting.

Items	Nonvocational	Vocational
Value of farm per acre	$94.60	$108.90
Using improved farm practices (Mean)	5.9	6.2
Keeping farm accounts	36.6%	45.9%
Feeding minerals	63.1%	70.7%
Feeding protein supplement	63.7%	76.4%
Modernizing buildings	19.3%	23.6%
Liming soil	8.4%	12.7%
Keeping production records	31.7%	35.0%
Difficulty in obtaining good land	42.4%	35.6%
Raising own livestock	18.6%	25.7%
Shopping about for good cattle	10.2%	20.7%
Practicing approved sanitation methods	12.6%	20.4%
Increasing knowledge thru reading	7.6%	10.9%
Building new farm buildings	13.4%	23.3%
Reporting production problems	48.2%	62.5%
Reporting problems in securing stock	45.0%	52.2%
Reporting management problems	22.4%	35.0%

The differences on the last three items in the list might be attributed to the greater appreciation of, and sensitivity to, problems [illegible] in agriculture which those in the vocational group had received rather than to the greater ability of the nonvocational

Production in Action

(Continued from page 233)

and cents, but it has a great effect on the life of a community.

Machinery—Food

This year we are concentrating on farm machinery repair and equipment-construction courses, and the production, conservation, and processing of foods for family use. The present courses were started last October and are to close in March, when new courses will begin. There are nine communities where the foods courses are being taught and two communities where the machinery repair courses are under way. In the foods course 75 percent of the time is devoted to the processing phase and 25 percent to planning and production. Two teachers are working on the foods courses and two on the farm-machinery repair courses.

Modern canning plants are in operation in nine communities. Two teachers divide the work, appearing on specified days in each of the community plants where food is canned by the housewives. The members bring their produce, learn how to can it, and take it home to their own pantry shelves.

This helps relieve the serious shortage of canned products now felt thruout the country. Some city housewives take advantage of the courses and bring their garden produce to the centers and can it under supervision.

In the Cuero canning center alone, 19,875 cans and jars of farm and garden produce were processed in the three months the cannery operated in the summer of 1943.

In the courses in farm machinery repair in two communities, farmers bring in their equipment and are taught how to repair it by capable teachers on specified days. Supplies, equipment, and parts are available or are secured. Attendance at these courses has been satisfactory because the farmers are getting the kind of help they need.

Even with the help of good instructors and a co-operative group of farmers, the courses could not have been so successful had we not received such fine co-operation from our supervisors, our local school officials, and the F.F.A. boys. Altho not enrolled in the classes, the boys helped recruit the class members and kept attendance at a satisfactory level.

The results achieved in all adult educational effort are dependent upon the receptivity of the people. To secure receptivity, appreciation must be developed in those who are to be reached. This appreciation can be aroused only by relating the learning experience to the daily life and activity of the individual. —Hans Ludwig Held, Journal of Adult Education.

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explanation is the one which doubtless appeals more to those of us engaged in vocational education in agriculture. It should also be observed that most of the quantitative data listed above refers merely to the number of farmers participating and not to the extent and the quality of their activity, which might well be much more extensive and effec-

Future Farmers of America

A. W. TENNEY

New State F.F.A. Camp in Ohio

RALPH A. HOWARD, State Supervisor, Columbus, Ohio

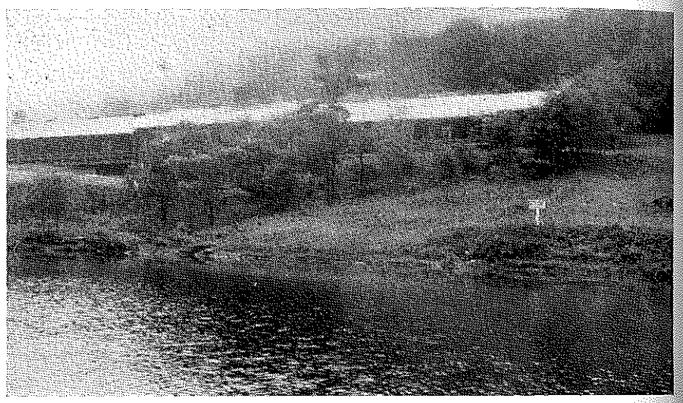
AFTER four years of dreaming, planning, saving, and working, Ohio Future Farmers have available a camp with facilities so elaborate that their fondest dreams are dwarfed by comparison. This camp is located about 75 miles due west of Pittsburgh on a tract of 100 acres adjacent to Leesville Lake on the headwaters of the Muskingum River. It provides complete sleeping and eating facilities for 500 campers and this number can be doubled without serious crowding.

The camp, originally designed as a work center for the National Youth Administration, was completed only recently and had been used but a short time when the agency was terminated. Constructed on land owned by the Muskingum Conservancy District, a flood control project, the buildings became the property of the district when relinquished by the NYA with the understanding that the camp was to be used for education in conservation. Under a co-operative plan agreed to by various involved agencies including the State Board for Vocational Education, the equipment as well as the buildings and land are available for use by Ohio Future Farmers.

Twenty Well-Equipped Buildings

Twenty buildings comprise the camp unit providing over one and one-half acres of floor space. The dining hall, 32′ x 250′, will seat 500; the kitchen is equipped with a large mechanical refrigerator, a large electric dishwasher, five ranges, and all the necessary hardware. Seven dormitories provide ample sleeping facilities for over 500 boys. Equipment here includes over 500 cots, 400 mattresses, 1,000 blankets, and 1,500 sheets. A recreation hall, 32′ x 130′, houses a reading room, a canteen, and a large game room. A number of large fireplaces are found in the various buildings, and furnaces make the buildings comfortable for winter use. Other buildings house such shop units as the machine shop, the garage, and the radio and electric shop, all of which are available for camp use. A water system with large electrically operated pumps and a 50,000 gallon supply tank standing 300 feet above the lake, and a complete sewage disposal system add further completeness to the camp facilities. A 20-bed hospital and a caretaker's cottage complete the list.

These facilities and equipment together with the equipment which the Future Farmers of Ohio have acquired in operating another camp during the past two years will make this one of the best equipped camps of its kind in the nation. In addition to the camp site of 100 acres, there are several thousand acres available for hiking, nature trails, and the study of soil, water, forestry, and wildlife. The lake shoreline exceeds 10 miles.



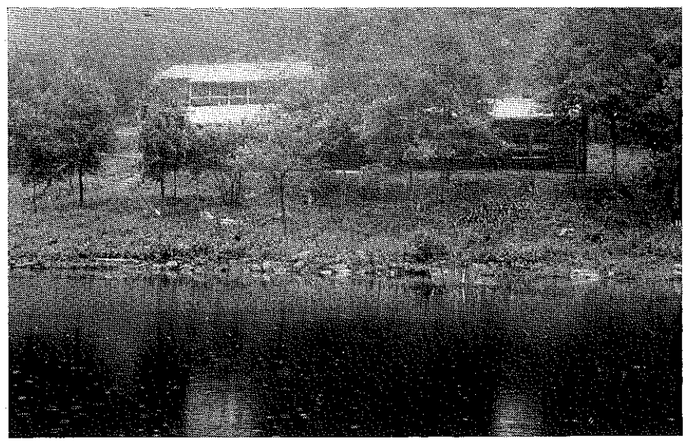
The dining hall from the lake

Athletics and Conservation

Space is available for an adequate athletic program of unlimited proportions. Baseball diamonds, soft ball diamonds, tennis, basket ball, badminton and horseshoe courts are already available and can be expanded indefinitely. The lake provides unlimited facilities for swimming.

The camp is located in an extremely hilly part of Ohio, a region where the ravages of erosion are apparent everywhere. Considerable work has been done in this area on soil conservation, including contour farming, reforestation and terracing. The wildlife population is also being restored. For scenic beauty this section of the state is not surpassed in Ohio. The general area of this camp has been set aside for youth-camp groups only. Any youth organization can secure a site for camping here at a very low cost. The fact that commercial interests are barred enhances the location as a desirable youth center.

This new F.F.A. Camp will make possible an expanded program in camp life both as to the numbers of Future Farmers accommodated and the scope of program. Leadership training with special emphasis on conservation is the primary purpose of the camp program, altho the social and recreational phases will not be overlooked. Hundreds of Future Farmers are planning their finances and looking forward with great interest to their first experiences in their new state camp. Verily, "The Rainbow



Education for Social Needs

"Good evening, come right in, will you? I am Charles Best. Your names, please?"

"Mr. and Mrs. Pierce."

"Will you go with me? You must be Frank's parents. Frank is busy in the gymnasium helping his committee get ready for the banquet. He's a dandy boy. Just leave your wraps here in this room and then I will take you to the auditorium."

Mr. and Mrs. Pierce left their wraps in a classroom and returned to follow Charles to the auditorium.

"You haven't met many of our high-school teachers, have you? We have arranged for all of the parents to meet our faculty tonight. I will introduce you to Superintendent James at the head of the reception line. Superintendent James, may I present Mr. and Mrs. Pierce, Frank's parents?"

After the introduction to Superintendent James, the parents were passed down the line, meeting each of the high-school teachers in turn and conversing informally as they moved along. After the introductions they were escorted to seats in the auditorium and introduced to those sitting near by.

At the first chapter meeting following the banquet, among other matters discussed was the question of the reception given the parents. The president asked what the boys thought of the idea of having a reception committee meeting all parents at the door, escorting them first to the cloak room and then to the reception line. He asked what comments they had heard made by parents.

The comments included such remarks as, "I have never been made to feel more at ease at a banquet than at your banquet last night." From another, "I had never been in the high school before and rather dreaded the experience, but the boys made it so easy for me." And another, "Those boys are certainly learning how to take care of themselves when it comes to entertaining people. I'll bet the girls must be proud of them."

With these comments reported by the members, a feeling of satisfaction and of pride seemed to be shown, and a finer quality could almost be detected developing in the boys. They had done something which they knew was well received and they gloried in their achievement and in the satisfaction that some of them had developed the ability to do a social courtesy well. The boys were impressed by this feature of their banquet and doubtless will make it a permanent feature.

The president then asked for suggestions as to how they might improve in receiving their guests another year. The entire procedure took perhaps 20 minutes.

To the editor this was a "high spot" in his many experiences in attending Future Farmer banquets. It showed a teacher, an adviser, who had a broad conception of farm-boy-education. To him social needs were a part of an all-round education. He prepared his boys for their respective duties so that they were at ease in carrying out their plans. Incidentally, the faculty were high in their praise of the occasion provided for meeting all the parents of the vocational pupils. Finally, after the banquet was over, *the teaching was* success of the venture—evaluation in terms of the delight of the guests, of the benefit to the faculty, of the inner satisfaction to the boys themselves, and finally, in terms of further improvement that would carry them to a higher degree of perfection.

What are other chapters doing to meet some of the social needs of their members?

Future Farmers Fight for Freedom

R. J. PEELER, Executive Secretary
Raleigh, N. C.

IN THE fight for freedom, the Future Farmers of America, 23,000 strong in North Carolina, have an outstanding array of accomplishments to their credit. These rural boys are taking the slogan FOOD FIGHTS FOR FREEDOM seriously as indicated by the fact that they have redirected their farming programs, chapter projects and community demonstrations toward increasing the production of critical war foods, repairing farm machinery, collection of salvage materials and the buying of War Bonds and Stamps.

For the current year, the Future Farmers of America, who are students of Vocational Agriculture, have increased the scope of their farming programs 42 percent over that of last year. Following are some of the more important items included in this year's program: 1,806,712 broilers, 807,594 layers; 24,218 porkers; 12,286 dairy cows; 6,602 beef animals; 6,102 brood sows; 31,447 acres of soybeans, 18,106 acres of peanuts for oil; and 12,306 victory gardens. These farm boys have not only increased the scope of their farming programs, but they are also using scientific methods in securing the maximum production of war foods from each acre of land or head of livestock. In addition to their own farming activities, most of the vocational boys are helping with the total farming programs on their respective home farms. In many instances they are responsible for the complete management and operation of their home farms, working under the supervision of their teacher of vocational agriculture.

Realizing the need for and the shortage of farm machinery, these boys began inspecting discarded tractors, disk harrows and other types of farming equipment, machines and tools. With grim determination they resolved to put this equipment back into operation, wherever possible, by making use of the well-equipped vocational shops thruout the State. During the past year these boys who are LEARNING TO DO BY DOING repaired 2,086 farm machines, such as tractors, combines, and grain drills; 4,314 farm implements, such as plows, planters, and harrows; 6,462 farm tools, such as axes, hoes, and rakes; and completed 16,412 construction jobs, such as building lime spreaders, wagon beds, and hog and poultry feeders. Anxious not only to do their bit but to do their best, F.F.A. boys planned and conducted bond and salvage drives which resulted in the purchase by F.F.A. members of $308,650.00 bonds and stamps and in the collection of 9,206,400 pounds of scrap metal, 212,294 pounds of rub-

The Tar Heel State is one of the leaders in F.F.A. activities, having the second largest membership in the Nation according to the U. S. Office of Education. At the recent National F.F.A. Convention, held in Kansas City, Missouri, eight North Carolina boys won the most coveted honor open to members of the F.F.A.—the American Farmer Degree—which is awarded for outstanding ability and accomplishments in supervised practice, co-operative and leadership training activities.

Servicemen's Letter

(The following is an excerpt from Shawnee Mission, Kansas, F.F.A. Newsletter to alumni in service, written by Adviser H. D. Garver.)

"Dear Shawnee Mission F.F.A. Service Men:

Do you fellows remember when we used to go out on field trips and learn to prune apple trees? Remember I used to caution you to walk around the trees several times before going to work with your pruning shears? I showed you how to look for water sprouts (those smooth-looking, fast-growing sprouts that persisted on growing up thru the fruit spurs), how to look for diseased and broken limbs, to observe any limbs pointing downward, or toward the center of the trees, and how to balance up the tree by cutting heaviest on the north side? Sometimes we would look for limbs crossing each other, and you would take out the least desirable one of the two—and sometimes both. Then before leaving the tree, we would look for borers in the trunk and scaffold limbs. We tried to let in the sunlight to the smaller and rougher looking fruit spurs. Sometimes we had to take out some of the top limbs in order to do this.

Well I think you will find the good old U.S.A. a lot like the apple trees you used to prune. When you get back you will find some water sprouts, some crossing branches, some diseased twigs, and some branches going in the wrong direction among the people and groups of people here at home. Yes, and you may even find some borers among them who are working in the dark within the trunk of the tree. May I suggest that, when you get back, you walk around the tree before going to work. Be sure you distinguish between the water sprouts (people who made big money fast and spent it faster) and the fruiting spurs (people who bought and kept war bonds) before you do any dangerous cutting. And don't forget to go after those borers, too. They're dangerous, but can't damage a healthy tree. Don't get disgusted and cut the tree down. We here at home have laid our pruning shears aside while making guns for you. We'll all have to get them out when the time comes. The old tree has a sound trunk and 48 strong scaffold limbs. And the roots are deep in rich soil."

I have noticed that folks are generally about as happy as they have made up their minds to be.—Abraham Lincoln.

Seek to learn what is best rather than to learn much.

If some men would reflect more they

Occupational Requirements for Young Farm Employees in York County, Penn.

C. S. ANDERSON, Teacher Education,
The Pennsylvania State College

IN THESE days of acute farm labor shortages it would seem inappropriate to most persons even to raise the question with farmers as to what technical and occupational training young men should possess in order to be acceptable farm employees. For some time available farm laborers have been few and far between, at least on eastern farms. However, this is just the question recently propounded of 75 farmers of York County, Pennsylvania, by William V. Godshall, High-School Principal and Teacher of Agriculture at Port Royal, Pennsylvania.

Mr. Godshall wanted to know what he should be teaching his vocational agriculture boys to best fit them for present day farming in their home communities, and he reasoned that the best way to find out would be to ask a sampling of well-established successful local farmers. Furthermore, he thought he could count on the farmers to help him classify agricultural skills and aptitudes in an order of importance. He also called upon the farmers to indicate certain habits and personal traits that they regarded highly desirable in a prospective farm employee.

The sampling of farmers was small and highly selective. Only men who had farmed five or more years and who were farm owners were included. They were distributed over the county, 10 or 12 to each school district, and the teachers of vocational agriculture in each local school assisted Mr. Godshall in securing all of the data by direct personal interviews.

The median age of the 75 contributing farmers was 47.7 years. The mean farming experience for the groups was 20.4 years. Thirty percent of them had received education beyond the high-school level. They were all classified as general farmers.

The Godshall survey form was composed of rather exhaustive check lists of skills arranged by enterprises and covering eight farming enterprises which were considered major agricultural enterprises for York County. All told, 225 separate skills were mentioned. In the interview Godshall read the skills and asked the farmers to indicate for each skill a degree of importance as a desirable component part of the training of prospective farm employees, presumably boys seeking farm employment after having taken a high-school course in agriculture.

The responses were weighted and index numbers computed. Thus he was able to place the complete list of skills in an order of importance. From these data he recommends that York County teachers of agriculture include in their course the upper 50 percent of the job skills as listed in all eight of the enterprises included in his study. He believes that the agricultural practices of an entire county such as York County, Pennsylvania, are sufficiently similar to justify this uniformity of instruction.

As to significant desirable habits and personal traits for prospective farm employees, he indicates the following in the

Altruistic Living

S. B. SIMMONS, Teacher Education,
Greensboro, N. C.

SOME 12 years ago one of the North Carolina Chapters of New Farmers of America initiated the idea of providing food, clothing, funds and services for needy individuals and families in its community. In a short time this venture spread thruout the State Association. From it the members have found great satisfaction in providing help for others.

In the summer of 1941, the first of a series of four N.F.A. camps and leadership schools was conducted near the Negro Orphanage as a part of their scheduled activities. Following that visit they decided to ask the State Association to sponsor a special Thanksgiving Program for this institution. The members and officers of the other three camps accepted the suggestion with great enthusiasm.

On Wednesday preceding Thanksgiving, 1941, the boys and their advisers drove into Oxford with cars, trailers and trucks loaded with food, clothing and cash for 192 children at the Orphanage. The gifts amounted to more than $3,000.00 in commodities and to $626.25 in cash.

At the State Convention in 1942, the boys realized that the program would have to be changed because of the war which had brought on a problem of transportation. The project agreed upon that year was to purchase and give the institution a $1,000.00 bond. By so doing they would aid the war effort and at the same time help the Orphanage. Mr. C. K. Proctor, Superintendent of the White Orphanage at Oxford, the principal speaker on the 1942 program, paid a very fine tribute to the late Dr. George Washington Carver, of Tuskegee Institute, who himself was an orphan. From that remark the boys decided to work on a 10-year project, with the funds secured to be used in establishing a George Washington Carver Memorial for the benefit of orphan children. The nature of the memorial has not yet been determined.

Last year, President Love turned over to Superintendent T. A. Hamme four $1,000.00 U. S. Government Bonds and $700.00 in cash. Governor Broughton was the principal speaker. In his address he praised the N.F.A. boys for the fine program which they had carried out.

The manner in which one single ray of light, one single precious hint, will clarify and energize the whole mental life of him who receives it, is among the most wonderful and heavenly of intellectual phenomena.—Arnold Bennett.

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farmers whom he consulted. (1) Be willing and able to work alone, (2) Take responsibility for carrying on work in the absence of the farm manager or owner, (3) Know how to conserve rubber, gasoline, farm implements, and other vital and essential materials, (4) Know what constitutes an honest day's work, (5) Be mechanically inclined, (6) Be able to save money, (7) Do not be afraid to make decisions, (8) Be neat and considerate about the house, (9) Take suggestions and corrections kindly and without re-

Book Review

A. P. Davidson

500 More Things to Make for Farm and Home, by Glen Charles Cook, 472 pp., 580 illustrations, published by The Interstate Printers and Publishers, Danville, Illinois, list price $3.00. This book contains plans and specifications for 580 useful items, many furnished by Rural War Production classes. The material is organized into eight chapters as follows: Equipment for the Home-Farm Shop, Metal Work, Woodworking and Farm Carpentry, Farm Concrete, Farm Plumbing, Electricity for the Farm, Handy Farm Hints, Index. Twenty-five items selected at random from over 500 in the index may be suggestive of the wealth of material in the book: alfalfa rack, battery brooder, double deck bed, cattle guards, benches, bronze-welding, butchering equipment, kitchen cabinet, chain making, linen closet, coal bin, concrete, milk cooler, corn cutter, dehydrator, incinerator, lawn chair, loading chute. Many items can be built from scrap material; 80 "handy farm hints" are illustrated with instructions for building them. Teachers of vocational agriculture, War Production Training courses, and farmers will find 500 More Things to Make for Farm and Home most helpful. A.P.D.

Our duty is to be useful, not according to our desires, but according to our powers.

Of all poverty that of the mind is the most deplorable.

Banquet Banter

Toastmaster: "Ladies and gentlemen, we have as speaker tonight the principal of our high school. What we think of him is shown by our awarding him an honorary Future Farmer Degree two years ago. However, like all human beings, he has weaknesses which show themselves in different ways. I am told that last summer when he had a sudden attack, he was rushed to the hospital for examination—was in great misery. In haste to make a diagnosis, nurse picked up a barometer instead of a thermometer and thrust it into his mouth, waited a moment for its readjustment, removed it and read, 'Continued dry and windy.' Ladies and gentlemen, our high-school principal."

Speaker: "Ladies and gentlemen, it is a pleasure to be invited to speak to Future Farmers at this annual banquet tonight. I have always enjoyed working with this organization of Future Farmers. Most of you are keen and alert. Your toastmaster, however, apparently is not up to the standard of you other boys. I am told that, on recent Sunday evening, he and Mary were out for ride and John, becoming bit bold, asked Mary if he might kiss her. He repeated, 'Mary, may I kiss you?' Then he asked, 'Mary, are you deaf?' In exasperation Mary re-

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d—J. B. Hobdy, Montgomery
s—R. E. Cammack, Montgomery
ds—J. C. Cannon, Auburn
ds—H. F. Gibson, Auburn
ds—L. L. Sellers, Auburn
sms—C. C. Scarborough, Auburn
ds—T. L. Faulkner, Auburn
t—S. L. Chestnutt, Auburn
t—G. T. Sargent, Auburn
rt—R. W. Montgomery, Auburn
ct—E. A. Grant, Tuskegee Institute
ct—Arthur Floyd, Tuskegee Institute

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

ARKANSAS
ds—Fred A. Smith, Little Rock
s—C. R. Wilkey, Little Rock
as—S. D. Mitchell, Little Rock
ds—T. A. White, Monticello
ds—O. J. Seymour, Arkadelphia
ds—J. A. Niven, Russellville
ds—Earl G. Landers, Batesville
t—Keith L. Holloway, Fayetteville
t—Roy W. Roberts, Fayetteville
sms—Henry L. Cochran, Fayetteville
ct—J. C. McAdams, Pine Bluff

CALIFORNIA
d—Walter F. Dexter, Sacramento
s—Julian A. McPhee, San Luis Obispo
as—B. J. McMahon, San Luis Obispo
rs—E. W. Everett, San Jose
rs—B. R. Denbigh, Los Angeles
rs—Howard F. Chappell, Sacramento
rs—A. G. Rinn, Fresno
rs—Weir Fetters, San Luis Obispo
rs—Harold O. Wilson, Los Angeles
ts—Wesley P. Smith, San Luis Obispo
rs—H. H. Burlingham, Chico
t—S. S. Sutherland, Davis
sms—Geo. P. Couper, San Luis Obispo
sms—J. I. Thompson, San Luis Obispo

COLORADO
d—H. A. Tiemann, Denver
s—A. R. Bunger, Acting, Denver
t—G. A. Schmidt, Fort Collins

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

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

FLORIDA
d—Colin English, Tallahassee
s—J. F. Williams, Jr., Tallahassee
t—E. W. Garris, Gainesville
it—W. T. Loften, Gainesville
it—J. D. Smith
ct—L. A. Marshall, Tallahassee
ct—G. W. Conoly, Tallahassee

GEORGIA
d—M. D. Mobley, Atlanta
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
rs—Alva Tabor, Fort Valley
t—John T. Wheeler, Athens
t—O. C. Aderhold, Athens
sms—A. O. Duncan, Athens
t—R. H. Tolbert, Athens
ct—Benj. Anderson, Industrial College

HAWAII
ds—W. W. Beers, Honolulu, T. H.
s—W. H. Coulter, Honolulu, T. H.
t—F. E. Armstrong, Honolulu, T. H.

IDAHO
ds—William Kerr, Boise
s—Stanley S. Richardson, Boise
s—Elmer D. Belnap, Idaho Falls
t—H. E. Lattig, Moscow
t—H. A. Winner, Moscow

ILLINOIS
d—Ernest J. Simon, Springfield
s—J. E. Hill, Springfield
s—J. B. Adams, Springfield
s—A. J. Andrews, Springfield
t—H. M. Hamlin, Urbana
t—Melvin Henderson, Urbana
t—J. N. Weiss, Urbana
t—H. J. Rucker, Urbana

INDIANA
d—Clement T. Malan, Indianapolis
s—Harry F. Ainsworth, Indianapolis
t—B. C. Lawson, Lafayette
rt—S. S. Cromer, Lafayette
it—K. W. Kiltz, Lafayette
it—H. W. Leonard, Lafayette
it—I. G. Morrison, Lafayette
it—H. B. Taylor, Lafayette

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

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

KENTUCKY
d-s—R. H. Woods, Frankfort
s—E. P. Hilton, Frankfort
t—Carsie Hammonds, Lexington
it—Watson Armstrong, Lexington
it—W. R. Tabb, Lexington
ct—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. Kirklin, Baton Rouge
t—C. L. Mondart, University
ct—M. J. Clark, Scotlandville
ct—Dallas Matthews, Scotlandville
ct—E. C. Wright, Scotlandville

MAINE
d—Austin Alden, Augusta
s-t—Herbert S. Hill, Orono
s-t—Wallace H. Elliott, Orono

MARYLAND
d—John J. Seidel, Baltimore
s-t—H. F. Cotterman, College Park
ct—J. A. Oliver, Princess Anne

MASSACHUSETTS
d—M. Norcross Stratton, Boston
s—John G. Glavin, Boston
t—F. E. Heald, Amherst
t—W. S. Wells, Amherst

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

MINNESOTA
s—Harry J. Peterson, St Paul
t—A. M. Field, St. Paul
t—G. F. Ekstrom, St. Paul

MISSISSIPPI
d—H. E. Mauldin, Jr., Jackson
s—A. P. Fatherree, Jackson
ds—R. H. Fisackerly, Jackson
ds—E. E. Gross, Hattiesburg
ds—V. P. Winstead, State College
t—V. G. Martin, State College
t—O. L. Snowden, State College
t—E. P. Rawson, State College
t—D. W. Skelton, State College
sms—H. O. West, State College
it—V. P. Winstead, State College
ct—A. D. Fobbs, Alcorn
ct—Robert Ross, Alcorn

MISSOURI
d—Roy Scantlin, Jefferson City
s—J. H. Foard, Jefferson City
ds—Joe Duck, Springfield
ds—L. H. LaRue, Lexington
ds—C. V. Roderick, Jefferson City
t—Sherman Dickinson, Columbia
t—G. J. Dippold, Columbia

MONTANA
d—Ralph Kenck, Bozeman
s—A. W. Johnson, Bozeman
s—H. E. Rodeberg, Bozeman

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

NEVADA
d-s—R. B. Jeppson, Carson City
t—W. C. Higgins, Reno

NEW HAMPSHIRE
d—Walter M. May, Concord
s-t—Earl H. Little, Concord

NEW JERSEY
d—John A. McCarthy, Trenton
s-t—H. O. Sampson, New Brunswick
s-t—E. V. Bearer, New Brunswick
t—O. E. Kiser, New Brunswick

NEW MEXICO
ds—Frank E. Wimberly, State College
t—Carl G. Howard, State College
t—H. M. Gardner, State College

NEW YORK
d—Oakley Furney, Albany
s—A. K. Getman, Albany
s—W. J. Weaver, Albany
s—R. C. S. Sutliff, Albany
s—J. W. Hatch, Buffalo
t—R. M. Stewart, Ithaca
t—E. R. Hoskins, Ithaca
t—W. A. Smith, Ithaca
t—Roy A. Olney, Ithaca

NORTH CAROLINA
d—T. E. Browne, Raleigh
s—Roy H. Thomas, Raleigh
ds—R. J. Peeler, Raleigh
ds—E. N. Meekins, Raleigh
ds—J. M. Osteen, Rockingham
ds—T. H. Stafford, Asheville
ds—T. B. Elliott, La Grange
ct—S. B. Simmons, Greensboro
ct—C. E. Dean, Greensboro
ct—W. T. Johnson, Greensboro
t—Leon E. Cook, Raleigh
t—L. O. Armstong, Raleigh
t—J. K. Coggin, Raleigh

NORTH DAKOTA
d—Edward Erickson, Grand Forks
s-t—Ernest L. DeAlton, Fargo
t—Shubel D. Owen, Fargo

OHIO
d—Kenneth C. Ray, Columbus
s—Ralph A. Howard, Columbus
ds—W. G. Weiler, Columbus
ds—E. O. Bolender, Columbus
ds—H. G. Kenestrick, Columbus
ds—F. J. Ruble, Columbus
t—W. F. Stewart, Columbus
it-ds—C. E. Rhoad, Columbus
t—A. C. Kennedy, Columbus
rt—Ray Fife, Columbus

OKLAHOMA
d—J. B. Perky, Stillwater
s—Bonnie Nicholson, Stillwater
ds—W. R. Felton, Stillwater
ds—S. M. Cosnoe, Stillwater
ds—Byrl Killian, Stillwater
ds—Roy Craig, Stillwater
t—C. L. Angerer, Stillwater
t—Don M. Orr, Stillwater
t—Chris White, Stillwater
ct—D. C. Jones, Langston

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

PENNSYLVANIA
d—Paul L. Cressman, Harrisburg
s—H. C. Fetterolf, Harrisburg
s—V. A. Martin, Harrisburg
t—Henry S. Brunner, State College
rt—C. S. Anderson, State College
t—William F. Hall, State College
it—Russell B. Dickerson, State College

PUERTO RICO
d—Lloyd A. LeZotte, San Juan
s—Nicholas Mendez, San Juan
ds—Frederico A. Rodriquez, San Juan
t—Ernesto Vazquez Torres, Mayaguez
ds—Juan Acosta Henriquez, Arecibo
ds—Juan Robles, Cayey
ds—Andres Ramirez, Mayaguez
ds—Samuel Molinary, San Juan

RHODE ISLAND
d-s—George H. Baldwin, Providence
t—Everett L. Austin, Kingston

SOUTH CAROLINA
d—J. H. Hope, Columbia
s—Verd Peterson, Columbia
ds—W. C. James, Columbia
ds—W. M. Mahoney, Honea Path
ds—R. D. Anderson, Walterboro
ds—J. H. Yon, Loris
t—W. G. Crandall, Clemson
t—B. H. Stribling, Clemson
t—J. B. Monroe, Clemson
ct—Gabe Buckman, Orangeburg

SOUTH DAKOTA
d—J. F. Hines, Pierre
s—H. E. Urton, Pierre
t—R. R. Bentley, Brookings

TENNESSEE
d-s—G. E. Freeman, Nashville
ds—J. W. Brimm, Jackson
ds—L. A. Carpenter, Knoxville
t—N. E. Fitzgerald, Knoxville
t—J. B. Kirkland, Knoxville
rt—A. J. Paulus, Knoxville
rt—E. B. Knight, Knoxville
ct—W. A. Flowers, Nashville

TEXAS
d—Jas. R. D. Eddy, Austin
s—Robert A. Manire, Austin
s—J. B. Rutland, Austin
s—R. Lano Barron, Austin
t—E. R. Alexander, College Station
t—Henry Ross, College Station
t—J. L. Moses, Huntsville
t—S. V. Burks, Kingsville
t—Ray L. Chappelle, Lubbock
sms—W. R. Sherrill, College Station
it—T. L. Leach, Lubbock
it—W. E. Driskill, Huntsville
it—Malcolm Orchard, College Station
it—F. D. Shackelford, Kingsville
ct—E. M. Norris, Prairie View

UTAH
d—Charles H. Skidmore, Salt Lake City
s—Mark Nichols, Salt Lake City
rs—Elvin Downs, Ephraim
t—L. R. Humpherys, Logan

VERMONT
d—John E. Nelson, Montpelier
s-t—W. Howard Martin, Burlington
s-t—George E. Webster

VIRGINIA
d—Dabney S. Lancaster, Richmond
s—D. J. Howard, Richmond
ds—P. B. Cale, Appomattox
ds—T. V. Downing, Ivor
ds—J. O. Hoge, Blacksburg
ds—W. R. Legge, Winchester
ds—J. C. Green, Powhatan
t—Harry W. Sanders, Blacksburg
t—Henry C. Groseclose, Blacksburg
t—E. Y. Noblin, Blacksburg
t—C. E. Richards, Blacksburg
t—H. S. Foote, Blacksburg
ct—A. J. Miller, Ettrick
ct—G. W. Owens, Ettrick
ct—J. R. Thomas, Ettrick

WASHINGTON
d—H. G. Halstead, Olympia
s—J. A. Guitteau, Olympia
t-s—E. M. Webb, Pullman
t-s—Bert L. Brown, Pullman

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

WISCONSIN
s—Louis M. Sasman, Madison
t—J. A. James, Madison
it—Ivan Fay, Madison
it—Clarence Bonsack, Madison
it—V. E. Nylin, Platteville
it—J. M. May, River Falls

WYOMING
d—Sam Hitchcock, Cheyenne